



**The Conference on the Preservation of
Historic Settlements in the Kathmandu Valley
on 30th November, 2016**

Proceedings

June 2017

Tokyo National Research Institute for Cultural Properties



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Historic Settlements in Kathmandu Valley
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60th Anniversary of Diplomatic Relations
Japan & Nepal

Conference on the Preservation of Historic Settlements
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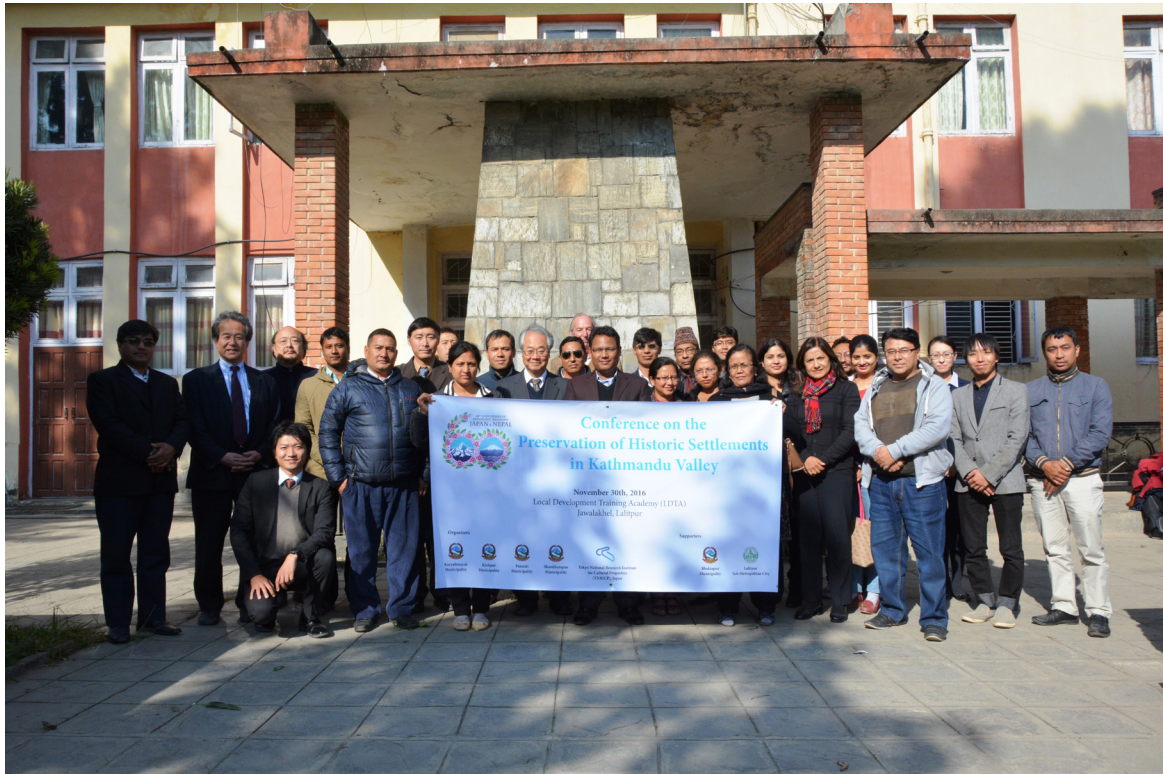
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Participants of the conference



A scene from the conference

Preface

The following articles are a summary of the proceeding from the ‘Conference on the Preservation of Historic Settlements in Kathmandu Valley’, held on 30th November 2016 in Lalitpur. The conference was organized by the Tokyo National Research Institute for Cultural Properties (TNRICP) in Japan and the four municipalities; Karyabinayak, Kirtipur, Panauti, and Shankharapur, concerned with the preservation of historic settlements in the Kathmandu Valley cooperated with Baktapur Municipality and Lalitpur Sub-Metropolitan City. It is part of ‘Technical Assistance for the Protection of Damaged Cultural Heritage in Nepal’ project, commissioned by the Agency for Cultural Affairs, Government of Japan.

The April 2015 Gorkha Earthquake killed many people and led to the serious damage of many heritage assets in Nepal, including the Royal Palaces and surrounding temples in the ‘Kathmandu Valley’ World Heritage Site. The Agency for Cultural Affairs commissioned to TNRICP to conduct the ‘Project for Investigation of Damage Situation of Cultural Heritage in Nepal’ in fiscal year 2015, in collaboration with the Department of Archaeology (DOA) of the Ministry of Culture, Tourism and Civil Aviation, the government of Nepal and other relevant authorities. The following year, TNRICP conducted ‘Technical Assistance for the Protection of Damaged Cultural Heritage in Nepal’ project based on the previous year's results from the study. These projects included investigations of the damaged cultural heritage that employed comprehensive viewpoints including architectural history, structural engineering, urban design, restoration technique and intangible cultural heritage. Over the course of this project, TNRICP conducted this research to contribute to the preservation and rehabilitation of historic settlements in the Kathmandu Valley, focusing on the historic settlement of Khokana.

Among the historic settlements in the Kathmandu Valley, four are on the World Heritage Tentative List. However, several issues have stopped the sites from being listed as World Heritage Sites, including the lack of concrete guidelines for the preservation of historic buildings.

To remedy this situation, TNRICP proposed the ‘Conference on the Preservation of Historic Settlements in Kathmandu Valley’. Here, Japanese experts introduced the system of ‘preservation districts for groups of traditional buildings’ and presented case studies showing the evolution of several preservation districts in Japan. Administrative officers from six municipalities, with jurisdiction over four representative historic settlements and two historic districts in the Kathmandu Valley, reported on the present situation and the issues facing preservation.

We hope that the results of this conference will contribute to future progress in the preservation of historic settlements in the Kathmandu Valley.

Nobuo Kamei
Director General
Tokyo National Research Institute for Cultural Properties

Introduction

The 1950s saw the beginning of modern urban planning and development in Nepal, a system that has proved to be ineffective in responding to the rapid transformation of cities and societies. Such planning ignored people's traditional cultures and community-based growth management. The adaptation of centralized systems, inadequate and ineffective legislation, the disintegration of the traditional communal society, and the demise of the *guthi* system have led to low community awareness and contributed to the metamorphosis of inner cities and the breakdown of historic religious and cultural frameworks that had been maintained for centuries. Today, the destruction of historical buildings and sub-division of plots into new reconstruction continues unabated.

However, some historic buildings and communities remain untouched by urban development. There are more than 50 historic settlements in the Kathmandu Valley alone. These settlements were inhabited by the Newar people and are considered some of the most beautiful indigenous settlements in the world. Today, the old royal palace and the surrounding areas within the historic cores of Kathmandu, Lalitpur, and Bhaktapur have been listed as UNESCO World Heritage Sites, while four peripheral settlements—Khokana, Sankhu, Kirtipur, and Panauti—are on the World Heritage Tentative List. The remaining settlements also have unique architectural and cultural features. The buildings are comprised of two basic elements: building blocks of attached three- to four-story houses clustered around courtyards and Buddhist monasteries (*bahal* and *bahil*) and the network of open space and narrow, non-axial streets that link these blocks. Within residential neighbourhoods, temples and shrines, community buildings, and public infrastructure—sunken waterspouts, wells, rest houses (*pati*), and platforms (*dabali*)—coexist in a hierarchical form. These settlements also reflect an intangible cultural heritage: culture played a key role not only in shaping their built forms but also in sustaining these settlements for many generations. As such, these settlements reflect a history of daily rituals, various festival celebrations, and social institutions, such as the *guthi* system, that reflect the community's social norms and religious beliefs.

The mega-earthquake on 25th April 2015 and its subsequent aftershocks caused huge damages to these historic settlements. Even today, numerous challenges face reconstruction. Any new construction or repairs should be cost effective and disaster resilient. Conserving cultural properties and traditional townscapes is essential in post-earthquake redevelopment: historic settlements have a very different local context than do rural areas in terms of plot size, land ownership, building typology—including building materials—and construction technology. On top of this, the Kathmandu Valley, as a single ecological unit, houses about 2.51 million people and supports a similar floating population—together about 24% of the national urban population—in an area of 667 sq. km. The valley is the political, commercial, educational, administrative, and cultural centre of the country. The Central Bank of Nepal estimates that

the area contributes about 23.4% of the national GDP, as well as 40% of urban manufacturing employment.

The Tokyo National Research Institute for Cultural Properties (TNRICP), Japan has joined the Nepali government's on-going reconstruction effort, focusing on the conservation of those historic settlements that have already been inscribed on the World Heritage Tentative List. After the earthquake, this institute, along with the experts from the University of Tokyo, Kagawa University and other agencies in Japan, investigated the damage to cultural heritage in the town of Khokana.

When reconstructing historic settlements, it is essential to understand the current situation in the town and any municipal conservation efforts, as well as the legal and institutional reconstruction framework. To this end, TNRICP organized a one-day workshop in Lalitpur, Nepal 2016. The event's main objective was to establish an appropriate preservation system for historic settlements in Nepal. It intended to establish a cooperative network among four municipalities that would share information regarding the problems facing each historic settlement and work together to understand the existing and proposed legal framework for conserving historic settlements and private traditional houses. The participants included municipal technical staff from six municipalities in the Kathmandu Valley, representatives from concerned government entities and Department of Archaeology (DOA), national experts on urban design from Nepal and Japan, representatives from UNESCO, and members of the local community.

The following publication is a product of that conference. The conference proceedings are divided into four parts. The first consists of the opening addresses. Dr Nobuo Kamei, Director General of TNRICP, presented the first opening address. Another is by Dr Bijaya K. Shrestha, from the Post-Graduate Department of Urban Design and Conservation, Khwopa Engineering College, Nepal; he presented on the general situation of historic settlements in the Kathmandu Valley, highlighting their unique planning and design features, the damage caused by the April 2015 earthquake, various issues facing the reconstruction process, the Nepali government's legal and institutional framework, and some of the local communities' reconstruction attempts. Dr Yukio Nishimura, from the University of Tokyo, Japan, delivered the keynote speech, sharing experiences on conservation and preservation of historic districts in different parts of Japan. Finally, Mr Hiroki Yamada briefly explained the historical background and the purpose of the conference.

The second part includes presentations from six municipalities in Nepal. The first four presentations—from Karyabinayak, Kirtipur, Panauti, and Shankharapur—highlight the towns' situation after the earthquake, municipal efforts for immediate rescue and relief distribution,

and the challenges facing reconstruction. Another two papers, from the sub-metropolitan city of Lalitpur and Bhaktapur Municipality, include their experiences with conservation going beyond the problems after the April 2015 earthquake.

The third section contains two presentations of case studies from Japan. Dr Nobuo Kamei elaborates on the system of preservation districts for groups of traditional buildings and Dr Miyamoto describes how to strengthen traditional buildings against earthquakes. Both presentations are relevant and meaningful when establishing a conservation framework in Nepal.

The final section includes a description of the various challenges facing conservation raised during the panel discussion, both in the long-term and the short-term work that should be immediately carried out. It also covers the different views and suggestions given by representatives of the concerned agencies and different towns' earthquake reconstruction and rehabilitation committees and includes the closing remarks by Mr Bhesh Narayan Dahal, Director General of DOA. The final chapter identifies the major issues and problems brought up in the conference, followed by recommendations for future activities.

This report is published at a crucial time. The government of Nepal has recently restructured local areas, changing the boundaries of municipalities and villages. A local municipal election occurs in May 2017, and soon new elected representatives will sit on local governments. The first revision of the 'Basic Construction Bylaws related to Settlement, Development, and Building Construction 2015 (2072)' includes regulations for conserving heritage settlements in the Kathmandu Valley. The above events combined have resulted in an environment where speedy earthquake recovery is possible, as is historical conservation. This report will be useful for government decision makers when preparing plans, programs, and policies. It is equally relevant for those in the private sector, including real estate companies, construction industries, and building material suppliers. Academics and students in conservation program can also benefit from these proceedings.

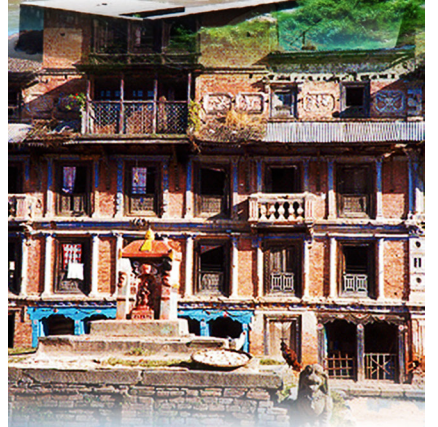
I must acknowledge the Japanese team who entrusted me with coordinating the conference in Nepal as well as with editing this report. I also owe a debt to Dr Nobuo Kamei and Prof Yukio Nishimura for their great support and inspiration in making this international event happen. Their willingness to share their knowledge and experience has greatly enhanced this report. I am also grateful to Mr Masahiko Tomoda, Head of Conservation Design Section, TNRICP, for moderating the panel discussion, which covered almost all the emerging issues. His blending of international experiences with local needs is very effective. Appreciation also goes to Dr Mitsuhiro Miyamoto, Associate Professor, Faculty of Engineering, Kagawa University, for guiding the process of structurally strengthening traditional buildings.

A comprehensive report such as this depends on information—verbal and written, formal and informal—provided by architects and engineers working in six different municipalities. Without their active participation and cooperation, this conference would have been not possible. The support extended by DOA in Kathmandu also needs acknowledgement. Special mention must be made of the help and stimulus I received from Mr Hiroki Yamada, Associate Fellow, TNRICP. His tireless work in research and coordinating the workshop, including publishing this report, needs a singular acknowledgement. It would be unfair if I did not mention Mr Jaya K. Shrestha, Director of the Local Development Training Academy (LDTA), for his support in arranging the venue and lunch during the workshop. Finally, my hat goes off to those on both the Japanese and Nepali teams who helped directly or indirectly in publishing this report.

Bijaya Krishna Shrestha
Professor
Post-Graduate Department of Urban Design and Conservation
Khwopa Engineering College

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1. Outline of the Conference



1. Outline of the Conference

1.1. Background and Objective of the Conference

In the Kathmandu Valley, there are numerous historic settlements accompanied by rich intangible cultural heritage. While historic monuments in such settlements are protected by the ‘Ancient Monumental Preservation Act, 1956 (2013)’, a sufficient system does not exist to preserve the historic townscape which mainly consists of private residences.

There are four historic settlements in the Kathmandu Valley that are on the World Heritage Tentative List (WHTL), however, the nomination process for their inclusion on the List of World Heritage Sites has not progressed. Moreover, from the 2000s onwards, projects, such as land plot division, extension and renovation of houses, and construction of larger reinforced concrete houses, have increased in number, leading to a radical change in the vernacular townscape. In 2015, during the Gorkha Earthquake, traditional townscapes were put at further risk as older traditional houses were damaged more severely than recent reinforced concrete buildings. Even if residents wish to reconstruct their homes in a traditional manner, there are no public incentives at present. Without establishing an effective preservation system, the splendid historic townscape representing the Newar culture could disappear in the near future.

Being concerned with this situation, the Tokyo National Research Institute for Cultural Properties (TNRICP) proposed a conference with the four municipalities concerned with the historic settlements currently on the World Heritage Tentative List, concerned government authorities, including Department of Archaeology (DOA), national experts, and the UNESCO Kathmandu office. It was expected that this event would be an opportunity to establish a cooperative relationship to determine an appropriate way to preserve, rehabilitate, and reconstruct these historic settlements in different circumstances and to promote their nomination to the World Heritage List as an extension of the ‘Kathmandu Valley’, already a World Heritage Site (WHS).

1.2. The Aim of the Conference

<Final Objective>

- To establish an appropriate preservation system for historic settlements in Nepal

<Purpose of the Conference>

- To establish a cooperative network among four historic settlements
- To share common and different situations and problems regarding historic settlements
- To understand the existing and proposed legal framework concerning historic settlements and private houses
- To share experiences regarding the preservation of historic settlements in Japan

<Why the Historic settlements Network is needed? >

- To make one strong voice among municipalities on managing historic settlements
- To share knowledge for preserving historic settlements
- To make a platform for contact with national and international stakeholders

- To share guidelines for evaluating the historic value of a historic settlement
- To share the knowledge of how to legally stipulate historic settlements

<Target Settlements for the Conference>

- The four historic settlements inscribed on the WHTL

<What do we need to share at this conference to find the common issue? >

- The existing legal framework at each municipality
- Organization structure for preservation; relationship with other organizations
- Extent of damage by the earthquake and its influence on the preservation of townscapes
- Current problems/ challenges
- Expectations to the cooperative network

<Major Issues for Preserving Historic Settlements >

- Historic settlements and traditional private buildings are not legally designated as cultural properties (Though there are Monument Zones (core zone and buffer zones of a WHS or designated by building bylaws)
- Traditional masonry buildings with more than three stories are not permitted by National Building Code (NBC)
- Reconstruction and rehabilitation from the disaster
- Need to establish an effective implementation system for preserving traditional townscape by 'building bylaws' (including incentive and punishment for effective control)

<Other Issues>

- Tourism development
- Improvement of urban infrastructure
- Nomination process for becoming a property of the WHS as a serial nomination or extension of the existing WHS of Kathmandu Valley

<Expected Process >

- Legal designation of each historic settlement as cultural property
- Legal designation of important traditional houses as cultural properties, including those privately owned
- Call for national and international contributions directly to historic settlements and traditional residential buildings

1.3. List of Participants and Agencies

Conference	Name	Affiliation
Organizers	Karyabinayak Municipality, Kirtipur Municipality, Panauti Municipality, Shankharapur Municipality, Tokyo National Research Institute for Cultural Properties (TNRICP)	
Cooperators	Bhaktapur Municipality Lalitpur Sub-Metropolitan City	
Coordinators	Dr Bijaya Krishna Shrestha	Professor, Post-Graduate Department of Urban Design and Conservation, Khwopa Engineering College
	Mr Hiroki Yamada	Associate Fellow, Japan Center for International Cooperation in Conservation, TNRICP

Presentation	Name	Affiliation
Presenters	Dr Bijaya Krishna Shrestha	Professor, Post-Graduate Department of Urban Design and Conservation, Khwopa Engineering College
	Dr Yukio Nishimura	Professor, Faculty of Engineering, The University of Tokyo
	Ms Barsha Shrestha	Architect, Heritage Section, Karyabinayak Municipality
	Mr Krishna Bhola Maharjan	Engineer, Planning and Technical Section, Kirtipur Municipality
	Mr Prem Kumar Sonam	Engineer, Panauti Municipality
	Mr Bal Krishna Manandhar	Engineer, Shankharapur Municipality
	Mr Ram Govinda Shrestha	Chief, Heritage Section, Bhaktapur Municipality
	Ms Chandra Shova Shakya	Senior Architect, Heritage Conservation Section, Lalitpur Sub-Metropolitan City
	Dr Nobuo Kamei	Director General, TNRICP
	Dr Mitsuhiro Miyamoto	Lecturer, Faculty of Engineering, Kagawa University

Discussion	Name	Affiliation
Moderators	Mr Masahiko Tomoda	Head of Conservation Design Section, Japan Center for International Cooperation in Conservation, TNRICP
	Dr Bijaya Krishna Shrestha	Professor, Post-Graduate Department of Urban Design and Conservation, Khwopa Engineering College

1.4. Date

30th November 2016

1.5. Venue

Local Development Training Academy, Lalitpur, Nepal

1.6. Program of the Conference

10:00-10:05 Opening Address

- Dr Nobuo Kamei

10:05-10:25 Overview of the Historic Settlements of the Kathmandu Valley

- Mr Hiroki Yamada, Prof Bijaya K. Shrestha

10:25-10:55 Keynote Speech

- Prof Yukio Nishimura

‘Japan’s Formative Years of Urban Conservation (1960-1980) and Earthquake Recovery Planning of Heritage Settlements Today’

- Tea break -

11:10-12:30 Presentations by the Four Municipalities:

Karyabinayak, Kirtipur, Panauti, and Shankharapur

‘The Existing Legal Framework and Organization System for Preservation, Extent of Damage, and Influence on Preservation, Problems/Challenges for the preservation of the historic settlements inscribed on the World Heritage Tentative List’

- Ms Barsha Shrestha

- Mr Krishna Bholu Maharjan

- Mr Prem Kumar Sonam

- Mr Bal Krishna Manandhar

12:30-13:00 Presentations by the Two Municipalities:

Bhaktapur and Lalitpur Sub-Metropolitan City

‘Experiences of the Preservation of Historical Core Zones in the World Heritage Site’

- Mr Ram Govinda Shrestha

- Ms Chandra Shova Shakya

- Lunch -

14:00-14:35 Cases of the Preservation of Historic Districts in Japan

- Dr Nobuo Kamei ‘Preservation System for Historic Districts in Japan’

- Dr Mitsuhiro Miyamoto ‘Seismic Strengthening of Cultural Properties in Japan’

- Tea break -

14:50-16:05 Panel Discussion

16:05-16:25 Comments from Various Participants

Including inhabitants from historic settlements, UNESCO, DOA

16:25-16:30 Closing Address

Mr Bhesh Narayan Dahal, Director General, DOA



2. Opening Address & Overview of Historic Settlements of the Kathmandu Valley



Opening Address

Dr Nobuo Kamei
[Director General, TNRICP]



Good morning ladies and gentlemen,

My name is Nobuo Kamei. First, on behalf of the Japanese members, I would like to express my appreciation for this conference, realized by the efforts of the Department of Archaeology of the Government of Nepal and the UNESCO office in Kathmandu.

This conference is held as a part of the 60th anniversary of the establishment of diplomatic relations between Nepal and Japan. I would also like to express my deep gratitude for the efforts of those who have organised this event.

In Kathmandu Valley, there are many historic settlements which comprise a rich variety of tangible and intangible cultural heritage. Among them, four historic settlements are listed on the Tentative List of World Heritage Sites in Nepal and expected to be inscribed on the World Heritage List in the near future.

However, to fulfil this purpose, several challenges must be overcome. Our Japanese research team has been studying how to conserve historic buildings and settlements after damage suffered from the Gorkha Earthquake in 2015.

Examining these areas, Prof Nishimura's team has been surveying historic settlements, especially Khokana, and has found great historic value which should be preserved. Therefore, this conference is to provide useful advice to the four municipalities which have jurisdiction over the settlements on the tentative list, based on 40 years' experience in conservation of historic districts in Japan.

It is my hope that this conference will provide a great deal of useful information to assist in the conservation of the settlements, and bring about fruitful results for all in attendance.

Thank you.

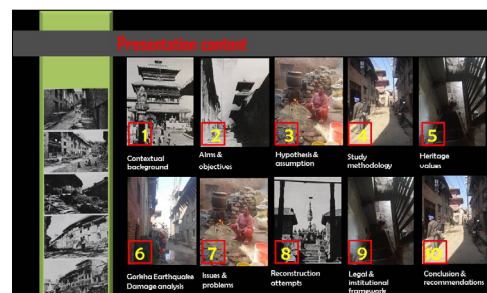
Overview of Historic Settlements of the Kathmandu Valley

Dr Bijaya Krishna Shrestha
[Professor, Khwopa Engineering College]



[Slide 01]: Presentation content

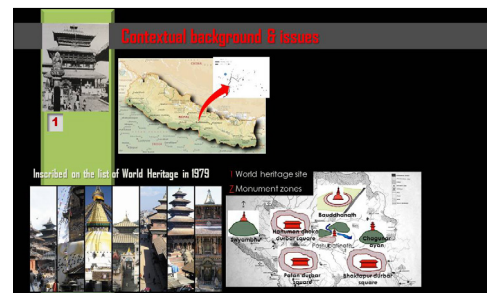
This morning, I will be talking about the historic settlements of the Kathmandu Valley, their cultural value, damage caused by the Gorkha Earthquake, and preservation issues. The presentation includes: (a) the contextual background, (b) aims and objectives, (c) hypothesis and assumption, (d) study methodology, (e) cultural values (f) Gorkha Earthquake damage analysis, (g) issues, (h) reconstruction attempts, (i) legal and institutional frameworks, and (j) conclusion and recommendations



[01]

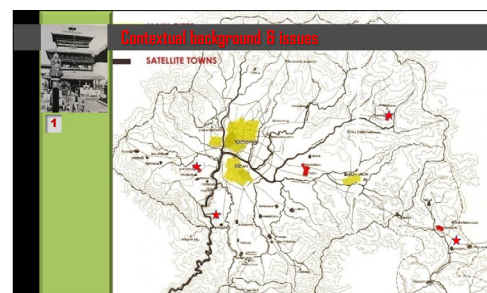
[Slides 02-06]: Contextual background and issues

Nepal is a small country that lies between India and China. Kathmandu Valley, located in central Nepal, is a major historical, cultural, administrative, tourist, and business centre. The valley is listed as a UNESCO World Heritage Site comprising of seven monument zones, including the three historical palaces of Malla kings (Hanuman Dhoka Durbar Square in Kathmandu, Patan Durbar Square, and Bhaktapur Durbar Square), two Buddhist shrines (Boudhanath and Swayambhu Mahachaitya), and two Hindu shrines i.e. Changu Narayan and Pashupatinath temple complexes. Believed to be a lake in the pre-historic period, the valley is vulnerable to seismic activity.



[02]

There are about 53 historic 'newari' settlements within the Kathmandu Valley, which can be categorized into three groups. The first group is composed of the historic settlements in Kathmandu, Lalitpur, and Bhaktapur, which are also properties comprising World Heritage Sites. The second group of historic settlements are the four towns on the World Heritage Tentative List: Panauti, Khokana, Kirtipur, and Shankarapur. The last group is composed of other towns in the valley, such as Bungamati, Panga, and Kisipidi, which are also historic settlements with traditional values and can be considered satellite towns of the principal cities of Kathmandu, Lalitpur, and Bhaktapur. For instance, Khokana and Bungamati are the satellite towns of Lalitpur, whereas Kisipidi is that of Kathmandu.



[03]

These historic settlements are often located along a trade route at a higher elevation (*tar*). Streets, open spaces, bodies of water in the form of ponds, stone spouts, and wells, and public rest houses (*pati*) represent the basic urban infrastructure. The economy was based on agriculture, though many also engaged in wood and metal carving business. Housing was allocated based on profession (*jaat*): with high officials, traders, and craftsmen (upper caste newars) surrounding the centrally located palace complex and the lower caste living progressively further away. The socially untouchable community, including ‘*pode*’ (toilet cleaner), ‘*chyame*’ (street sweeper), and ‘*kasain*’ (butcher), lived outside of the town walls, and far beyond the walls was the realm of the dead, ‘*masan ghat*’ (crimination ground). The common life-style, local materials, and technology, including social norms and religious beliefs, resulted in architectural harmony among the towns buildings. The same planning and design principles were used in the principle cities of Kathmandu, Lalitpur, and Bhaktapur but they were adjusted the according to the context, topography, climate, and lifestyle of the people of each city.

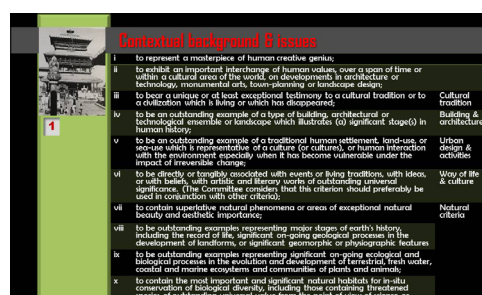
Of the ten criteria for acceptance as a World Heritage Site, some are associated with cultural traditions; others affiliated with building and architecture; and others with urban design, activities, and lifestyles. Criteria six to ten correspond to natural phenomena. Criteria (i) is about representing a master pricepiece of human creative genius. Criteria (iii) requires a site to ‘bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared, whereas criteria (iv) requires a site to ‘be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history, ‘Criteria (v) is associated with ‘outstanding example of a traditional human settlement, land-use, or se-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change’. Finally, criteria (vi) mentions as ‘directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance’. The Committee considers that this criterion should preferably be used in conjunction with other criteria.

In May 1996, Khokana and Panauti were inscribed on the World Heritage Tentative List (WHTL) under the cultural criteria (i), (iii), and (iv), whereas Kirtipur and Sankhu (Sankarapur) were kept inscribed on the WHTL in 2008 under cultural criteria (iii), (iv), (v), and (vi).



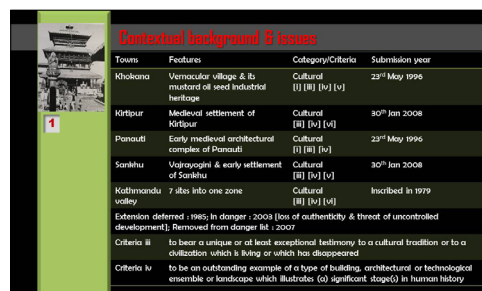
Contextual background 8 issues	
Location	Trade route
Topography	Higher elevation (<i>tar</i>)
Form	Compact & high density
Urban infrastructure	Streets & open spaces; water in the form of ponds & stone spouts, well, Public rest houses
Economy	Agriculture and wood, metal carving business
Housing	Allocation of space as per professional work (<i>jaat</i>)
Architectural harmony	Common life-style, local material & technology & social norms & religious belief
Planning & design principles	Same as in urban area (<i>principle cities</i>) but has adjusted into rural context (topography, climate and people)

[04]



Contextual background 9 issues		
i	to represent a masterpiece of human creative genius;	
ii	to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;	
iii	to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;	Cultural tradition
iv	to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;	Building & architecture
v	to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;	Urban design & activities
vi	to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria);	Way of life & culture
vii	to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;	Natural criteria
viii	to be outstanding examples representing major stages of earth's history, including the record of life, significant geological or physiographic features in the development of continents, or significant geomorphic or physiographic features;	
ix	to be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;	
x	to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or	

[05]



Contextual background 9 issues		Category/Criteria	Submission year
Towns	Footnote		
Khokana	Vernacular village & B. moudal on seed industrial heritage	Cultural [i] [iii] [iv]	23 rd May 1996
Kirtipur	Medieval settlement of Kirtipur	Cultural [iii] [iv]	30 th Jan 2008
Panauti	Early medieval architectural complex of Panauti	Cultural [i] [iii] [iv]	23 rd May 1996
Sankhu	Vajrapogini & early settlement of Sankhu	Cultural [iii] [iv]	30 th Jan 2008
Kathmandu	7 sites into one zone valley	Cultural [iii] [iv]	Inscribed in 1979
Extension deferred - 1985; In danger - 2003 (loss of authenticity & threat of uncontrolled development); Removed from danger list - 2007			
Criteria iii	to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared		
Criteria iv	to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history		

[06]

[Slide 07]: Inscription as a World Heritage Site (WHS)

Inscription as a World Heritage Site means that the settlement has global and national value, in addition to local importance, ensuring the city’s identity and pride while potentially serving to drive a tourist economy. In this context, the main aim of today’s presentation is to explore the values of historic settlements of the Kathmandu Valley with a threefold objective. First, the issue of culture (traditions, lifestyles, cultural beliefs, etc.) and heritage values are identified. Second, the historic settlement is analysed from an urban design point of view, identifying what should be conserved and why. Third and last, architecture of private houses and continuation of artistic workmanship will be discussed in the context of post-earthquake reconstruction of the historic settlements.

Through the recognition and implementation of these objectives, it is hypothesised that a balance between conservation and development is possible using a build back better (BBB) approach in the post-reconstruction process.

Issues	Measurement/indicator	Time frame
Culture (traditional, way of life, beliefs, etc.)	Heritage values?	Immediate
Urban design built form, public spaces, integrated approach	What to conserve?	Medium term
Architecture & artistic workmanships	What to modify?	Long term

Hypothesis
Balance between conservation & development possible
Build Back Better (BBB) we can & we will do together.

[07]

[Slide 08]: Study methodology

The study methodology combines a global and local literature review, a detailed questionnaire survey with the earthquake victims, frequent site visits, and consultation of stakeholders in the forms of meetings, key informant interviews (KII), and informal discussions. Various experts at the Department of Urban Development and Building Construction (DUDBC), Ministry of Urban Development (MOUD), municipalities in the Kathmandu Valley, and many non-government organizations (NGOs), including the Japan International Cooperation Agency (JICA), were consulted for this study.

Study methodology

- Global/local search
- Detailed questionnaire survey
- Field visit & measurement
- Stakeholders consultation

Stakeholders

- Central government: Ministry of Urban Development (MOUD), Department of Urban Development & Building Construction (DUDBC)
- Local governments: Various municipalities in KV
- Donor agency: JICA
- NGOs: Various organizations

[08]

[Slide 09]: Heritage value

When one is talking about heritage values in the historic settlements, it is essential to have indicators for measurement. Proper legal and institutional framework to regulate settlement growth is necessary. Finally, community awareness towards heritage values and their need of conservation and promotion is equally important. All these attributes are necessary for private properties that include lands and houses.

Heritage values

- Values
- Indicators
- Measurements
- Legal & institutional framework
- Community awareness

Facilitating on private buildings (KII) by public department

[09]

[Slides 10-16] Impact of the Gorkha Earthquake

The impact of the Gorkha Earthquake on the historic settlements of the Kathmandu Valley was immense. In historic settlements, like Khokana and Sankhu, 80-90% of the buildings were completely or partially damaged. Panauti and Kirtipur experienced relatively less destruction.

In Bhaktapur Municipality, 252 people were killed, and 397 were injured. About 33.62% of housing collapsed completely, and a further 11.82% were partially damaged. The damage to the tourism

Impact of Gorkha Earthquake

- Khokana & Sankhu: 80-90% of building damaged (completely or partially)
- Panauti & Kirtipur: Comparatively less
- Private housing: 252 person died, 397 injured, 33.62% housing stocks completely collapsed, 11.82% partially damaged
- Tourism sector: NRs. 18.86 billion damage in tourism sector, 5 hotel need renovation (out of 37 hotels), 46 rooms need renovation (out of 372), 91 guest occupancy need renovation (out of 699)

[10]

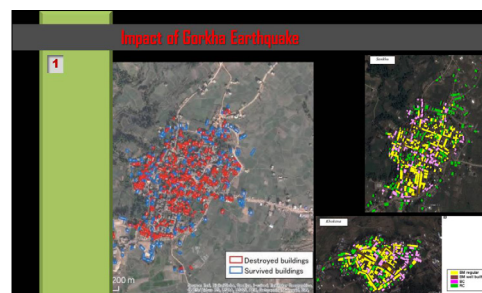
sector has been estimated as NRs. 18.86 billion. 5 hotels need to be renovated, including 46 rooms to be retrofitted and 96 guest occupancy to be renovated.

The majority of traditional brick and mud mortar houses in the historic settlements of Sankhu and Khokana were badly damaged as shown in red and yellow on the map. Many of the surviving houses had reinforced cement concrete (RCC) frame structures.

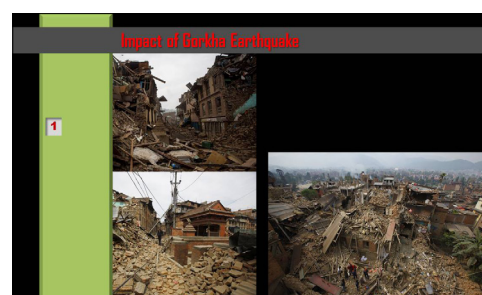
The destruction of traditional houses included complete collapse and partial damage. For those that were only partially damaged, either the upper RCC roof or the side gable walls collapsed. This is common pattern for nearly all of the historic settlements in the Kathmandu Valley.

Despite debris around the temples and chaityas, locals have continued their morning ritual of worship. This clearly indicates their respect for and feelings toward their culture and the tradition of worshipping gods and goddesses despite dilapidated condition of temples and monuments.

Not only traditional old houses in historic settlements, but also many newly built RCC structures in the city periphery collapsed. The nature of the collapse was diverse. Total collapse of structures with one floor overlapping other floors was found in Swayambhu and Gongabu due to the failure of supporting columns. The destruction of lower or ground floors from the collapse of upper floors was seen in several locations. The failure of corner columns on ground floors was due to inadequate rods, column size, and detailing. Pounding effects also caused building damage. Several buildings collapsed into the street due to uneven ground settlement and inadequate foundations.



[11]



[12]



[13]



[14]

Significant damage to old houses in historic core areas was the result of multiple contributing factors. First, traditional ‘Newari’ houses susceptible to earthquake damage due to shallow foundations, the absence of damp proofing, poor bonding of mud mortar between the facing brickwork and inner brickwork, the lack of ties at the corner walls, and the poor strength of the building materials used. Second, vertical division of the houses followed by haphazard renovation and addition of floors have further weakened the structures. During renovation, the lack of consultation with experts and employing trained masons have further contributed to their susceptibility to damage.

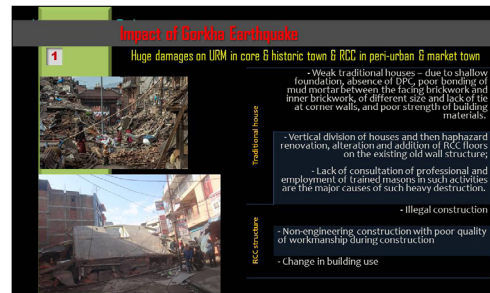
On the other hand, the destruction of RCC structures is due to illegal construction, non-engineering construction with poor quality workmanship, and changes in building use.

More than one dozen of persons were killed in a single structure failure in different parts of the valley. For example, the collapse of one RCC structure at ‘Thado Bharyang’ in Ward No. 15 of Kathmandu Metropolitan City (KMC) killed 38 people, and whereas the collapse of a similar structure in Ward No. 6 of KMC killed 30 people.

It is quite common for there to be two sets of construction drawings prepared for these buildings: one for obtaining a building permit from the municipality and another for construction. In addition, people generally fail to obtain a permit for the extension of a structure. Based on these issues, it is believed that 30% of approved building permits are being violated in some way. Weak municipal monitoring, supervision during construction and absence of punishment to defaulters are also contributing to the prevalence of illegal construction.

[Slide 17]: Issues and problems

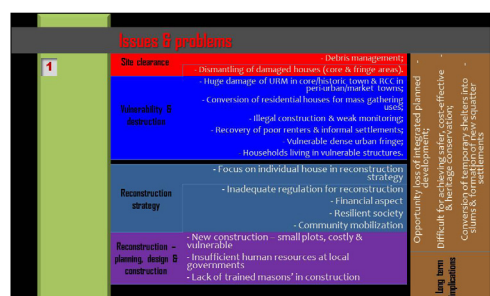
Issues associated with post-earthquake reconstruction are many. First, debris from the collapsed houses, particularly located around inner courtyards and lanes, is yet to be cleared. Dismantling of the vulnerable and damaged houses remains a problem, not only due to tall RCC structures, but also to common walls with adjacent houses. Second, many households are still living in vulnerable, damaged houses. Poor renters have been displaced from the historic core areas, while many residential buildings are being converted into offices, training centres, colleges, and so on. Third, post-earthquake reconstruction should address issues of inadequate regulation, poor capacity for rehousing earthquake victims, building a resilient society, and mobilization of community. Fourth, many plots have been subdivided into small elongated lots, thereby making urban planning difficult. Local municipalities in the Kathmandu Valley have inadequate human resources and capabilities. The lack of trained mason for mass reconstruction must be addressed. In short,



[15]



[16]

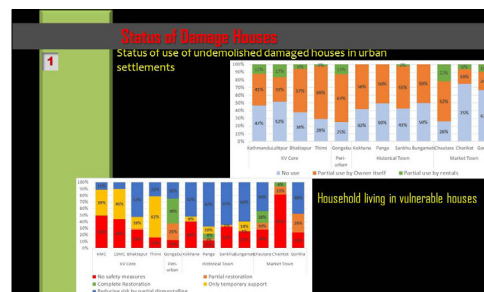


[17]

conservation of cultural heritage and the quick construction of safer houses cost effectively are needed in the post-reconstruction process. Otherwise, a delay in reconstruction may result in the conversion of temporary shelters located on agricultural land and in larger community spaces into slums.

[Slides 18]: Status of damaged houses

Another study on the impact of the Gorkha Earthquake on different settlements, including the historic core of the Kathmandu Valley, reveals that about half of the damaged houses are being used by the owners or by poor renters. In majority of cases, the occupants have either removed the upper RCC floors themselves and placed wooden supports (*teko*) on the outside of the buildings to reduce risk. The complete restoration of vulnerable houses represented an insignificant percentage and is mainly accomplished in commercial areas, such as the Gongabu and Balaju area in KMC.



[18]

[Slides 19]: Urban housing reconstruction initiations

Though the Government of Nepal (GON) is late in responding to post-earthquake housing reconstruction in urban areas, the local communities of the historic core areas of the Kathmandu Valley have issued their own redevelopment proposals. Three different cases of community-initiated plans for redeveloping the historic core areas are presented here.

The ‘Pilachhen’ residential neighbourhood located in the historic core area of Lalitpur Sub-Metropolitan City is occupied by a community of the ‘Maharjan’ caste, having professions in agriculture, wood and stone carving, and weaving. Immediately following the earthquake, the Maya Foundation, a local non-profit organization, took the lead to reconstruct and redevelop eighty-two houses. CE Construction Solutions designed each four-and-a-half storied house with shops on the ground floor, homestays on the first, and owner’s residences on the upper stories. The financial requirements will be fulfilled as follows: 25% of the building cost provided by the home owner, 25% to be supported by the owner in cash or kind, 25% volunteer support, and the remaining 25% through bank financing.

Though the Dambo Chowk neighbourhood is also located in the historic core area of Kathmandu Valley with *Maharjan*, *Goapals*, and *Dongol* families (professions based on agriculture, animal husbandry, and trade), a single monolithic structure has been proposed with ground and lower floors for commercial usage and upper floors for owners’ spaces based on a flat system. With such provision, it is expected to retain all households and recover the development costs through rental income.

The neighbourhoods of Jela and Byasi in the historic core

Aspects	Pilachhen, Patan	Klagol, Kathmandu	Jela, Bhaktapur
Location	Nevari core settlement	Nevari core settlement	Nevari core settlement
House nos.	82	55	66
Cost of community	Maharjan	Maharjan, Gopak & Dongol	Prjapoti, Pyetha, Dhaol, Suroi etc.
Professions of community	Agriculture, wood & stone carving, cloth weaving	Agriculture, animal husbandry with some on trade & services	Agriculture with mason, carpenter, painter with few on trade & services
Construction system	Each individual house separately	Single monolithic structure	Combination of small plots into one single unit
New use	Lower-ground house & galleries & upper floor for residents (owners)	Lower floor for commercial and upper spaces owners on flat system	Lower floor – galleries, restaurants & homestay stay with upper floors for owners use
Financial system	Owner cash payment – 25% Cash or kind support – 25% Volunteer support – 25% Bank financing – 25%	Rental from commercial use on lower floor	Contribution of owners, business entrepreneurs and heritage conservation including debt financing from EIM

[19]

of Bhaktapur Municipality have been occupied by *Prajapati, Pyatha, Duwal* and *Suwal* families relying on agriculture masonry, carpentry, painting, and trade. The proposed design combines small plots into a single unit with a common foundation. Lower floors are proposed for galleries and guest house with upper floors for owner's accommodation.

[Slide 20]: Emerging redevelopment model

In Pilachhen, special attention has been given to the building façades with the provision of unifying elements, such as brick façades, cornices between floorings, and sloped rooves. Despite the community's active involvement and good financial schemes, the construction of individual RCC houses on small plots may not be a sufficient solution, as it results in cylindrical shapes and the 'pounding' effect.

No guidelines or clear techniques are provided in the existing legislation for the implementation of Dambo Chowk's house pooling project. There is confusion over several issues, including the planning and building permit system, provision of Floor Area Ratio (FAR) and associated setbacks, criteria for the distribution of flat system, and the role of the Department of Archaeology. The proposed redevelopment plan will change not only the social fabric and morphology of the historic settlement, but also the lifestyles of occupants. The inclusion of commercial activities within the courtyards of the historic core area will create another set of problems, including parking, noise pollution, and the ultimate displacement of inhabitants.

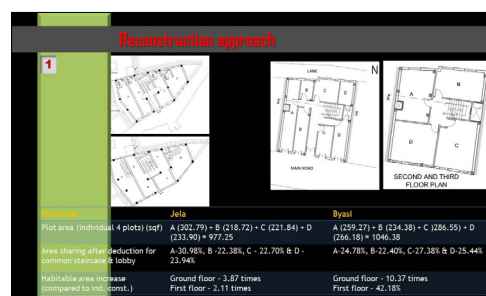
The approach adopted in Bhaktapur can help achieve safer and more cost-effective housing reconstruction, in addition to increasing the quantity of habitable spaces due to sharing staircases and circulation spaces.



[20]

[Slide 21]: Reconstruction approach

Combining four small elongated plots with a shared common space and staircase at Jela has resulted in an increase of the habitable space by 3.87 times on ground floor and 2.11 times on the first floor, compared with individual house construction on a single plot. The corresponding figures for combining four plots at Byasi are an increase of 10.37 times on the ground floor and 42.18% on the first floor. A community fund can be created with input from various sources and can be used for the construction of a skeleton structure. The detailing and finishing of the interior will be done at a later point per individual taste and budget availability. In this way, the local community mobilises during construction. Such 'community' driven strategy is much better than the present strategy of 'owner' build approach.



[21]

[Slide 22]: Urban design guidelines

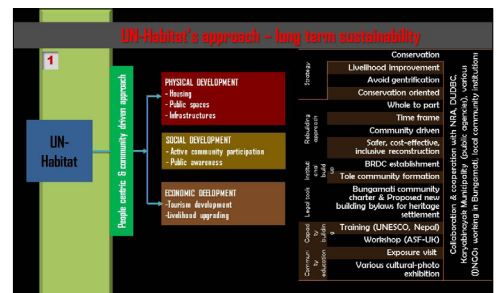
Brick exposure, cornices between floors, and sloped rooves alone are not adequate to define ‘Newari’ architecture of the Kathmandu Valley. Quantitative measures are required. An analysis of the ratio between façade area and opening area only in traditional houses of the valley, displays a range of 2.4:1 to 4.8:1 for Malla period houses and gradually decreases in the subsequent periods: 3:1 in Rana period houses and 2:1 to 2.3:1 in modern houses. Another special feature of Malla period houses is a dominating roof covering an area of about one fourth of the total height of the house.



[22]

[Slide 23]: UN-Habitat’s approach - Long term sustainability

For long-term sustainability in recovery and reconstruction processes, UN-Habitat has adopted a people-centric and community-driven process. It focusses on three major aspects: physical, social, and economic development. Its strategy includes conservation of historic settlements, livelihood improvement, and gentrification prevention. Local engineers and architects were trained for reconstruction based on traditional building material and construction technology. Other training and study programs were also completed in collaboration with different international organizations such as as Architecture Sans Frontieres-United Kingdom (ASF-UK).



[23]

[Slide 24]: Bungamati - Institution building

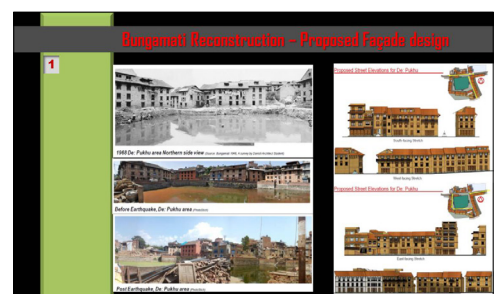
As a part of institutional development, UN-Habitat helped in establishing the Bungamati Area Reconstruction and Development Council (BARDeC) and neighbourhood (*tole*) committees. The Bungamati community charter was developed, and new building bylaws especially for the historic settlements are under consideration at central level.



[24]

[Slide 25]: Bungamati reconstruction - Proposed facade design

For the reconstruction of Bungamati, various sketches of buildings surrounding important places reflecting traditional architectural characteristics and using traditional building materials and construction technology have been prepared to educate the local community. For instance, the proposed buildings around De Pukhu at Kota *Tole* were shown along with the view of the same location before the earthquake. Destruction caused by the earthquake in the same place is also shown.



[25]

[Slides 26-27]:

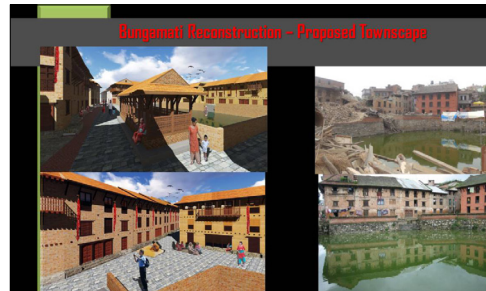
Bungamati reconstruction - Proposed townscape

The proposed traditional houses are three and half stories and characterized by brick façades, wooden balconies facing public spaces, and sloped roofs. The proposal is not limited to the reconstruction of private houses, but also includes infrastructural improvement, such as street paving and pond revitalization.

The proposed conceptual ideas in three dimensional form is shown from different locations. It intends to revive traditional spaces for community activities. Buildings with unifying architectural features and little variation of roof lines help to create an enclosed community space.



[26]



[27]

[Slides 28]: Bungamati reconstruction - Community's exposure visit

In order to change the mind-set of the local community of Bungamati, many exposure visits have been organized. Household comprising of women, elders, youth, and children have been taken to conserved traditional houses in Lalitpur and Bhaktapur. They were also shown the interior treatment of the houses such as kitchen and bathroom, where modern facilities had been provided. Majority of them were happy to learn modern facilities within the traditional old houses. They were also convinced on the use of traditional materials and construction technology.



[28]

[Slide 29]: Legal and institutional framework

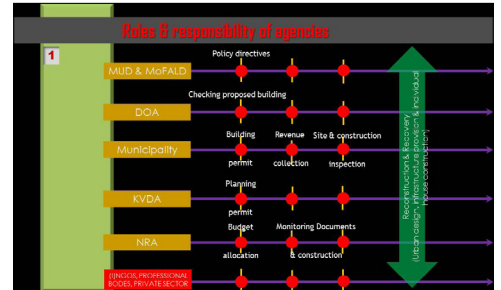
After the Gorkha Earthquake, the Ministry of Federal Affairs and Local Development (MOFALD) and the Ministry of Urban Development (MOUD) issued directives that provide a broad framework for post-earthquake reconstruction. For historic settlements, the concerned municipalities have responsibility for the preparation of necessary guidelines and bylaws. The National Building Code has been updated to require that RCC columns be at least 12x12 ft, instead of the earlier requirement of 9x9 ft. The Department of Archaeology (DOA) is preparing guidelines for the historic core area to regulate development, particularly focusing on public monuments. Bhaktapur Municipality has updated its prevailing building bylaws per the central government's directives, but nothing has changed in the regulation of the historic core area. The Ancient Monument Act 1956 (2013) is also relevant to the reconstruction of houses in the historic core areas of the Kathmandu Valley.



[29]

[Slide 30]: Roles and responsibility of agencies

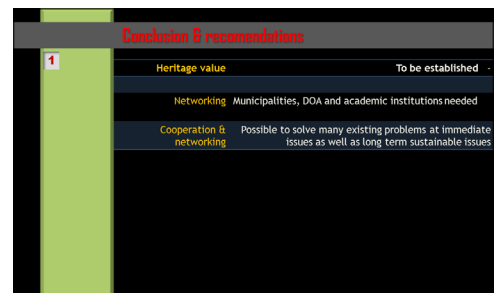
The National Reconstruction Authority (NRA) has already been established as per NRA Act for recovery and reconstruction of the earthquake damaged areas. Despite having many agencies and regulations, there is still some confusions and the reconstruction work is going slowly. Who will be responsible for issuing planning permit - NRA or Kathmandu Valley Development Authority (KVDA) is not clear for redevelopment of the damaged neighbourhoods. Supervision by both the municipality (to confirm building regulations) and NRA staff (to ensure earthquake-resilient components) may require an unnecessary length of time and place further burden on earthquake victims.



[30]

[Slide 31]: Conclusion and recommendations

In conclusion, the heritage value of the historic settlement must be established. Networking among municipalities, the DOA, and academic institutions is essential to sharing knowledge and experiences. With such cooperation and networking, it is possible to solve many existing short and long-term problems.



[31]

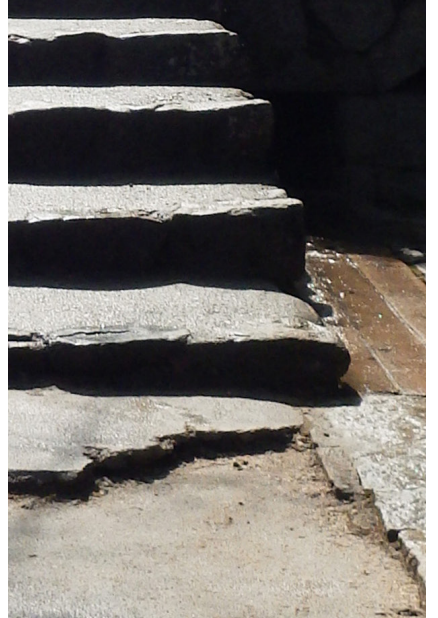
Thank you very much for your patience. If you have any questions, comments, or suggestions, you are most welcome to share them now.



[32]



3. Keynote Speech



*Japan's Formative Years of Urban Conservation [1960-1980]
and Earthquake Recovery Planning of Heritage Settlements Today*

Dr Yukio Nishimura
[Professor, The University of Tokyo]



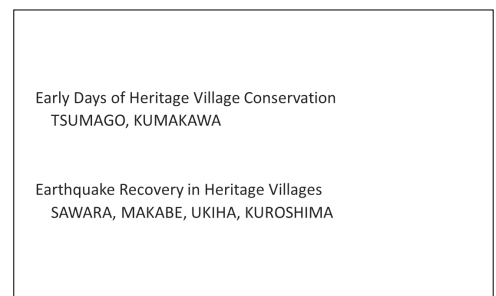
Distinguished participants, colleagues, ladies, and gentlemen. It is my great pleasure to share my experiences with you in regard to the emergence of the idea of the historic district and earthquake recovery planning in recent years in Japan. Before delivering my presentation, allow me to make a small comment on the small leaflet in front of you [Appendix-1]. We have been surveying Khokana for nearly two years with the aid of the local community. We are very pleased to handover 300 copies of this leaflet to the representatives of the Khokana Reconstruction and Rehabilitation Committee (KRRC). With the help of the Tohoku Institute of Technology, who took photographs in 2009, we photographed the same locations to show what difference can be made, and foster an awareness of our future and the future of Khokana. We are very pleased to present this to the people of Khokana with appreciation for having been welcomed by them.



[Appendix-1: Leaflet]

[Slide 01]

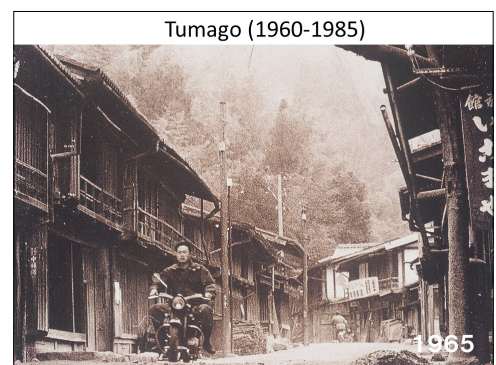
Today, I am going to present two things: the early period of heritage village conservation with two examples of Tsumago and Kumakawa, and earthquake recovery in heritage villages SAWARA, MAKABE, UKIHA, KUROSHIMA



[01]

[Slide 02]

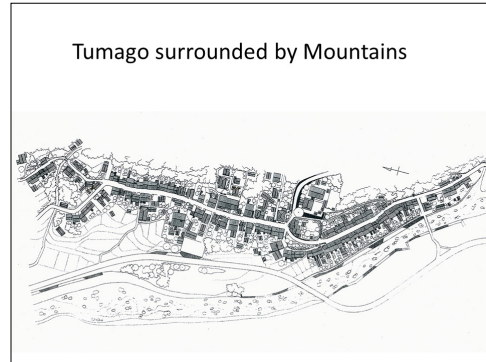
Tsumago is the birthplace of the idea of historic district conservation in Japan. This picture of the small town was taken in 1965, when the town was dilapidated and had nearly disappeared. Local officers were appointed by the mayor to revive the town, but poverty and government ownership of the surrounding forest limited action.



[02]

[Slide 03]

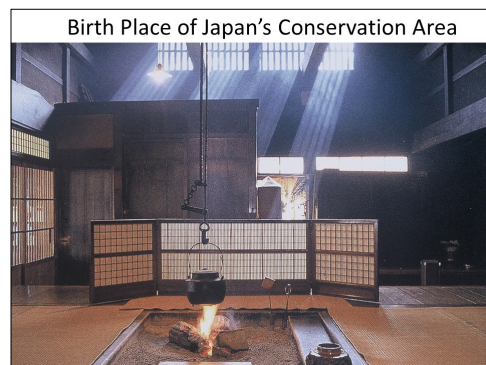
This is a picture of the very small settlement in Tsumago surrounded by high mountains.



[03]

[Slide 04]

This is the origination point for a new idea of how to remedy the challenges that the town faced. The slide shows one of the major houses and its fireplace. Upon discussion, they realized that district itself had merit which they could attempt to utilize by restoring the village and attracting tourists. Restoration and the creation of a tourist economy had the potential to alleviate their poverty while improving living conditions.



[04]

[Slides 05-08]

This is the condition of the town when I first visited [05], in 1975 [06], and in 2008 [07]. Now visitors come to the town, and the settlement is improving [08].



[05]

[06]



[07]

[08]

[Slide 09]

The new idea of historic districts is very different from the traditional idea of monuments, which have individual and intransitive value. Historic districts have group value. Each individual house is historic, but not as historic as a monument and must be grouped for increased cultural value.

A historic district is living heritage, and so must consider the needs of the people and its changing nature. In preserving monuments, the focus is on preventing change. However, in the preservation of historic districts, change is inherent and its speed must be managed.

Monuments must be restored, but historic districts must be improved with different concepts.

In addition, the preservation of the exterior and interior of monuments is important, but for historic districts, the exterior is more

MONUMENTS	HISTORIC DISTRICTS
individual value	group value
heritage	living heritage
prevent change	manage change
restoration	improvement
exterior + interior	exterior
rules and regulations	design guidelines
grants	incentives

[09]

important for preservation because the interiors will be modified according to the needs of the inhabitants. As a result, clear and incentivised design guidelines are required for historic districts, while monuments require strict rules and regulations issued by the government.

From this discussion, it is clear that although part of heritage, the approach to historic districts is quite different from individual monuments.

[Slides 10-13]

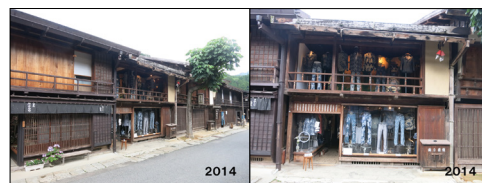
In Tsumago, they have been improving the historic district in observable ways [10].

They are creating shops for the visitors [11], including the retention of traditional shops [12] and fashionable jeans shops accepted as slow changes [13].



[10]

[11]



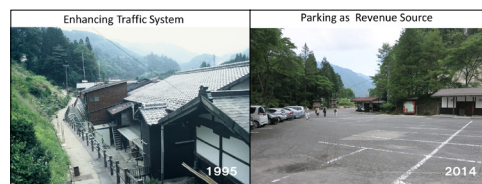
[12]

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[Slides 14-17]

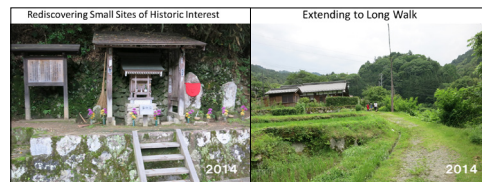
They are creating transportation infrastructure [14], and parking lots to create revenue for the restoration of individual houses [15].

Small or individual shrines are a point of interest in that they are extending the scope of long historic walks [16], the historic through the trading post town. This was the main historical trade road, but after the introduction of railways and highways, they fell out of use and resulted in the decline of this small settlement [17].



[14]

[15]



[16]

[17]

[Slide 18]

The Cultural Properties Protection Act was enacted in 1950, and in 1975, it was amended to include the idea of ‘Groups of Traditional Buildings’, that is historic area. This amendment represents an expansion of the concept of heritage in our lifetime.

The area containing groups of traditional buildings will be explained this afternoon by Dr Kamei.

Cultural Properties Protection Act (1950) was amended in 1975 to expand the Cultural Properties to include ‘Groups of Traditional Buildings’

[18]

[Slide 19]

Another example is Kumagawa in central Japan, with which I have been involved since 1985.

This is Kumagawa today. It is another postal town, close to Kyoto, that saw the transport of seafood from the port town of Obama to Kyoto.



[19]

[Slide 20]

This is a small settlement and, again, a very rundown area.



[20]

[Slides 21-24]

When I first visited the settlement in 1985, the townscape was something like this. The town was quiet and very comfortable, but there were few cultural or commercial activities [21-24].



[21]

[22]



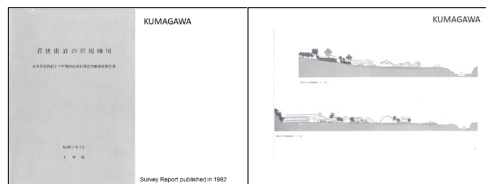
[23]

[24]

[Slides 25-28]

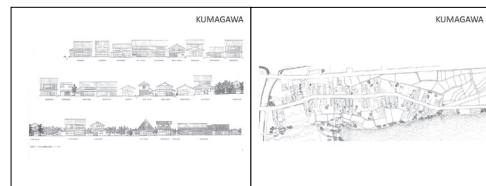
In 1982, Fukui University launched an extensive survey to evaluate the group value of this town as a prerequisite for inscription by the Agency of Cultural Affairs as an important preservation district (conservation area). These slides show the extensive survey [25], including sections [26], elevations [27], and complete ground floor plans.

This survey allowed for an understanding of the economy and group value of this town [28].



[25]

[26]

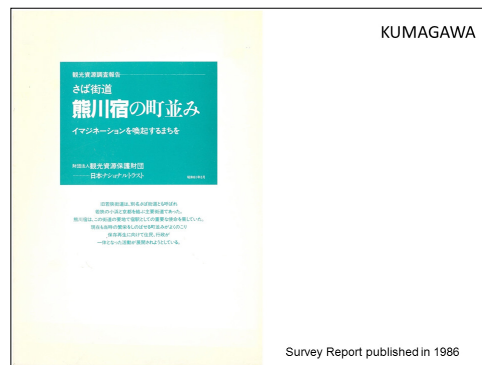


[27]

[28]

[Slide 29]

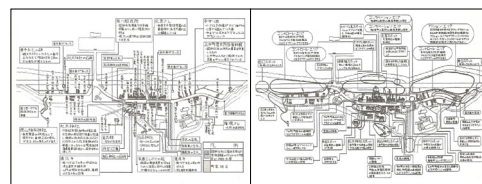
In 1986, our group evaluated the use of the heritage space.the heritage space.



[29]

[Slides 30, 31]

After evaluation of its area [30, 31], they were inscribed as a designated preservation district 20 years ago in 1996.



[30]

[31]

[Slides 32-34]

This is the area before its inscription [32], in 2008 after it had been improved [33], and again in 2014 [34].



[32]

[33]



[34]

[Slides 35-37]

This is the site in 1985 [35], 2008 [36], and 2014 [37], showing remarkable improvement.



[35]

[36]



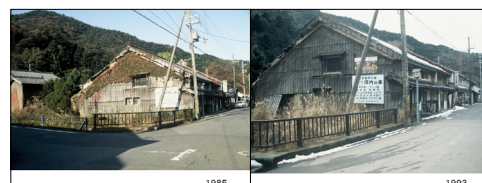
[37]

[Slides 38, 39]

These are the results of our groups to support and the government’s financing that were enhanced by the local community’s understanding of the heritage of this town.

For example, this is the one of the very dilapidated houses in Kumagawa Town [38].

The community was very worried about the future of this town [39].



[38]

[39]

[Slides 40, 41]

After a natural disaster, the local government decided to restore this building as a model house [40]. This slide shows its restoration [41].



[40] [41]

[Slides 42-45]

The building was being used as a guest house in 2004 [42], 2008 [43], 2014 [44], and today [45]. People return frequently to this good example of restoration, providing economic merit.



[42] [43]



[44] [45]

[Slides 46, 47]

This is the interior of the house. The interior was not traditionally converted [46], but it is comfortable with a good kitchen facility and frequently hosts community meetings [47].



[46] [47]

[Slides 48-51]

This example is not harmonized with other traditional buildings, and we advised that the facade be altered. This photo shows the building just after the survey [48] and today [49, 50].

These examples show that as tourists increase, the townscape is developing and improving, meeting the goals for a conservation area with the help of local and national governments [51].



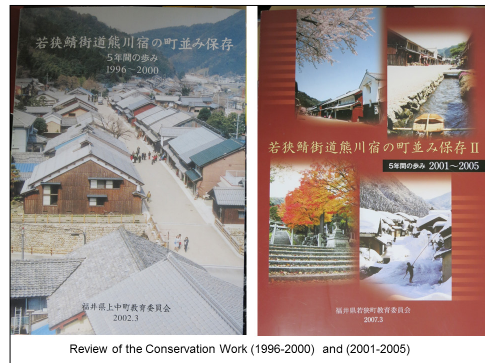
[48] [49]



[50] [51]

[Slide 52]

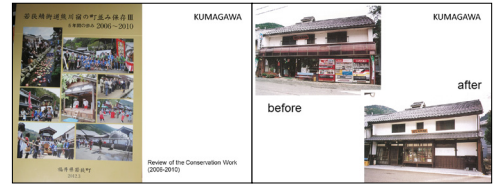
A rigorous review of the conservation works is ongoing, with three books having been published on the five-year reviews.



[52]

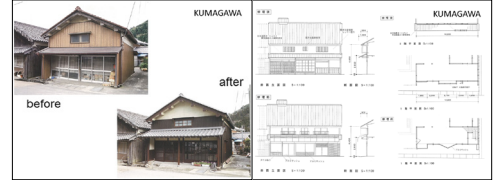
[Slides 53-56]

These three books [53] describe in detail the conditions of the town before and after conservation [54, 55]. The reports include the type of alterations, enhancements, and restoration projects that have been accomplished [56].



[53]

[54]



[55]

[56]

[Slide 57]

Each individual project recorded its owner, outlines of the work, the owner's comments, and an overall review of whether the restoration work at the particular site was successful.

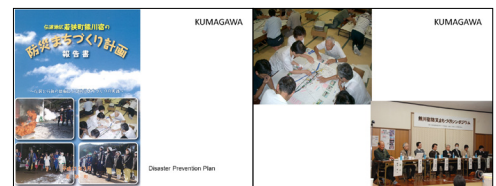
The restoration efforts continue in the 21st year after its inscription as a preservation district.

12 浅井弘子家 主 屋		Name of the owner	KUMAGAWA
所在地	山形県鶴岡市0-4-1		
建物番号	5-40-1		
事業内容	修 理		
竣工年度	平成19年度		
設計監理	設計事務所		
施 工	株式会社河合五郎店		
(1) 工事概要	Outlines of the work		
用途用途	古民家二階一戸建		
材料	板瓦葺き瓦葺き		
構造	檜造り、檜製土蔵、土蔵		
工種	屋根葺き、外壁塗り、内装仕上げ		
工期	葺き替え、中塗り、白塗り仕上げ		
工期	葺き替え、中塗り、白塗り仕上げ		
工期	葺き替え、中塗り、白塗り仕上げ		
工期	葺き替え、中塗り、白塗り仕上げ		
工期	葺き替え、中塗り、白塗り仕上げ		
工期	葺き替え、中塗り、白塗り仕上げ		
(2) 所有者の感想	Owner's comments		
重宝指定を受けてから5年、毎年新修を繰り返して来たが、修繕費も次第に多くなりつつあり苦しい事です。電灯も壊れ、田舎の山々、東家の表も大きく劣り、はっと古民家の価値、土蔵の存在を改めて感じています。でも修繕費の、修繕費について、思いがけずかかると聞いて、自らで取組むの覚悟も強まってきました。とにかかろうと思いました。			
(3) 検討	Overall review		
修繕小修繕を積み重ねる以上に正面の修繕である。アトキアスタイルで修繕された一階は本質的な修繕の範囲で修繕し、二階は本質的な修繕は、修繕スタイルの修繕を修繕で修繕した。新築材に合わせた瓦も瓦葺きにした。土蔵に添った古民家修繕も修繕されたが、土蔵や修繕を修繕を修繕を修繕した。修繕に添った古民家修繕も修繕された。			

[57]

[Slides 58, 59]

Simultaneously, the town has prepared a disaster prevention plan, albeit for landslides and not earthquakes [58]. As part of these efforts, the local community is discussing the possible weak points in the local landscape and are raising public awareness through several symposiums [59].

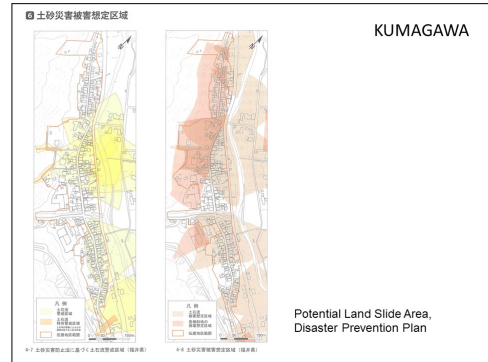


[58]

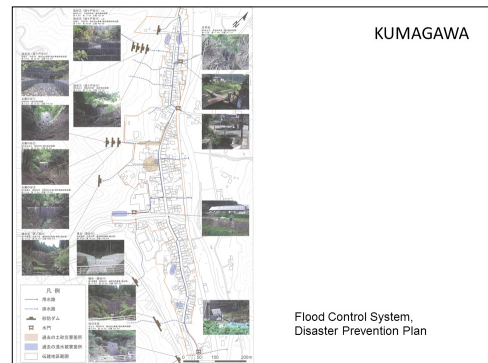
[59]

[Slides 60, 61]

This is the simulation of a landslide conducted by the local ordinance. The people are aware of the dangers to the town whose left-hand side sits on a mountain [60]. This map shows dams built to protect the town from flooding [61].



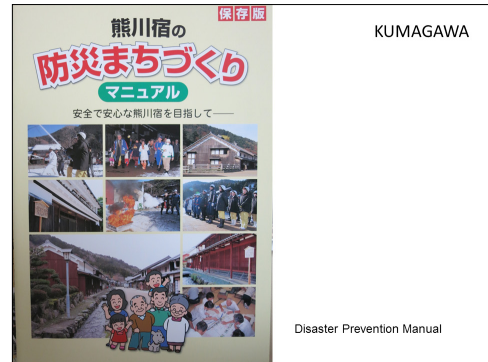
[60]



[61]

[Slide 62]

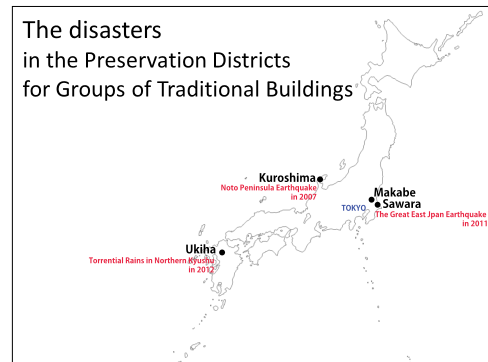
The local community also published a manual on how to prevent disaster, detailing a series of efforts to safeguard the community as well as improve the townscape.



[62]

[Slide 63]

The latter half of this presentation concerns disaster prevention. Japan is susceptible to earthquakes like the ones that have been damaging to heritage sites in Nepal. In particular, the Noto Peninsula Earthquake in 2007 and the Great East Japan Earthquake in 2011 severely damaged preservation districts. Similarly, a landslide and flood in Ukiha in 2012 necessitated specific restoration work. The restoration of these areas in Japan is done by the local government.



[63]

[Slide 64]

These are the historic townscapes of four settlements. They all have been inscribed as important preservation district by the central government.



[64]

[Slides 65-66]

This is Sawara which was damaged by the earthquake in 2011 [65]. Mainly the roof tiles were damaged [66].

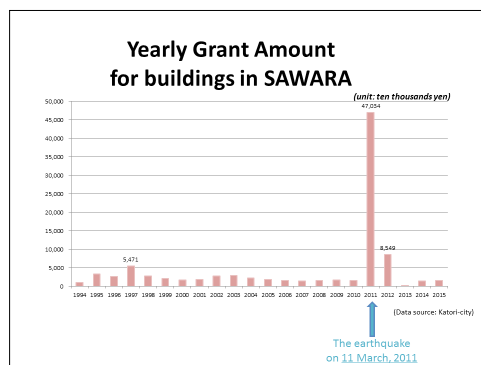


[65]

[66]

[Slide 67]

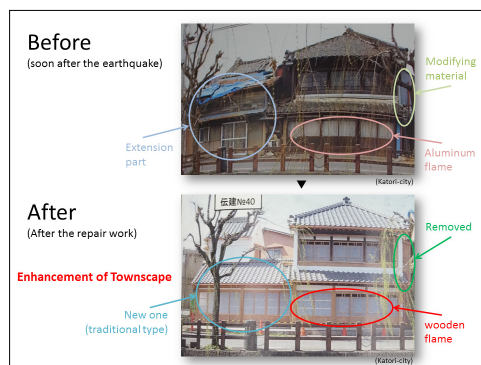
The annual budget or subsidy of the central government to Sawara Historic District was ¥5,000,000. The exchange rate of Nepali Rupee to Japanese Yen is almost 1:1, so the annual budget from the central government to the local community to conserve that area was less than NRs 5,000,000. But after the earthquake in 2011, the budget rose to NRs 47,000,000. The reason given by the central government was that Sawara was a preservation district, indicating the importance of such a designation.



[67]

[Slide 68]

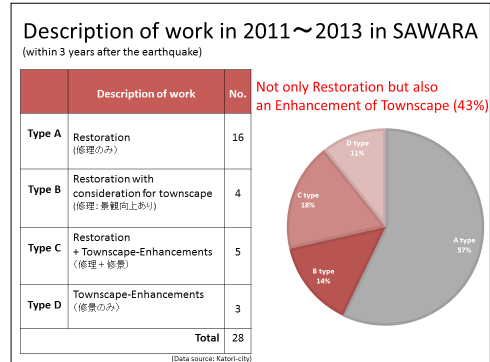
This is a photo comparing the site before and after restoration. Not only restoring the site to its original state, they improved, the façade, removed signage, and upgraded the doorframe from aluminium to traditional wood. This extended section was demolished and traditionally rebuilt. Thus, this project was not only a restoration, but an improvement work after destruction.



[68]

[Slide 69]

In Sawara, there are several types of restoration projects that were undertaken. Type A is only restoration, Type B is restoration with modification, consideration, or upgrade of the townscape. Type C is restoration in addition to townscape enhancements or improvements. Type D is townscape improvement only. The red area of the graph indicates that over 40% of the money went not only to reconstruction, but also to improvement. The earthquake became a good opportunity to improve the townscape.



[69]

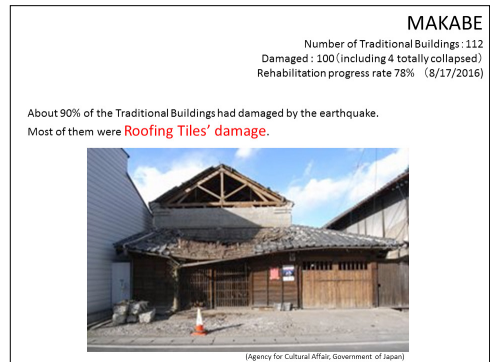
[Slides 70, 71]

This is another town called Makabe located in northern Japan and famous for massive roof tiles [70]. Although famous, these roof tiles are heavy and are weakly joined making them susceptible to damage.

More than 90% of the buildings were damaged, including 100 of the 112 traditional houses [71].



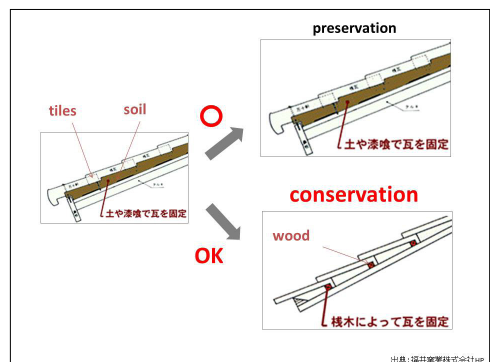
[70]



[71]

[Slide 72]

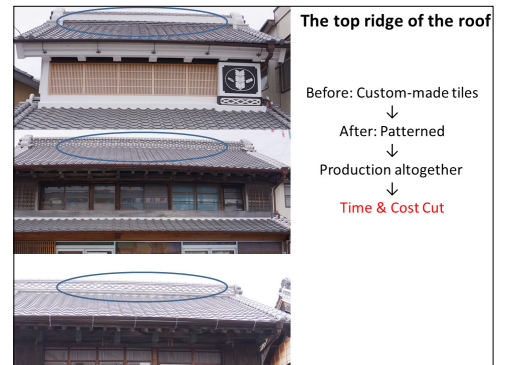
Previously, the community attempted to restore the buildings with only slight modifications to the design, including the retention of the traditional roofing methods. Soil was placed beneath the tiles to stabilise the roof. But while this is good for strong wind, it is insufficient during an earthquake. After the earthquake, they realised the structural instability, so they began placing wood beneath the tiles instead of soil.



[72]

[Slide 73]

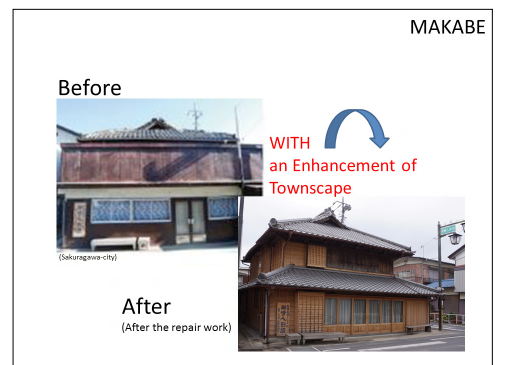
In another alteration, they accepted a patterned production of the roof ridges to reduce the excessive cost of custom-made materials.



[73]

[Slide 74]

These photos show before and after the conservation. The townscape was improved and contributed to the surroundings simultaneously.



[74]

[Slide 75]

This is Ukiha, which experienced severe flooding.



[75]

[Slide 76]

In Ukiha, three out of 87 houses were damaged by flooding. One house was not able to be rebuilt by the owners, so the local government acquired the building and restored it as a public facility.



[76]

[Slide 77]

The last example is Kuroshima, a port-town and wealthy ship-owning on the Sea of Japan.



The ship-owner's settlements KUROSHIMA

[77]

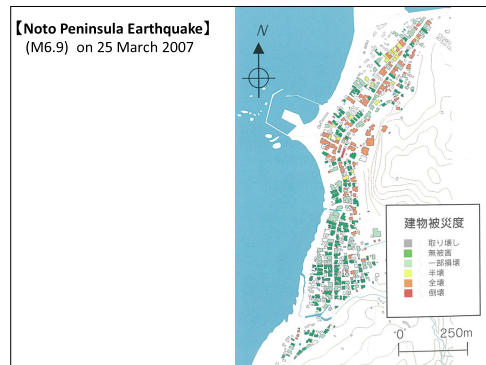
[Slide 78]

In 2007, an earthquake hit this area causing extensive damage and destruction, including the destruction of 686 houses in a confined area.

[78]

[Slide 79]

This is a map of Kuroshima, with areas completely destroyed indicated in red. The majority of historic houses were damaged.

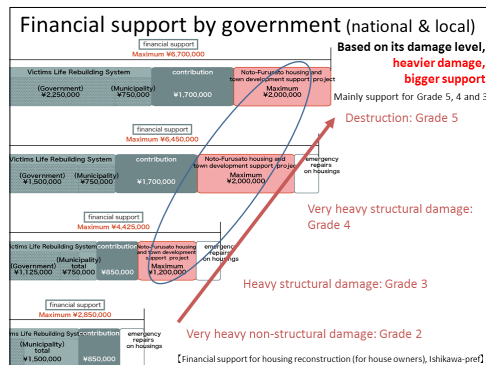


[79]

[Slide 80]

This is the budget allocation. After the government surveyed the damage, they divided the damaged buildings into five categories. Grade two meant slight or minor damage. Grade three meant heavy structural damage. Grade four corresponded to heavy structural damage, and grade five indicated complete destruction.

This bar chart shows the amount that individual households received from the government. If the houses were categorised as having grade four structural damage, they received approximately ¥2,250,000. An additional ¥1,700,000 was collected from private donations across Japan and distributed to these households. This is an unique point. The area in red part shows the grant program created by the prefectural government just after this earthquake. In case they restored traditional buildings and did not simply demolish it to construct a new building, they received an additional grant up to



[80]

¥2,000,000. Additionally, the emergency repair's grant was available, so that, for example, a grade four household could receive up to ¥6,450,000.

[Slide 81]

This kind of additional support plays a greater role in the ability to retain traditional buildings. While an owner could dismantle an old building and replace it using cheaper materials, the additional grants provide incentives to restore the traditional houses.

Financial support by **the local government**
 "Noto-Furusato residence and town development support project"

■ **Support for Emergency Repair on Grade 2 to 4 houses**
 → Helped to keep **existed old traditional houses**

(Wajima city)

[81]

[Slide 82]

The local and prefectural governments have demonstrated two model houses for new construction using local materials. These models show how traditional buildings can be built at moderate cost. Local governments, financially supported by the central government, can motivate residents to build traditional houses in this way.

Financial support by **the local government**
 "Noto-Furusato residence and town development support project"

■ **MODEL HOUSE for new construction, using local materials (wood)**

- Constructed by the local government and open to the public
- Reasonable price
- Free consultation

→ Helped to keep **the traditional style**

MODEL HOUSE in TOGE-district MODEL HOUSE in ANAMIZU-town

[82]

[Slide 83]

Local government also have incentives for improvement. The homeowners can rebuild. If they use a reinforced structure, they can receive another half million yen. If they improved the building with a barrier-free construction with slope, handrails, and flat floors, they can receive an additional ¥600,000. If they use local materials, it corresponds to an additional ¥600,000 million grant. For the townscape contribution, they can receive yet another ¥400,000. These represent strong incentives for locals to rebuild or restore a building in the traditional way. Very strong public support also contributes to townscape development.

Financial support by **the local government**
 "Noto-Furusato residence and town development support project"

■ **INCENTIVE for Improvement**

- 1、Structural Reinforcement (+500,000yen)
- 2、Barrier-Free (slope, handrail, flat floor) (+600,000yen)
- 3、Local Material (+600,000yen)
- 4、the town scape contribution (+400,000yen)

If the design meets with following three, the owner can get additional financial support,

① Façade, design and color enhances townscape.
 ② Tile roofing
 ③ Natural materials on more than 50% of Façade

(写真のイメージ (あくまで一例です) (県民まつり(復興) 実行)

[83]

[Slide 84]

This is the central government's contribution to the preservation district. Nearly 300 minorly damaged buildings were supported by the central government, contributing to a total of 553 buildings receiving support.

Financial support by the government
 "preservation districts for groups of traditional buildings", June 2009"

Mainly support for Grade 2 (Wajima-city)

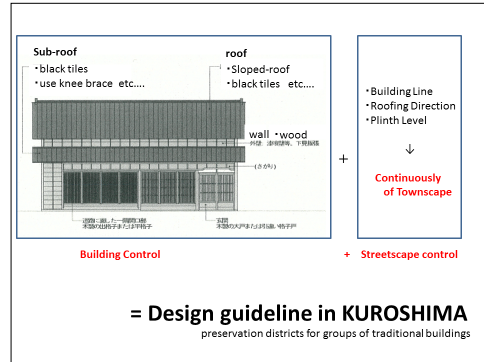
Building type	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1	total
House	35	5	58	187	1	286
Storage	109	3	44	99	14	267
total	144	8	102	286	13	553

(Data source: Wajima-city, on 30 Oct. 2007)

[84]

[Slide 85]

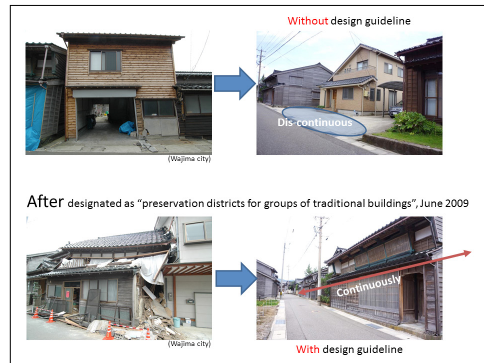
This is an example of the design guidelines to receive central government support.



[85]

[Slide 86]

These are newly constructed buildings that were built without design guidelines. This does not contribute to the continuity of the townscape, but it is easy to park a car in front of these new houses. Conversely, with a design guideline and incentives, a continuity of façade can be maintained.



[86]

[Slide 87]

This is our method for responding to the damage caused by earthquakes and other natural disasters. In these cases, homeowners were able to rebuild according to area-based conservation. These kinds of ideas are very important for all of us.
Thank you very much for your attention.

Build Back Better
with
area-based conservation

[87]



4. Problems / Challenges for the Preservation of Historic Settlements inscribed on the World Heritage Tentative List



The Post-Earthquake Situation of the Historic Settlement of Khokana

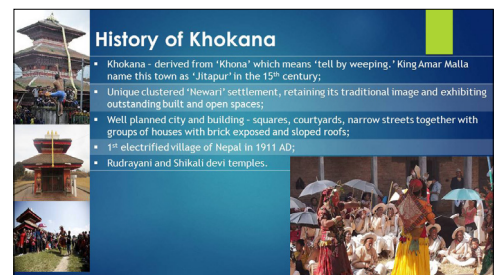
Ms Barsha Shrestha
[Karyabinayak Municipality¹⁾]



[Slide 01]: History of Khokana

The word *khokana* derives from the Newari word *khona*, which means 'tell by weeping'. In the 15th century A.D., King Amar Malla named this village 'Jitapur'. It is a cluster of houses jammed together in the middle of lush fields, and an excellent example of the unique clustered Newari settlement style. Even today the village maintains its traditional image; it exhibits outstanding buildings and open spaces typical of historic settlements during the Malla period.

The Rudrayani and Shikali Devi temples are the settlement's main temples. The number of lavishly decorated brick houses with magnificently carved windows typical of the Newar style, street paving, urban squares, courtyards, and efficient water collection system are testimonies to a prosperous past. History shows that Khokana has always been a well-planned village, and it was the first village in Nepal to be electrified in 1911.



[01]

[Slide 02]: Layout in Swostik form

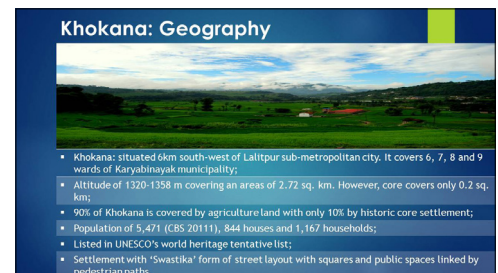
The slide to the right shows an aerial view of Khokana, illustrating the Malla town structure. The layout of the town has religious significance: it is in a basic *Swastik* (fylfot) form with interesting lines and squares.



[02]

[Slide 03]: Geography

Khokana is situated 6 km southwest of Lalitpur Sub-Metropolitan City. The town is located at an altitude of 1,320–1,358 m and covers an area of 2.72 sq. km. It lies in Wards 6, 7, 8, and 9 of Karyabinayak Municipality. Khokana has population of 5,471 as of 2011 and 1,167 households in 844 houses. It also has natural resources and a good irrigation system. The historic core of the settlement covers 0.2 sq. km, only 10% of the historic settlement (the other 90% is covered with agricultural land). Known as a living museum, this ancient town has been already inscribed on the UNESCO World Heritage Tentative List.



[03]

[Slide 04]: Economy

Almost 99% of inhabitants come from a farmer community popularly known as *Jyapu*. Even today, the majority of inhabitants are employed in agriculture; however, others are engaged in subsidiary activities as well, including oil pressing, spinning, and knitting straw mats, cotton cloth, and Nepali woollen carpets. This traditional town used to be one of the Kathmandu Valley’s industrial service town. It is famous for its mustard oil production. There is a close relationship between agricultural activities, socio-cultural activities, heritage buildings, and urban forms. Together, this forms the settlement’s intangible heritage, which gives the town its character.



[04]

[Slide 05]: Culture

The residents of Khokana still retain many of the settlement’s original festivals and ceremonies, rituals that have gone extinct in many of the Kathmandu Valley’s Newar communities. These take place on many occasions and with every changing season; some are associated with nature and environment. Among the 32 various festivals and rituals are Shikali Jatra, Rudrayani Jatra, Kartik Jatra, Gaijatra, Gunpunhi, Khayasalahu, Bhimshen Puja, Paha-charhey, and Sithi Nakha. They are a major attraction not only for domestic and international tourists, but also for historians and anthropologists.



[05]

[Slide 06]: Before April 2015 earthquake

Before the earthquake, the built forms and open spaces were vibrant and lively. The residential buildings on both sides of the streets had unifying elements: brick exposed façades, wooden doors and windows, and sloped roofs. There was not much variation in rooflines or building heights, making the street spaces much like ‘enclosed outdoor spaces’.

The spaces in front of houses were used for various activities, including washing, cleaning, sun bathing, and a place to watch processions and religious dramas. They were also places to dry agriculture products.



[06]

[Slide 07]: After April 2015 earthquake

However, the earthquake destroyed most of the houses in Khokana. Most of the streets and pedestrian lanes were blocked due to debris from collapsed houses. The slide to the right shows the debris—consisting of mud, brick, and wood—throughout the town. Some houses completely collapsed while others were left partially standing with only their lower floors remaining.

The images also show earthquake victims collecting their household goods. They were in the state of confusion and did not know where to go.



[07]

[Slide 08]: April 2015 Earthquake: Damages and losses

This earthquake fully destroyed 812 houses and damaged another 355. It injured eight men and 20 women, and killed another four men and five women. The number of fatalities is not high, despite the huge number of houses damaged. This is because many houses were made using traditional building materials and construction technology: most of the victims lived in houses that had an RCC floor added to the traditional brick and mud mortar masonry structure.

April 2015 earthquake: Damages and losses

S. No.	Q-3	Q3-10	Number of Household		Male	Old Age	Total	Damaged houses		Injured		Death	
			Female					Fully	Partial	Female	Male	Female	Male
			Minority	Normal									
Ward 1	10	57	5	354	400	23	893	151	27	4	1	0	0
2	15	45	4	183	203	24	454	74	14	0	1	0	1
3	15	103	5	408	430	48	1097	123	165	1	0	0	0
4	8	54	4	219	218	43	542	77	18	1	2	0	1
5	21	51	3	223	224	22	544	90	41	3	1	1	0
6	21	48	6	298	314	32	720	107	32	7	2	4	0
7	17	45	1	235	231	28	557	88	12	1	1	0	1
8	8	37	4	138	153	33	375	48	23	1	0	0	1
9	2	46	0	101	87	0	236	36	16	2	0	0	0
Total	121	487	33	2202	2281	254	5368	812	355	20	8	5	4

[08]

[Slide 09]: Legal & institutional mechanism

After the earthquake, many international agencies and domestic organizations work together for rescue and relief operation. United Nations Human Settlements Programme (UN-Habitat), National Reconstruction Authority (NRA) and Department of Urban Development and Building Construction (DUDBC) initiated formulation of new building bylaws especially for the historical settlements like Bungamati and Khokana²⁾. The municipality has also starting collaborating with UN-Habitat and the UNESCO office in Kathmandu to train architects and engineers in the construction of traditional houses. It is in constant contact with the Khokana Reconstruction and Rehabilitation Committee (KRRC), which has been advocating rebuilding Khokana based on traditional Newari architecture.

The Karyabinayak municipality has been eagerly waiting for the approval of the proposed building bylaws for the historic settlements. For the time being, building permits have been put on hold, a decision that affects local people, especially those who are attempting to rebuild their houses.

Legal & institutional mechanism

- Coordination with UN-Habitat, NRA and DUDBC for early approval of building bylaws for Khokana;
- Coordination with UN-Habitat and UNESCO and other agencies for training, orientation and capacity building activities;
- Coordination with Khokana Rehabilitation and Reconstruction Committee and local people for recovery and reconstruction work.

[09]

[Slide 10]: Community organization

The KRRC includes members of civil society, local non-governmental organizations (NGO's), community-based organisations (CBO's), and social institutions (Guthis and Manka Khalas) and is made up of representatives from different political parties. The committee has come up with its own redevelopment plan and has proposed rebuilding houses based on traditional Newari architecture.

This committee also supports the various agencies studying Khokana in the period after the earthquake. As an umbrella organization, it coordinates activities aiming to rebuild Khokana, including a cycling event from Kasthamandap to Khokana in support of heritage conservation and an investigation carried out by the Tokyo National Research Institute for Cultural Properties (TNRICP) in Japan.

Khokana: Community organization

- Khokana Reconstruction and Rehabilitation Committee: participation of all the civil society members, local NGOs and CBOs, Guthis and Manka khalas, and political parties;
- Active in coordination among different agencies working for Khokana and has come up with rehabilitation and recovery plan.

[10]

[Slide 11]: Major plans and priorities

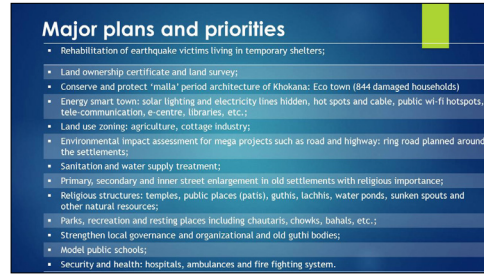
The Karyabinayak Municipality intends to rebuild Khokana in coordination with the surrounding areas. Among its various plans and priorities, the most important task is to rehouse the earthquake victims still living in temporary shelter. The issue of land ownership certificates and the conservation of Malla-period architecture are equally essential. The proposed highways passing near to Khokana need environment impact assessment and various measures must be taken to save historic settlements like Khokana and Bungamati.

The rebuilding of houses should consider environmental sustainability. The municipality envisioned plans for added sanitation and water supply, including drainage systems and solid waste treatment plants. In order to become an energy efficient town, the municipality is thinking of installing solar lighting and undergrounding wiring (for electricity, cable, and telephones), at least in the historic towns, and providing public Wi-Fi in e-centres and libraries. It is also necessary to improve the major, secondary, and inner street by considering their religious and cultural importance. The proposed Ring Road needs an in-depth study to mitigate its negative consequences on Khokana’s socio-cultural aspects.

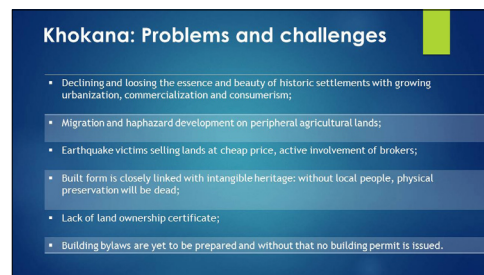
The plan also considers the revival of temples and public places (*patis*), *lachhis*, sunken stone spouts, and ponds and suggests developing green spaces and resting places, such as *chautaris*, in the peripheral areas. It seeks to enhance community security and health through providing hospitals and health centres, ambulances, and fire fighting systems. Finally, the plan gives high priority to strengthening local governance and various social and religious organisations, including *guthis*, youth groups, and women’s groups.

[Slides 12,13]: Problems and challenges

The destruction of Khokana’s traditional houses has caused many problems: land ownership, conservation, building materials and construction technology for rebuilding damaged houses, building bylaws, etc. Some earthquake victims are selling their agricultural lands in order to gain the funds to rebuild their houses. Some are also thinking of selling their homes. The haphazard construction of houses in the peripheral agricultural land combined with confusion in rebuilding traditional houses in the historic core area can cause many long-term problems. Such urban sprawl will consume agricultural lands and maintaining infrastructure in such a scattered settlement will have a high cost. Since the local community is directly linked to it intangible heritage, the displacement of households will affect the continuation of festivals, rituals, and other religious and cultural activities.



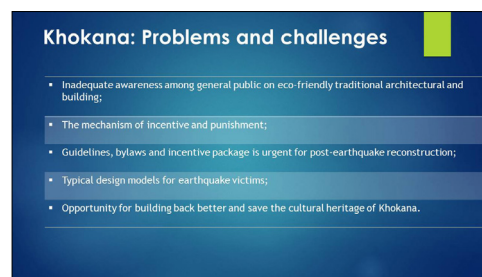
[11]



[12]

Another problem is that, due to lack of land ownership certification and the absence of building bylaws in the core area, earthquake victims are not able to get the government grant support. As a result, they are forced to live either in temporary shelters or in their own damaged houses, which are vulnerable to additional damage.

This is a prime time to rebuild Khokana in a way that not only preserves its heritage but also makes buildings safer and more cost-effective. However, the settlement must contend with the low level of public awareness regarding heritage conservation, eco-friendly, and green houses. Though the municipality is thinking of waiving some building permit fees for earthquake victims, as other municipalities have done, the difference will not make enough of an impact. The practice of not punishing defaulters has encouraged people to ignore bylaws and other provisions. It has become essential to ensure that new construction both follows traditional norms and character and abides by urban design and architectural guidelines and that there are appropriate incentive packages. The government of Nepal, through DUDBC and NRA, has come up with design catalogues for house reconstruction in rural areas. However, similar models have yet to be developed in urban core areas like Khokana.



[13]

Note:

- 1)The Nepali government has recently begun restructuring state and local areas and has separated the Karyabinayak Municipality into two: Khokana and Bungamati are now part of the Lalitpur Metropolitan City and other parts of the municipality are now part of the Godawari Municipality. Hence, there is no Karyabinayak Municipality at present.
- 2)The Council of Minister has approved the proposed new building bylaws, not as new building bylaws but as a major chapter (Chapter 14a) in the first revision of 'Basic Construction Bylaws Related to Settlement Development, City Planning and Building Construction 2015 (2072)', which was enacted after the April 2015 earthquake.

Importance of Preserving Cultural Newari Towns of the Kathmandu Valley

Mr Krishna Bhola Maharjan
[Kirtipur Municipality]



[Slides 01-03]: Kirtipur Municipality

Located about 7 km southwest of Kathmandu, Kirtipur Municipality was established in 1997 when eight Village Development Committee's (VDCs) were combined. Today the municipality consists of 19 wards within a total area of 14.76 sq. km with a total population of 65,602 in 19,441 households as of the latest population census (2011). It sits 1,284–1,524 m above sea level.

Kirtipur is a mediaeval cultural town founded by King Siva Deva in the 11th century. The town was developed for human settlement in the 15th century, during the reign of the Malla kingdom.



The core area consists of ward 1, 2, 3, 4, 5, 6, and 17. Most citizens, about 65% of the total population, are Newar. Nepali-speaking people who migrated from other places consist of 34% of the population, while those who speak Tamang account for less than 1%.

The houses on the west side of the rectangular pond (*De Pukhu*) in front of the Bhagh Bhairab Temple are a good representation of traditional architectural features: a plain façade of exposed brick, decorated wooden doors and windows, and a sloped tile roof. These buildings are similar to houses around Datatraya Square in Bhaktapur; the exposed brick façade with floor heights defined with cornice lines and symmetrical windows that are different on each floor are characteristic of Newari vernacular architecture. Indigenous materials, such as brick, mud, and wood, not only have better thermal properties and are completely biodegradable, but are also more appropriate and affordable.

Kirtipur municipality

Some facts about Kirtipur municipality





- Location: about 7 km south-west from downtown Kathmandu
- Altitude: 1,284 - 1,524 m above sea level
- Established as municipality: 1997, merging 8 village development committees
- Total area: 14.76 sq. km.
- Ward division: 19
- Population of municipality: 65,602
- No. of households: 19,441 as per census 2011



[01]

Kirtipur municipality

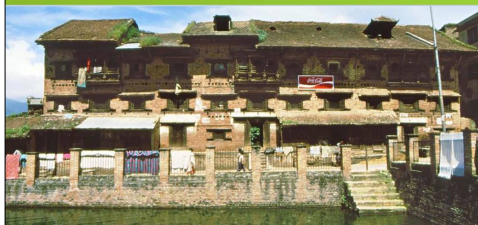
- Population by language
 - Newars: 65%
 - Nepali: 34%
 - Tamang: 0.9%
 - Other: 0.1%
- Historic mediaeval cultural town founded by king Siva Deva in the 11th century but its historical existence dates back to Gopalvansa
- Established as the 4th Malla Kingdom by Shree Niwas Malla during Mall rule
- Core area includes ward no. 1, 2, 3, 4, 5, 6 & 17



[02]

Kirtipur municipality

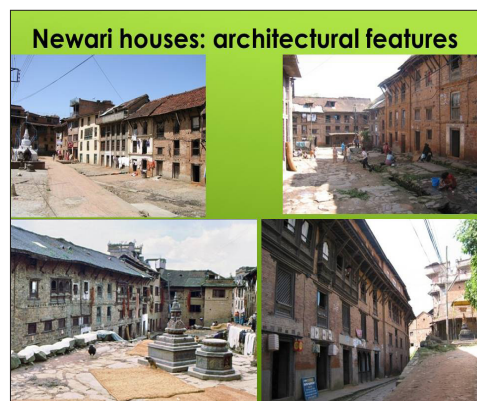
The houses west from the rectangular pond in front of Bhagh Bhairab temple are similar to the houses around Datatraya Square in Bhaktapur



[03]

[Slide 04]: Newari houses: architectural features

As Kirtipur is located on a hilltop, the network of streets has many slopes and steps. Nonetheless, streets and open spaces are laid out in a hierarchy. Short streets coupled with a constant ratio of street width (and public open space) to building height and the unified building façade create many ‘enclosed community places’. These spaces bridge the realms of the private and the monumental. The community supports these different kinds of public open spaces, which house community amenities such as rest houses (*pati*), temples, wells, or public taps. These spaces were used for multipurpose daily activities as well various festivals. They were also used as safe places during the April 2015 earthquake.



[04]

[Slide 05]: Festivals & rituals

People in Kirtipur and Panga celebrate different festivals. The slide to the right shows several of the most famous celebrations, including chariot pulling, a lotus pattern in a courtyard during the Nepali New Year celebration, a local drum band, and the lighting in Panga in front of Narayan temple during the winter festivals of Bishnu devi and Balkumari.



[05]

[Slide 06]: Bagh Bhairab dance

The goddess Kalika performed Bagh Bhairab Dance (also known in Newari as *Gathu Pyakha* and *Gan-Makhagu-Pyakha*) to display her victory over evil. This ancient masked dance is still performed once every 12 years by the *Gathus* (a clan of Newar people) from Kirtipur. The guardian deity of Kirtipur is Lord Shiva, who mutates into his most terrifying form, Bhairab, and is embodied in the statue of a clay tiger (Bagh).

The dance starts at a place called Dev Dhoka, an ancient gate of the gods, and rituals are performed. The first performance, ‘Chakha’ dance, is performed at night, and the second performance, ‘Nhhikha’ dance is performed during the day. Both take place in different places around Kirtipur. The dance usually concludes with an offering of food to both the dancers and their dance teachers.



[06]

[Slide 07]: Daily activities

Public spaces and the spaces in front of houses are used for multiple activities. The images to the right show women beating rice in a traditional mortar, elderly women popping corn and other grains in clay pots, women taking a public bath, and women fetching drinking water from a public tap. All of these actions are part and parcel of Newari architecture.



[07]

[Slide 08]: Cultural heritage sites

Kirtipur has many monuments: Bagh Bhairab, Uma Maheswor Pagoda Temple, Adhinath Lokeshwar, and Chilancho Stupa.

Uma Maheshwar Pagoda Temple (Kwacho Dega) was built in 1673 and has four roofs in pagoda-style. The wooden doorways are exquisitely carved with subtle details. One roof was destroyed in the 1934 earthquake,

Buddhists honour Adinath Lokeshwar as a form of the Bodhisattva Avalokiteshyara and Hindus recognise Adinath Lokeshwar as Surya, the Sun God. The Adhinath Lokeshwar Temple complex was built in the 15th century and consists of a pagoda-style temple, *shikhara*-style shrine, and monastery courtyard. The shrine is said to be the entrance to a cave leading through the mountain to the Chovar Gorge. The front of the Adhinath temple is decorated with pots, pans, and water jugs hung by young couples seeking a happy marriage.



[08]

[Slide 09]: Heritage sites: Janbinayak, Chovar cave, Taudaha lake

The Jal Binayak pagoda temples, the Chovar Gorge, and Taudaha Lake are all Kirtipur's cultural and religious landmarks.

Built in 1602, the three-tiered roof pagoda Jal Binayak

Temple is located on the bank of the Bagmati River behind the Chovar Gorge. It is the most popular of the four Ganesh temples in the Kathmandu Valley. The gorge has caves that spread under the river and up the hill, and they are believed to spread to Swoyambhunath's cave inside Santipur. Taudaha Lake was dug to give a place to the snake god who once resided in the black lake centuries before the Kathmandu Valley formed.



[09]

[Slide 10]: Heritage sites: Panga

The three-storey pagoda-style Narayan Temple stands in the main square of the village of Panga, where residents erect a beautiful wooden frame to offer lights during one of the village’s most beautiful festivals.

Musicians, especially, worship Nasa Dyo, the god of dance. A separate house, built in the traditional style, is dedicated to this special god. The upper floors and sometimes the ground floor are used for public activities. At present, the first floor is dedicated to senior citizens’ activities.

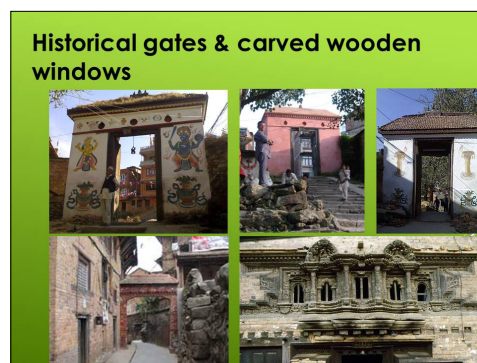


[10]

[Slide 11]: Historical gates & carved wooden windows

Kirtipur is on two hills and the saddle between the hills. The Chilancho Stupa crowns the southernmost hill and the Uma Maheshwar Temple the higher, northern one. The Bagh Bhairav Temple is situated at the low point of the saddle. The demarcation of the old town is still clearly visible by the location of 12 gates around the core area. Most people in the town were weavers and farmers, while the lower castes lived outside the wall.

The image to the right shows one of the finest woodcarving windows in a private house in Kirtipur’s main square. However, the images also clearly show how the single house has been divided into two parts with an inner partition, a fact that can be seen by the two different colour paints on the outer wall. This vertical division often happens when a parent passed on property to multiple children. Perhaps eventually the window will also be divided into two parts.



[11]

[Slide 12]: Cultural heritage sites

Kirtipur has 233 monuments and historic buildings of archaeological importance. The hill town also consists of a network of brick-paved alleys, fortification walls and gates, wells, ponds, stone spouts, drainage systems, monuments (pagodas, stupas, chaityas), open shelters or resting places (*pati*), Buddhist monasteries (*vihara* and *bahis*), etc.

Cultural Heritage Sites		
Two hundred thirty three (233) monuments of archaeological important and historical buildings:		
S. No	Type of the monuments	Number
1.	Temple (Mandir)	57
2.	Open shelter (Pati, Falcha)	59
3.	Stupa, Chaitya (Chiba)	64
4.	Open Shrine	10
5.	Water tap (Dhunga Dhara, Gaa hiti)	10
6.	Historical Gate (Dhoka)	8
7.	Pond (Pukhu)	10
8.	Religious house (Dyo chhen)	8
9.	Monastery (Vihara and Bahi)	7
		Total 233

[12]

[Slide 13]: Damages of cultural heritage

The Gorkha Earthquake damaged a significant number of public monuments. In Panga alone, about 600 traditional Newari houses were damaged. The municipality has assessed the damage and developed a cost estimate for reconstruction. For example, the Jagatpal Monastery in Kirtipur’s Chiloascho area must be dismantled and reconstructed. This will cost about NRs 2.5 million. However, other projects, such as the renovation of Kirtipur’s public rest house (*hiti pha*), require only the repair of some masonry walls. NRs 25,000 has been set aside for this project.

Damage description of Archaeological monuments									
S.N.	Ward no.	Name of Monuments	Location	Natural/人为 damage/Parti set	Estimated amount for renovation	Remark			
1	1	Bagh Shambh Mandir	Bagh Shambh	1	1,200,000	Wall reconstruction	19	11	1,000,000
2	1	Bhakti Devi	Jaghu	2	1,000,000	Wall reconstruction	20	19	1,000,000
3	1	Bagh Shambh Mandir	Dyo Pukhu	1	1,000,000	Wall reconstruction	21	15	2,000,000
4	2	Bagh Shambh Mandir	Dyo Pukhu	1	1,000,000	Wall and roof reconstruction	22	14	3,500,000
5	4	Bagh Shambh Mandir	Chilanchu	1	3,500,000	Wall reconstruction	24	14	1,000,000
6	4	Bagh Shambh Mandir	Chilanchu	1	1,000,000	Wall reconstruction	25	14	1,000,000
7	4	Bagh Shambh Mandir	Chilanchu	1	1,000,000	Wall reconstruction	26	14	1,000,000
8	4	Bagh Shambh Mandir	Chilanchu	1	1,000,000	Wall reconstruction	27	14	1,000,000
9	5	Mandla Falcha	Kirtipur	1	50,000	Wall reconstruction	28	15	500,000
10	5	Hiti Pha	Kirtipur	1	200,000	Wall reconstruction	29	16	1,000,000
11	5	Shiva Mandir	Kirtipur	1	200,000	Wall reconstruction	30	17	1,000,000
12	5	Shambh Pati	Kirtipur	1	1,000,000	Wall reconstruction	31	18	1,000,000
13	6	Shiva Pati	Shikhu	1	2,000,000	Wall reconstruction	32	19	1,000,000
14	7	Bhishu Devi Mandir	Sancha	1	3,800,000	Wall reconstruction	33	19	1,000,000
15	8	Mane Danda Pukhu Pati	Shakti Devi	1	1,000,000	Wall reconstruction	34	22	25,000,000

[13]

[Slide 14]: Grant agreement with earthquake victims

In Kirtipur, 3,757 households received earthquake victim cards. Only 1,762 have so far made a grant agreement with the National Reconstruction Authority to receive the first grant instalment to reconstruct their damaged houses.

Grant agreement with earthquake victims
Agreement with households for private house reconstruction in Kirtipur municipality

S. No	Ward no.	Grievance Agreement	Total	Verified no. of cases	Differences	Households receiving victim cards
1	1	34	68	102	112	-10
2	2	29	41	70	88	-18
3	3	39	68	107	109	-2
4	4	63	77	140	130	10
5	5	24	95	119	137	-18
6	6	22	51	73	69	4
7	7	63	163	226	221	5
8	8	38	197	235	228	7
9	9	114	34	148	127	21
10	10	115	17	132	131	1
11	11	69	92	161	111	50
12	12	85	92	177	143	34
13	13	22	46	68	69	-1
14	14	52	157	209	228	-19
15	15	76	393	459	460	-1
16	16	55	38	93	82	11
17	17	8	26	34	36	-4
18	18	63	73	156	118	38
19	19	9	44	53	60	-7
		1000	1762	2762	2661	101
						3757

[14]

[Slide 15]: Destruction of traditional houses by earthquake

About 3,800 traditional houses were destroyed, either completely or at least partially (most partial damage affect the buildings’ upper floors). Most damage occurred in neighbouring areas such as Panga, Nagawn, Itagol, Lanagol, and Chuigawn. In some cases, the debris from collapsed houses obstructed narrow lanes and alleys.

The image to the right shows a *shikhara*-style stone temple (*lonh dega*) undergoing renovation. The temple was originally built in the 16th century and is a place of worship for both Hindus and Buddhists.



[15]

[Slide 16]: Current problems or challenges

The municipality faces numerous challenges to renovation. If the government, community organizations, and NGO’s do not act quickly, there is high risk that traditional Newari houses will disappear, as will the traditional houses of other ethnic groups. Preserving traditional Newari houses is apt to become like saving a rare species of wildlife: while a handful of people may be aware of the danger, most agencies working on post-earthquake reconstruction are unaware of the danger and have paid inadequate attention to the conservation of private houses.

Reinforced cement concrete (RCC) framed private houses, which starting being built less than two decades ago, are now very popular but do not match traditional Newari houses in terms of scale, proportion, building materials, or construction technology. Plastered outer façades, large openings covered with windows, plain doors and window frames, and flat roofs do not match traditional building detailing. Moreover, houses built using new materials and technology are not ‘user-friendly’.

The poor economic base, coupled with the lack of incentive at a municipal level, is also hindering the preservation of private houses. Because the buildings’ conservation is not valued for them in this emergency situation. In addition, there are cases of encroachments on public lands, open spaces, religious sites, and ponds, not only the private lands. The local community’s displacement has hampered the playing of traditional religious music at festivals and celebrations.

- Current problems or Challenges**
- High risk of disappearing traditional ‘Newari’ houses along with other traditional houses belong to different ethnic groups;
 - Saving traditional ‘Newari’ houses is going to be like saving a rare species of wildlife;
 - Except a handful of aware group, most people and organizations have not paid much interest in preservation of culture and tradition including traditional private houses;
 - RCC houses adapted from the last two decades do not match with traditional houses in the historic core area;
 - Inadequate incentive and budget allocation for preservation.

[16]

[Slide 17]: Initiation by municipality / local community

The municipality has taken some initiative to preserve the traditional houses, most of which were affected by the 25 April 2015 earthquake. People are encouraged to rebuild traditional houses with a brick façade and to ensure that new houses' plinth levels meet the early height. Rolling shutters on the ground floor are discouraged. New buildings are limited to 10 m heights, or a maximum of four storeys. The Panga Development Concern Society has been established with local communities' active involvement. With some support from the Global Runners of Sweden, it has organized a 'Saving Traditional Newari Houses' campaign in the post-earthquake period.

Initiation by municipality/local community

- Majority of traditional houses in the historic core area has been affected by 25 April 2015 earthquake;
- Inadequate initiation by the government and non-government organizations for preservation of cultural heritage;
- Saving 'Traditional Newari Houses' campaign in Panga after 25 April earthquake has been initiated with funds from Lumanti, Oxfam, Red Cross, IMO in the municipality;
- Panga Development Concern Committee is also taking initiative to preserve traditional houses along with 'Newari' identity and to promote tourism;
- Municipality is planning a new legal framework in post-earthquake period for preservation of historic settlements and traditional private houses.

[17]

[Slide 18]: Potentials and conclusions

The building bylaws have divided the historic core area into different zones: the zone of the World Heritage Tentative List, core zone, and buffer zone. However, these bylaws mainly apply to the construction of individual buildings. Except for some national public monuments, no private houses have been designated as cultural property. The same applies to local monuments. The existing National Building Code of Nepal does not allow construction of brick in mud mortar (a traditional material and construction technology) to go over two and half storeys. A design catalogue for urban housing reconstruction in the historic core area is also lacking.

Kirtipur has the potential to promote tourism. The Chovar Gorge can be developed for rock climbing and bungee jumping while Taudaha Lake's natural scenery can be improved to make the area a good bird watching site. The Chandragiri Mountains are a good destination for hiking and include a spectacular panoramic view of Mt. Everest to the Annapurna range and of the entire Kathmandu valley.

Kirtipur must focus on the conservation and preservation of cultural heritages to finally become a World Heritage Site. Networking among municipalities in the Kathmandu Valley with a similar historic heritage is essential not only to share knowledge and experience but also to join voices at a national level to promote the preservation of various monuments and cultural sites. The existing building bylaws are not adequate but should be supported with new urban design guidelines and incentive packages.

Potentials and conclusions

- Zoning of historic core area in building bylaws serves only for construction of new houses and not for conservation and preservation. Also lacking is the listing of monuments either in single or in group;
- The National Building Code of Nepal does not allow house construction of brick in mud mortar (traditional style) more than two and half story;
- No design catalogue is available for individual for reconstruction;
- Kirtipur has many potentials: tourism promotion – Chandragiri hill, Taudaha lake and Chovar gorge;
- Kirtipur qualifies for conservation and preservation of cultural heritages and finally enlisting into the World Heritage Site;
- Networking among municipalities is essential not only for sharing knowledge and experience but also to raise voices at central level for conservation and preservation of historic towns;
- Building bylaws alone is inadequate, urban design guidelines along with incentive mechanism system is required.

[18]

Enlisting in World Heritage Site : Challenges in Present Context to Nepal

Mr Prem Kumar Sonam
[Panauti Municipality]



[Slide 01]: Introduction

Located about 32 km southeast of Kathmandu, the Panauti Municipality is home to a population of 29,506 over an area of 33.78 sq. km, according to the 2011 census. Within the municipality's 13 wards are about 5,468 households. Wards 5 (half), 6, and 7 are on the World Heritage Tentative List. Panauti became a municipality on 24 Jan 1997 when the VDC's of Malpi, Khopashi, Sunthan, Taukhal Devasthan, Subba Gau, and Panauti were incorporated.

Introduction

- Lies in 32 km south-east of Kathmandu;
- Established on 24 Jan 1997 with 13 wards and ward no. 5 (half area), 6 & 7 are proposed to enlist in World Heritage Site;
- Comprises of total population of 46,595 as per 2011 census.

[01]

[Slide 02]: History of Panauti

Before the unification of Nepal in 1763, Panauti was a separate state. The area is well known for both its cultural and natural resources. The municipality has seven courtyards, seven raised platforms (*dabu*) and seven elongated open spaces (*nani*). The slide to the right shows a 1974 aerial view of Panauti, clearly demonstrating the urban form and architecture of this ancient Newari town.

History of Panauti

- Panauti was a separate state before unification of Nepal (in 1820 B.S.);
- Panauti is well known for the combination of cultural and natural resources;
- Panauti was comprises of 7 chawk, 7 Dabu and 7 Nani;
- Panauti was full of temples with cultural houses (2030 B.S.)

[02]

[Slide 03]: Important temples

There are a series of famous temples in Panauti: Indreshwor Mahadev, Bramhayani, Bamsha Gopal, Dhananjaya Basuki, Kedarnath, Unmatta Bhairav, Badri Nath, Gorakhnath, Maneshowri, Kathan Ganesh, Bisheshwor Mahadev, Rana Mukteshwar Mahadev, Ram Mandir, Sankata, Aasta Matrika, Bhadrakali, Tola Narayan, Gupteshwor Mahadev, Maha Laxmi, Ajaju, Ajima, and Chhaitya, as well as small Ganesh temples in each community (*tole*).

Important temples

Indreshwor Mahadev	Rana Mukteshwar Mahadev
Bramhayani	Ram Mandir
Bamsha Gopal	Sankata
Dhananjaya Basuki	Asta Matrika
Kedarnath	Bhadrakali
Unmatta Bhairav	Tola Narayan
Badri Nath	Gupteshwor Mahadev
Gorakhnath	Maha Laxmi
Maneshowri	Ajaju and Ajima Chhaitya
Kathan Ganesh	Each tole of Panauti consists of Ganesh temple

[03]

[Slide 04]: Intangible heritage: Festivals & rituals

The area’s intangible cultural heritage includes its various festivals and rituals: Makar Mela, Jya Punhi, Devi Nach, Sankata, Mahalaxmi, Maneshwori, Bhimsen, Krishna Janmastami, Nawa Durga, Harisiddhi, Guunla (Namo Buddha), Kathan Ganesh (Yomari Punhi), Gai Jatra, and Madhav Narayan (related to Sankhu and Bhaktapur).

Makar Mela	Krishna Janmastami
Jya Punhi	Nawa Durga
Devi Nach	Harisiddhi
Sankata	Guunla (Namo Buddha)
Mahalaxmi	Kathan Ganesh (Yomari Punhi)
Maheshwori	Gai Jatra
Bhimsen	Madhav Narayan (Sankhu & Bhaktapur)

[04]

[Slide 05]: Cultural heritage: Rest house & stone spout

Panauti is considered the birthplace of Prince Mahasatto. The historic core of the municipality is equipped with sunken stone spouts (*dhunge dhara*) in the middle of town and wells and rest houses (*pati*) in each neighbourhood.

- Panauti was a birth place of Prince Mahasatto;
- Each community (tole) consist of Falcha with traditional looks;
- Dhunge Dhara's are still present in mid of Panauti city and many wells in each tole.

[05]

[Slides 06-08]: Existing legal framework

Panauti still uses the ‘Conservation and Construction Bylaws for Panauti Monument Conservation Area 2010 (2066 B.S. ,official nepal year of Bikram Sambat)’, prepared by the Department of Archaeology and based on the Ancient Monument Conservation Act 1956 (2013). Before 2010, the municipality used previous guidelines—‘Construction Bylaws for the Kathmandu Valley Heritage 1992’. After the devastating earthquake in 2015, the municipality has come up with new provisions for the historic core area.

- It follows ‘Conservation and Construction Bylaws for Panauti Monument Conservation Area 2066 BS’ (prepared by Department of Archeology based on Ancient Monument Conservation Act 2013 BS);
- Before 2066 B.S., Panauti Municipality follows ‘Construction Bylaws for heritage site of Kathimandu Valley’, 2048 B.S.;
- After devastating earthquake of 2072 B.S., PMO formulate New Building Bylaws. It also follows the above bylaws for Conservation areas.

[06]

Panauti regulates houses in the historic zone using the ‘Conservation and Construction Bylaws for Panauti Monument Conservation Area 2010’ guidelines. These guidelines allow for a maximum height of 35ft. Houses’ outer walls must be of chimney-made brick; plastering is not allowed. They must also have traditional Nepali-style wooden doors and windows. Roofs must have a two-way slope and be made with local tiles (*jhingati*). These guidelines also provide 100% coverage for the reconstruction of damaged houses. However, for other plots up to 69.46 sq. m (2 *anaa* and 2 *paisa*), they allow for only 90% ground coverage, and plots larger than that size are only allowed to cover 80% of the available ground.

Main features of Conservation and Construction Bylaws for Panauti Monument Conservation Area’, 2066 B.S. which PMO strictly follows are:

- Maximum height of building: 35 feet;
- Maximum Ground coverage: For reconstruction of building - 100%, New construction within 0-2-2-0 - 90% and more than this area will be 80%;
- Finishing of Building: Outer wall should be of chimney made brick. No use of cement in outer wall for plaster;
- Windows and Door: Traditional Nepali windows and doors of wood;
- Roof: Tile or Jhingati with two way slope.

[07]

Presently, the municipality’s urban development and planning section looks after the historic settlement. Engineer and sub-engineers monitor all construction within the conservation area. The municipality has also appointed a supervisor who monitors the construction of all private houses. The municipality is working in coordination with the Department of Archaeology and has formed the Panauti Conservation Area Conservation Committee. They have also established the Panauti Museum using a public-private partnership(PPP) model.

Existing institutional framework

- Urban development and Planning section looks after conservation area and construction lead by Civil Engineer, Under Civil Engineer, Sub Engineer of PMO monitor construction works inside conservation area;
- PMO also appoint one Municipality Supervisor to monitor construction following bylaws;
- For construction and Preservation, PMO closely coordinate with Department of Archaeology;
- Panauti conservation area conservation committee was formulated in supervision of PMO;
- Panauti Museum was also established following PPP Model.


[08]

[Slide 09]: Gorkha Earthquake and its damage

It is believed that Panauti is resting on the rock bed, thus the Gorkha Earthquake did little harm in this municipality. Some old houses and a few temples were damaged; cracks were seen in the roofs of the Tola Narayan Temple and of some private old houses.

Gorkha earthquake and its damage

- Panauti settlement is based on bed rock, so the impacts of earthquake is minimal in an area;
- But devastating earthquake of April 2015 affects some old houses (100 years) and temples. Cracks are seen in the roof of Tola Narayan temple.




[09]

[Slides 10-13]: Problems and challenges

Despite the relative lack of damages, the municipality still faces many challenges in preserving their historic settlement. Many buildings were built before the establishment of the municipality and are not constructed to the standards of current building bylaws. Some structures around the temple complex violate the guidelines pertaining to outer paint colour. Constructing and maintaining houses with traditional materials and construction technology is costly and ordinary people are reluctant to do so, since the fees are not substantial.

Problems and Challenges

- In transition period (before establishment of Municipality), many local people construct the house against bylaws;
- Violation of bylaws by coloring the house nearby temples;
- Due to low economic condition, local people could not follow bylaws and conserve heritage.




[10]

In addition to the problems mentioned above, the existing building permit process is long and tedious. A decrease in socio-cultural activities has caused encroachment on public lands and community spaces. Some of the dilapidated struts (*tundals*) and other wooden elements of the temples have been stolen. There are also limited workers skilled in traditional construction technology.

Problems and Challenges

- Building permit process is lengthy and people feels tedious; Stealing of traditional “Tundals” and other monuments;
- Encroachment of public land in conservation area;
- Lack of skilled manpower.



[11]

In addition, there is a lack of awareness and inadequate public education regarding the conservation of cultural heritage. There is also a lack of research into or documentation of the area's cultural heritage. As a result, many people are less enthusiastic towards preservation.

This is reflected in the legislation; most deals with either public monuments or the outer façade treatment of individual houses. The provided funds are inadequate for preserving cultural heritage and renovating monuments.

Many historically significant courtyards (*chowks*) and their encircling buildings are dilapidated and in need of prompt renovation.

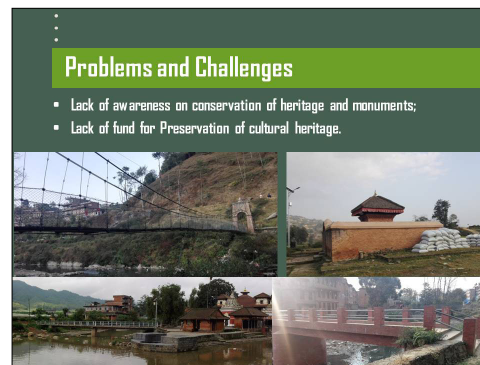
[Slide 14]: Expectation

Panauti wishes to list their historic settlement as a World Heritage Site. It feels training and workshops on preserving cultural heritage are necessary to educate the local community. Better promotion and marketing of heritage sites is also necessary in order to improve the local economy through tourism. A Department of Archaeology helpdesk is important to speed up the building permit process. Finally, financial support is needed for the conservation of private houses as well as the renovation of public monuments.

[Slides 15, 16]: Photo gallery

It is believed that the Layeku Darbar palace was built in Panauti during the Lichchhavi period (see the top left image in the accompanying slide). The municipality is currently excavating the area using its own funding. Individual private houses have been preserved (top right image).

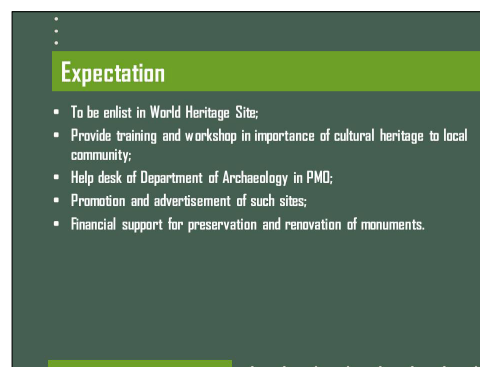
As in Kathmandu, Panauti worships the living goddess Kumari (bottom right) during the 10-day Vijaya Dashami festival (celebrated in September/October). A museum running under public-private partnership is located in the Indreshwor Mahadev Temple area (bottom left).



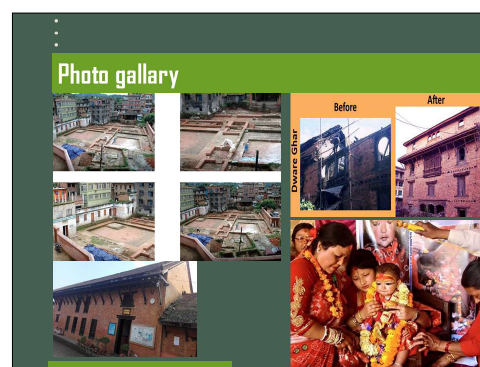
[12]



[13]



[14]



[15]

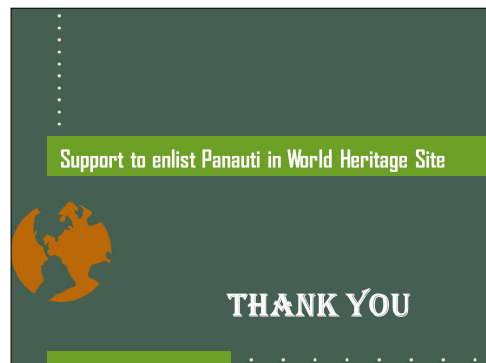
Panauti celebrates many festivals throughout the year. One is Sakimanha Punhi, which locals celebrate by making images of temples and gods and goddesses with maize and beans (top left image). Another festival, Yomari Punhi, is celebrated with a special dish called yomari; made from flour and a special sweet it is believed to have originated in Panauti (top right). Navadurga Jatra, a festival of masked dance, is celebrated for three days (bottom right). In addition, several local shops selling local delicacies (such as *jeri*) (bottom left).



[16]

[Slide 17]: Support to enlist Panauti in World Heritage Site

I urge all of you to support Panauti in becoming a World Heritage Site, which will ultimately support both local people and the entire municipality.



[17]

Gorkha Earthquake and Current Situation in Shankharapur Municipality

Mr Bal Krishna Manandhar
[Shankharapur Municipality]



[Slide 01]: Location: Shankharapur Municipality

Located along Kathmandu's northeast fringe, the Shankharapur Municipality was formed in December 2014 by merging six existing villages: Bajrayogini, Indrayani, Lapsiphedi, Naglebhare, Pukhulachhi, and Suntol. As of the 2011 census, Shankharapur has a total population of 27,015 within an area of 57 sq. km, the largest area of any municipality in the Kathmandu districts. It is a traditional and historic town located about 17 km away from the capital city of Kathmandu.

Location: Shankharapur municipality

Area : 57 kms
Boundary: East : Sindhupalchok, Kavrepalanchok and Bhaktapur district
 West: Kageshwori Manohara Municipality
 North : Shivapuri National Park and Sindhupalchok District
 South : Changu Narayan Municipality, Bhaktapur
 Manajbhare, Lapsefedi, Bajrayogini, Suntole, Pukhulachhi, Indrayani

Previous VDCs:
Population: Total : 27,015
 Female : 13,530
 Male : 13,485
 Household : 4,802

[01]

[Slide 02]: Sankhu: an historic settlement in Shankharapur Municipality

The historic town of Sankhu is located in Shankharapur Municipality. It is believed that in 1891 B.C., King Sankha Dev, under the instruction of the goddess Bajrayogini, founded seven villages that included 1,000 houses and gardens, open spaces, courtyards (*chowk* and *nani*), temples, taps, and ponds in *sankha* shape. Hence the settlement's Newari name: Sakwo. *Sa* also means 'Tibet' and *kwo* refers to 'below'; hence, *Sakwo* also means 'the country below Tibet'. This settlement indeed lies along the trade route to Tibet.

Sankhu: an historic settlement in Shankharapur municipality

- In 1801 BC King Sankhardev under the instruction of goddess Bajrayogini assembled seven villages with 1,000 houses that includes the Gardens, Open spaces, Chowk, Nani, Temples, Taps, Ponds and for irrigation and sanitation touching every houses with Rajkulo was managed shaping the city as Right Handed 'Shankha' so it is called SHANKHARAPUR.
- As per Nepal Bhasa, Sankhu is also called 'SAKWO' in which 'SA' means TIBET and 'KWO' means BELOW and so called 'COUNTRY below TIBET' thus Sankhu (Sakwo) was named.
- Majority People living in this historic city belongs to Newar Community and this city is popular as trade route to Tibet as per history.

[02]

[Slide 03]: Importance of Sankhu

The town is surrounded by four different gates, each built for a specific historical purpose. Bhau Dhoka was used to welcome newly married brides to Sankhu, Mhya Dhoka was used for girls departing Sankhu after marriage, Dya Dhoka was for the entry of Sri Bajrayogini Maai Jatra, and Sii Dhoka was used for the death rituals and departure of people who died in Sankhu.

Importance of Sankhu

Enclosed historical town with gates in four directions:

- Bhau Dhoka: The Gate used to welcome newly married bride inside sankhu;
- Mhya dhoka: The Gate used to depart the girls of Sankhu after marriage;
- Dya dhoka: The Gate used for entry of Sri Bajrayogini Maai Jatra;
- Sii dhoka: The Gate used to depart the people died inside Sankhu for the death rituals.

[03]

[Slide 04]: Communities in Sankhu and important religious and tourist places

Sankhu consists of eight neighbourhoods (*toles*): Ipatole, Ilatole, Suntole, Dugahiti, Chalakhu, Shalkha, Dhunla, and Pukhulachhi. Historically important monuments, such as Sankhu Salinadi Temple and Panchamahalahaxmi Temple, exist in close proximity. In addition, many other religious and tourist sites are easily accessible from Sankhu. Bajroyogini Temple is just 3 km away and Changunaryan Temple (a property of World Heritage Site) is 4 km. Similarly, Nagarkot is about 8 km away. In 2008 Bajrayogini and Sankhu's early settlement were inscribed on the World Heritage Tentative List.



[04]

[Slide 05]: Cultural heritage: Bajrayogini temple & festivals

Bajrayogini Temple is considered very sacred, with the strong ability to bless those who worship there. Bajrayogini is the eldest of a ferocious foursome of tantric goddesses venerated in the Kathmandu Valley. Buddhist Newars identify her as Ugratara the wrathful, the corpse-trampling emanation of Tara, one of the female aspects of Buddhahood. Hindus consider her Durga (Kali), the most terrifying of the eight mother goddesses. She's also known as Khadgayogini for the sword (*khadga*) held in her right hand. Every year the goddess Bajrayogini is brought to Sankhu (her home) through the Dya Dhoka gate and kept there for eight days before she returns to the temple.



[05]

[Slide 06]: Cultural heritage: Swosthani Brata Katha and Salinadi Mela

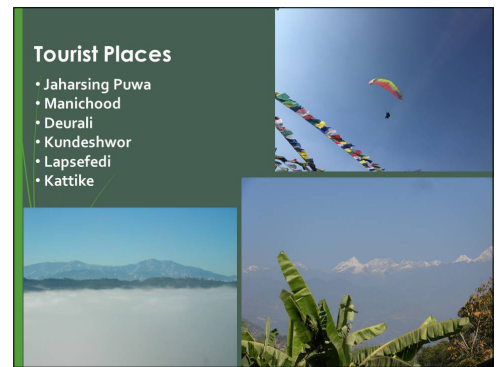
Sankhu has other famous rituals, too, including Salinadi Mela and Swasthani Brata Katha, which is celebrated for a month every year. The images in this slide show this festival, where pilgrims fill the one-kilometre-long stretch of road that leads to Salinandi from Sankhu Bazaar. The majority of the pilgrims are women, who are dressed in red and hold offerings for the goddess Swasthani Mata (the Hindu goddess of good fortune). This festival takes place at Shalinadi, a river in Sankhu associated with the Swasthani Brata Katha. Devotees visit Salinadi bank near Sankhu to worship the goddess Shree Swasthani, Navaraj Brahman, Goma Brahmani, and Chandrawati by visiting different shrines. Many will take a ritual bath in the holy river, and the sounds of the Swasthani's religious sermons echo through the area. During the Swasthani Katha, Hindu married women fast (*brata*) for their husbands' well-being, while unmarried fast in order to get a good husband.



[06]

[Slide 07]: Tourist places

There are many tourist attractions in the area as well, including Jaharsing Puwa, Manichood, Deurali, Kundeshwor, Lapsefedi, and Kattike.



[07]

[Slide 08]: Craftsmanship: Wooden and stone

Sankhu is famous for its wooden crafts and stone arts, as can be seen in various buildings and temples. These skills are the village's cultural heritage.



[08]

[Slide 09]: Culture: Traditions & festivals

Among the various festivals, one of the most popular is the worship of the living goddess Kumari during the September-October celebration of Vijaya Dashami. Other deity dances include Devi Naach and Lakhe naach, which are performed every year during specific festivals. Gai Jatra is another festival, which commemorates the death of whoever died during the past year.



[09]

[Slide 10]: Destruction by April 2015 earthquake

The images to the right shows the destruction of Sankhu during the 25 April 2015 earthquake: notice all the dust blown into the sky.



[10]

[Slide 15]: Response after the earthquake till date

The municipality responded rapidly after the earthquake, coordinating various activities with the local community and outside agencies. The municipality identified urgently needed materials, collected donations from various sources, and conducted a quick survey of each household’s casualties and damages. With the support of the local community, it distributed immediate relief materials to earthquake victims. An information desk was established to coordinate with different donor agencies and individuals. The central government provided earthquake victims with an ‘earthquake victim card’ and immediate relief of NRs 15,000 for the provision of a temporary living place and NRs 10,000 for buying warm clothes. Cash was also given to people whose family members were killed in the earthquake. Recently, the municipality has supported the grant distribution agreement with earthquake victims and released the first instalment of the central government’s grant for housing reconstruction.

Response after the earthquake till date

- Identification of urgently needed materials, donation collection and data collection on casualties and damages;
- Distribution of food materials and other stuffs to earthquake victims at ward level;
- Establishment of information desk and coordination with different donor agencies;
- Distribution of earthquake victim card (Bhukampa Pidit Card) and NRs 15,000 for temporary shelter and NRs 10,000 for purchasing ward cloths in winter (received money from government of Nepal);
- Cash given to the family whose members died in the earthquake;
- Grant distribution agreement with earthquake victims for reconstruction of their houses (NRs. 300,000 total in three instalment).

[15]

[Slide 16]: Relief material distribution by various donors

Numerous national and international agencies distributed relief and contributed to temporary shelters. Among these public agencies are the Office of District Development Committee, NRA, and DOA. International agencies include UNESCO, Oxfam, and IOM. Local NGO’s, like the Centre for Integrated Urban Development (CIUD), National Society for Earthquake Technology - Nepal (NSET-Nepal), Innovative Design Centre, Nepal Red Cross Society, and Jaycees, including Sushma Koirala Memorial Hospital, also offered support in various ways.

Relief material distribution by various donors

Shankharapur municipality	Oxfam
Office of District Development Committee	Centre for Integrated Urban Development Centre (CIUD)
National Reconstruction Authority (NRA)	Jaycees
Sankhu Reconstruction Committee	Sushma Koirala Memorial Hospital
Department of Archeology (DOA)	NCV
UNESCO	IOM
NSET	GMINI
Nepal Red Cross Society	Innovative Design Centre

[16]

[Slide 17]: Municipal’s attempts in post-earthquake period

Shankharapur has offered some provisions towards the reconstruction of houses in Sankhu. They have waived 100% of the building permit fee in Sankhu and Ward 15 for those homeowners willing to rebuild using a traditional style that reflects the area’s historical and cultural appearance. The fact that Sankhu is on the World Heritage Tentative List should give the reconstruction special consideration and a separate budget should be allocated for reconstructing the historic town. Houses around Sankhu Bazaar can be considered as a single project and accordingly a special budget allocation should be made.

Municipal's attempts in post-earthquake period

- Municipality would process for the declaration of Sankhu as cultural and historical city to related governmental body;
- Total fee waiver while issuing building permit for those willing to rebuild their houses in traditional style within Sankhu and Within Sankhu and ward no 15;
- Historical Sankhu city was destroyed almost completely after earthquake of 2015 so to preserve it and rebuild it Municipality would recommend Nepal Government for declaring it as a cultural conservation area and separation of budget for reconstruction of Sankhu bazar in old style making a single project package;
- Revenue free for ground floor (one floor) for the earthquake victims for 'A' class building.

[17]

[Slide 18]: New provision in the revised regulations

The Shankharapur municipality is very much concern for conservation of Sankhu as a ‘heritage settlement’. Hence, there are some new provisions for regulating the construction of private houses:

- (a) All buildings should have a brick façade, no matter the type of construction (i.e., frame structure, confined masonry, or masonry structure), in order to reflect the place’s historical importance
- (b) Doors and windows should be of wood; no rolling shutters or aluminium materials
- (c) Each building should have a maximum height of 35ft, equivalent to four stories. Each floor cannot be more than 8ft high
- (d) Ground and first floors cannot have a cantilever projection, but this is permitted up to 3ft from the third floor

New provision in the revised regulations

Sankhu qualified for a heritage settlement. Hence, provisions for private house construction in new regulations are:

- Brick Façade reflecting the place’s historical importance should be shown no matter of the type of construction(i.e. Frame Structure or Confined Masonry or Masonry structure);
- Doors and windows should be of wood, No rolling shutter and aluminum materials permitted;
- Floor height= 8’ max, Total Building Height= 35’ max, Total No. of Floors= 4
- 1st two story without Cantilever projection, projection permitted up to 3’ in the 3rd Floor.

[18]

[Slide 19]: Post earthquake reconstruction

There are some cases of building bylaw violations even in the post-earthquake period. Almost all the houses built after the earthquake are of reinforced cement concrete framed structures covered with exposed bricks on the outer façade. Some owners prefer to have decorative door and windows, while others prefer simple wooden frames without decoration.



[19]

[Slide 20]: New construction: Violation of bylaws

Thus, the preservation of traditional brick exposed outer façades is limited. The use of traditional materials and construction technology has received little attention in the post-earthquake period.



[20]

[Slide 21]: Challenges on conservation of town

There are numerous challenges facing the reconstruction of private houses in Sankhu and Ward 15, where 90% of the houses were destroyed in the April 2015 earthquake. Most residents do not possess land ownership certificates, despite the fact that they have lived on the land for many generations. The municipality, per prevailing regulations, cannot issue building permits for these victims. Most of the people engaged in building construction—i.e., engineers and architects—are knowledgeable about using modern materials and technologies, like reinforced cement concrete framed structures, for building design and construction. However, few are interested in designing houses using traditional materials and construction technology, such as brick in mud mortar, or load bearing wall structure. Many earthquake victims are selling their plots in peripheral areas to rebuild their collapsed houses. While the municipality prefers them to rebuild their houses in traditional ways, this is costly due to the excessive use of wood. As the municipality does not have enough funds to provide a substantial incentive, local people are not encouraged to rebuild their new houses in a traditional style in order to reinforce Sankhu's historic identity. Finally, the nearly two-decade-long absence of any elected representative has hampered fast decision making and conservation work.



Challenges on conservation of town

- 90% of houses were destroyed in Sankhu;
- Being an old city most of the residents don't have Lalpurja (Land Ownership Paper) but temporary registration (Swobaasi darta) of their land plot through which municipality cannot give permit to build the building;
- Most of the engineers and architects are trained for RCC frame structure houses but not for heritage conservation based on traditional building material and construction technology;
- Construction of housing using traditional material and construction technology is costly and local people prefer to have incentives for that but the municipality is not in a position to do so due to its poor resource base. As a result, people are violating regulation in the historic core area;
- Municipality is being headed by a government staff. Due to absence of elected representative for the last two decades, post-earthquake work is going slowly.

[21]



5. Experiences of the Preservation of Historical Core Zones in the World Heritage Site

Role of Bhaktapur Municipality in Preservation of Historical Core Zone of Bhaktapur

Mr Ram Govinda Shrestha
[Bhaktapur Municipality]



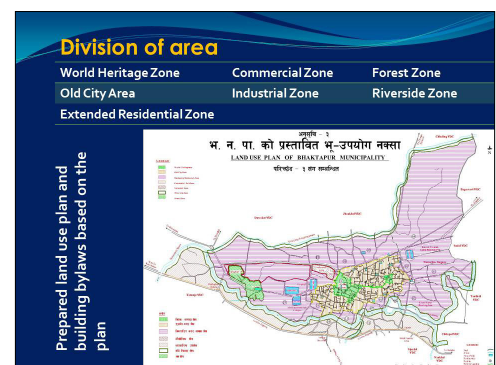
[Slide 01]: Division of area

Bhaktapur, one of the three main urban centres in the Kathmandu Valley, is the *Malla* kings' first capital and a historic conserved town. The city is situated about 15 km east of Kathmandu and has a total population of 81,748 (according to the 2011 census) within an area of 6.88 sq. km. The city is divided into 17 administrative wards.

Three *Lichchhavi* inscriptions found in Bhaktapur mention the existence of three *Kirat* settlements: Khopringga (Tachapal Ward) in the eastern part of the city, Makhopringga (Durban Square, a World Heritage Site) to the west, and Makhopringadula on the southern slope between Taumadhi and the River Ghats (on the lower side of the Taumadhi-Golmadhi street square). During Ananda Malla's rule (1272–1310), these three independent settlements were merged by placing the eight mother goddesses, the Astamatrikas, around their boundaries.

These eight power deities are located on both *Dyochan* and *Pith*¹⁾ sites. *Dyochan* are located within a sacred town's perimeter and are marked by the *Pradakshina* (the circumbulatory path), while *Pith* are generally located in ecologically sensitive sites. To fulfil the need for ritual bathing sites (*ghats*), six of the Astamatrika were placed in *pith* conveniently provided by two rivers: Hanumante to the south and Kasan Khusi to the north. To the east and the west, where such rivers were lacking, ponds were constructed (Kamal Pokhari and Siddha Pokhari, respectively) to meet this need.

The Bhaktapur Development Project, 10-year conservation program, launched in the early 1970s (1974–1983). The project contributed to the preservation of the city's built cultural heritage, the revival of traditional building techniques, and to awareness among general public. Today, the entire municipality has been zoned into categories to facilitate the planning and regulation of buildings: protected monument sub zone, commercial zone, forest zone, protected sub zone, industrial zone, riverside zone, and extended residential zone. This land use plan was prepared in consultation with local residents, elected representatives, and technical experts.



[01]

[Slides 02, 03]: Bylaws and processes of building permit in World Heritage Zone of Bhaktapur

The Bhaktapur municipal council adapted building bylaws for the historic core sometime in January 2004; since then these have been revised a few times. The latest revision was in November 2015, after the Gorkha Earthquake. The municipality is very much concerned not only with conserving historic art and architecture but also with inhabitants' modern-day needs, especially their daily livelihoods and the local economy.

Bhaktapur's built form has a deep socio-cultural meaning. Its structure is defined by the many rituals and festivals that take place in the city according to specific routes and in specific urban spaces. Most of these festivals and rituals started during the Malla dynasty, and have continued into the present day.

Each *tole* (neighbourhood) is marked by a Ganesh shrine, where both Hindus and Vajrayana Buddhists worship. Each shrine is as a symbol of protection for the inner urban quarter. They are often located in open spaces, which residents use for various religious, secular, and economic activities. Additional open spaces in residential neighbourhoods—including courtyards, squares, and pedestrian lanes—often house such community amenities as *pati* (rest house), temples, wells, or public taps. They are also used for multipurpose daily activities—including a place to gather in the event of an earthquake—as well for various festivals.

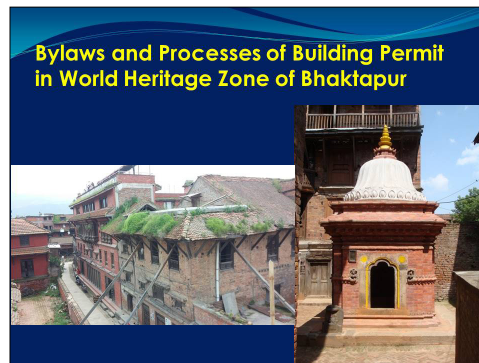
Along with the open spaces, the streets, too, fulfil both functional needs and act as community spaces with religious and ritual meanings. When combined with significant places like *chhwasa* (a place protected by a demon) and *lachhi* (a private space in front of a house allocated for public use), the streets and public squares take on added cultural meaning.

The existing civilization's Newari life style and their fabulous rituals in their day-to-day activities is the main point of attraction for foreigners visiting this city.

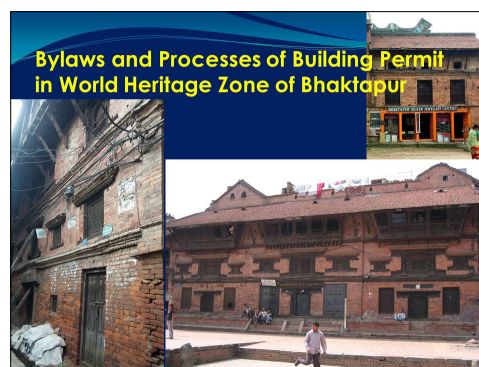
[Slides 04, 05]: Public heritages

Bhaktapur's central area is a designated World Heritage Zone and comprised of important monuments (temples and palaces), public squares, and public buildings rich in architectural detailing and finely carved wood doors and windows. This zone is also where many important private houses are located.

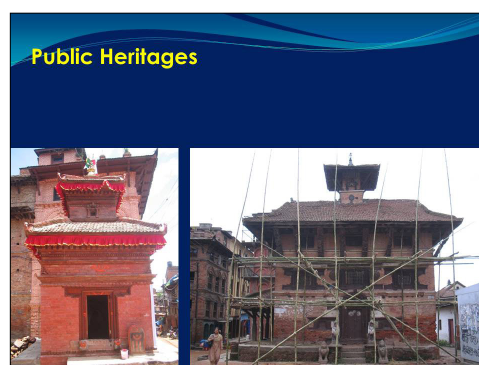
Peripheral to the central area is the 'old city zone', which is also comprised of numerous important private and public monuments, including water infrastructure such as sunken stone spouts, wells, etc. The Ancient Monument Preservation Act 1956, administered by the Department of Archaeology, and Building bylaws of Bhaktapur municipality are responsible for the preservation of both these zones.



[02]



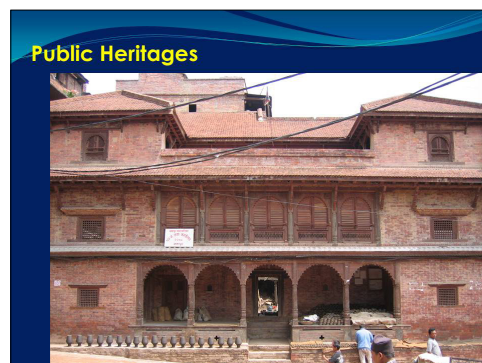
[03]



[04]

It also accounts for the protection of residential, commercial, and industrial zones in the outer fringe areas, where the bylaws allow for modern construction meant for different uses.

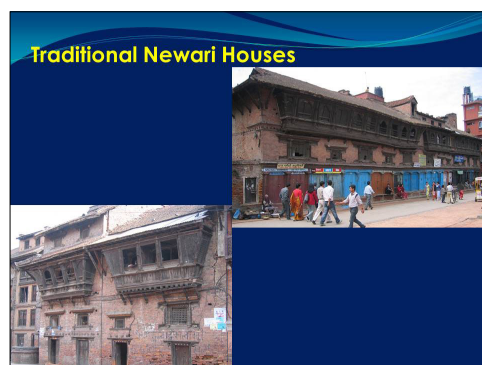
Bhaktapur's cultural heritage consists not only of the municipality's buildings and rich architectural character, but also includes various festival activities and rituals. In most cases, public buildings are used on those occasions. Hence, conserving the city's cultural heritage includes protecting both the tangible and intangible.



[05]

[Slides 06-08]: Traditional Newari houses

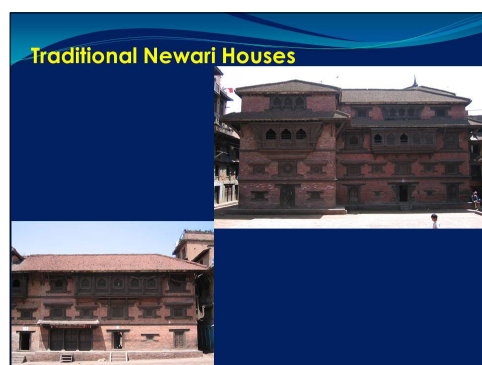
When applying for building permits in the World Heritage Zone, land owners must first submit to the municipality all the required documents along with a detailed blueprint of the proposed design. The municipal section then visits the proposed site and looks over the documents before sending them to the Department of Archaeology for their approval. The Department of Archaeology has a team that brings together representatives from the municipality, district administration, Guthi office, and town development authorities. These representatives visit the site and check all documents before approving the submission. The approved document is then forwarded to the Bhaktapur Municipality with a description of any necessary further action. The local ward office checks the site and makes a report. Based on that report and the prevailing building bylaws, the chief of the building permit office finally approves the design, which then goes back to the landowners.



[06]

However, this approval process (i.e., the first level of approval) is valid only for construction up to the plinth level. At this time, municipal staff will check construction and make sure everything is done as per regulation. Then, they issue another permit that allows for the construction of the super structure. After the building is completed, the landowners are required to obtain yet another certificate, called the 'completion certificate' from the municipality. Thus, landowners must complete any building permit in three stages. Throughout all three of these stage, municipal staff visits the construction site for monitoring.

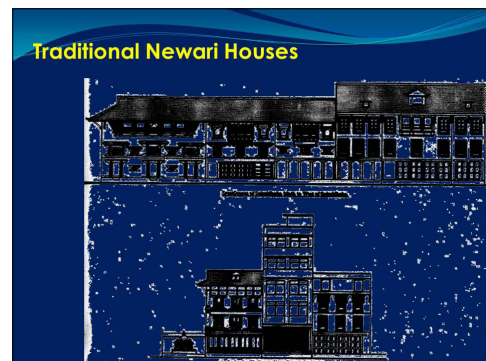
Bhaktapur is already in the process of conserving public monuments. So far, the Narayen Temple and Tripurasundari Dyochhen at Tulachhen have been preserved. Another monument, Ikhilachi Math, constructed using traditional material and technology, was not damaged in the Gorkha Earthquake.



[07]

Though the municipality has managed to renovate and reconstruct the damaged public monuments using funds from various sources, it still must rebuild many of the private houses and neighbourhoods that were damaged in the earthquake. This is made more difficult because when a parent's property is divided among his/her children, land is often fragmented into small lots. Before the earthquake, a single house could be divided into living space for two or three families. Today, each family prefers to have their own house in the divided plots, rather than to reconstruct the larger older houses, however, these divided plots are often too small to construct a house.

Another issue is the vertical division of old houses and their haphazard renovation and reconstruction, not taking into account the scale or architectural character of any adjacent houses. Many homeowners do not seek approval from the municipality for any renovation, including changing door or window openings, putting in new staircases, or replacing traditional sloped roofs with corrugated galvanised iron (CGI) sheets or reinforced cement concrete slabs. A detailed inventory of identifying the heritage value of private houses and their grading is yet to be done. As a result of these difficulties, local area planning, building control regulations, and overall municipal strategies have not focused on the conservation of privately owned heritage houses. This has led to the demolition and reconstruction of many traditional houses, since building bylaws are often only made for new construction. Banks and financial institutions are reluctant to give loans for restoration and renovation and place a very low value on historic buildings. As such, financing and funding for post-earthquake reconstruction in the historic core area has become a major issue.



[08]

Note:

- 1) The Malla period settlements centered on a built space protector god (Dyochchen) and had a counterpart natural spot outside the town called Pith, which is often located in an ecologically important site (water sources, clump of trees, etc.) in the agricultural hinterlands. It helped to protect the farm land from expansion of towns. Pith as a nature protector is a power place, generally marked by stone pieces (non-iconic worship place).

Experiences for Preserving Historical Core Zone in Lalitpur Sub-Metropolitan City after Gorkha Earthquake

Ms Chandra Shova Shakya
[Lalitpur Sub-Metropolitan City]¹⁾



[Slide 01]: Lalitpur Sub-Metropolitan City at glance

The historic core of the Lalitpur Sub-Metropolitan City goes back to the seventh century, and today remains rich in history and living cultural heritage. The city has an extremely rich culture of arts and architecture and boasts the largest community of artisans in Nepal, especially metal and wood workers. The city is renowned throughout the world for its art and craftsmanship and has produced a number of famous artists and master craftsmen, whose work can be seen throughout the city's built form. The old palace (Patan Durban Square) and its surrounding area became a World Heritage Site(WHS) in 1979. Established as a municipality in 1952 and upgraded to sub-metropolitan city in 1998¹⁾, the city is home to a population of 254,346 over 25.40 sq. km and is divided into 30 wards.

Lalitpur Sub Metropolitan City at Glance

- Lalitpur: Most Ancient, Cultural and Historical city known as 'City of Fine Art';
- Popular for Handicrafts, Wood, Stone and Metal carving;
- Total Population: 254346 in 25.40 sq. km area;
- Administrative Division: 30 Wards with household of 62,893;
- Established.: 1952 AD and upgraded as Sub-Metropolitan City on 1998

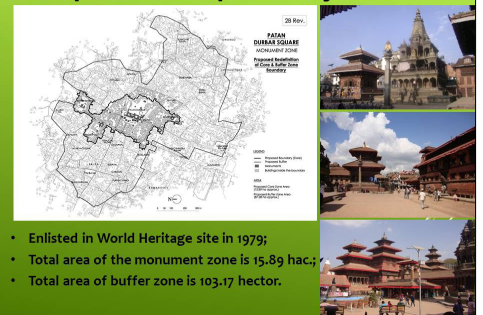


[01]

[Slides 02-04]: Lalitpur Sub-Metropolitan City: WHS

The core zone of monument zone, which also houses the city's World Heritage Site, lies at the centre of the city and covers about 15.89 ha. On the periphery of this core zone is the buffer zone, an area of 103.17 ha. The Patan Durban Square and its surrounding areas are full of structures built during the Malla period and are rich in art and architecture.

Lalitpur Sub Metropolitan City: WHS

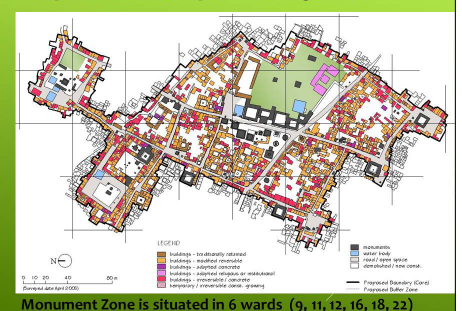


- Enlisted in World Heritage site in 1979;
- Total area of the monument zone is 15.89 hac.;
- Total area of buffer zone is 103.17 hector.

[02]

The centrally located 'monument zone' includes six different wards: 9, 11, 12, 16, 18 and 22.

Lalitpur Sub Metropolitan City: WHS



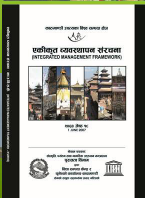


[03]

Due to uncontrolled growth and a loss of the area’s historic fabric, the Kathmandu Valley’s World Heritage Site, including Lalipur’s monument zone, was placed on an endangered list in 2003. It was removed from this list in 2007, after the Kathmandu Valley’s World Heritage Site implemented the Integrated Management Plan (IMP).

Lalitpur Sub Metropolitan City: WHS

- Inscribed on the list of in danger in 2003 due to uncontrolled growth and loss of historic fabric;
- Removed from the list of World Heritage in danger in 2007 after the preparation of Integrated Management Plan IMP for the Kathmandu valley.



[04]

[Slide 05]: Earthquake damages in LSMC

The Gorkha earthquake caused extensive damages to public monuments around the city. About 195 public monuments were damaged, 30 of which completely collapsed. There were 49 deaths and another 126 people were injured. In addition, many private historic houses were also either completely destroyed or structurally damaged.

Earthquake damages in LSMC

Numbers of damaged heritage sites: 195
 Completely Collapsed Monuments: 30
 Human casualties - Death: 49 person
 Injured: 126

[05]


[Slide 06]: Destruction of monument by earthquake in Patan Durbar Square

In Patan Durban Square complex alone, seven monuments collapsed: Char Narayan Temple, Hari Shankar Temple, Radha Krishna Temple at Swotha, Mu Chhen Aagan Ghar, Manimandap Patis (two buildings) and the east wing of Sundari Chowk.

Destruction of monument by earthquake in Patan Durbar Square

Total Nos. of monuments collapsed by earthquake: 7

- Char Narayan Temple
- Hari Shankar Temple
- Radha Krishna Temple at Swotha
- Mu chhen Aagan ghar
- Manimandap Patis - 2 nos.
- East Wing of Sundari chowk



[06]

[Slide 07]: Partially damaged monuments at Patan Durbar Square

Thirteen monuments were partially damaged in the Patan Durbar Square complex: Krishna Temple, Vishwo Nath Temple, Radha Krishna Temple (Chyashi Dewal), Degu Taleju Temple, Taleju Temple, Big Bell, Bhimshen Temple, the statue of King Yogendra Narsingh Mall, Mani Keshav Narayan Temple, Patan Museum building, Lakhe Aagan Ghar and Temple, and Bahadur Shah Bhawan.

Partially damaged monuments at Patan Durbar Square

Al together 13 no. of monuments damaged:

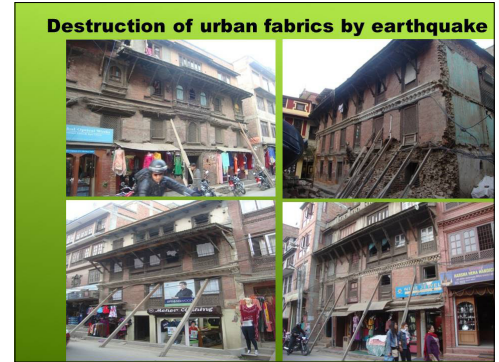
Krishna Temple	Bhimshen Temple
Vishwo Nath Temple	Statue of King Yogendra Narsingh Mall
Radha Krishna temple (Chyashi Dewal)	Mani Keshav Narayan Temple
Degu Taleju Temple	Patan Museum building
Taleju Temple - 2	Lakhe Aagan Ghar and temple
Big Bell	Bahadur Shah Bhawan



[07]

[Slide 08]: Destruction of urban fabrics by earthquake

In addition, many private houses in the historic core area either completely collapsed or were structurally damaged. Others suffered only minor cracks. Many houses along the streets are now supported from the outside by wooden struts (*tewa*), which disturb both pedestrians and vehicles.



[08]

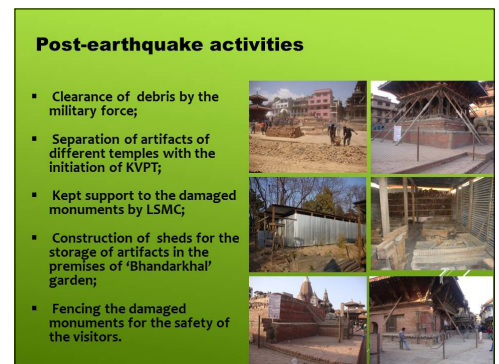
[Slides 09, 10]: Post-earthquake activities

After the earthquake, the city office cooperated with other agencies, including the Department of Archaeology, Federation of Nepali Chamber of Commerce & Industries (FNCCI) Lalitpur, Kathmandu Valley Preservation Trust (KVPT, a local NGO), local communities, local clubs, Nepal Police, and other organizations. Together they organized several meetings to facilitate not only the distribution of materials for immediate relief and to take inventory of the earthquake victims, but also to better coordinate future activities. These offices also carried out many programs to ensure the security of artefacts within the World Heritage Site. Accordingly, the Nepal Armed Police patrolled the monument zone 24 hours a day, 7 days a week. The local community joined the police force and other NGOs in safeguarding the artefacts' debris inside the Keshav Narayan Chowk.



[09]

The Nepal army helped to clear debris from the collapsed structures to facilitate access to the buildings while KVPT helped separate the artefacts from different temples. The city placed wooden supports on the damaged structures. A temporary shed was also built in the Bhandarkhal garden to store the artefacts from various temples and public buildings. Fencing was placed around the important public monuments to prevent further damage or theft.



[10]

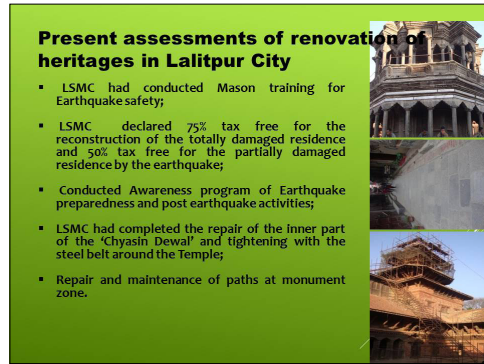
[Slides 11-14]: Present assessments of renovation of heritages in LSMC

The city has carried out diverse activities towards resilient reconstruction. First, it conducted training for masons focusing on earthquake safety measures. Second, it carried out various awareness programs focusing on earthquake preparedness and post-earthquake activities. Third, it declared a 75% tax concession on the building permit fee for those households whose homes were completely destroyed and 50% for those whose homes were partially damaged by the earthquake. Finally, it has used its own funds to repair the inner part of Chyasin Dewal, which was strengthened by using steel belt around the walls of the temple.

The city office, with support from KVPT, is implementing renovation projects at Char Narayan Temple, Hari Shanker Temple, Manimandap Patis, Krishna Temple, Bahadur Shah Bhawan, and the statue of King Yog Narendra Malla. They have already completely repair of the stone pillar in front of the Bhimshen Temple, as well as maintenance of the Taleju Temple roof and renovation of Sundari Chowk’s east wing. Durham University excavated the foundations of the damaged monuments in Patan Durbar Square and conducted a study.

The city has continued its awareness initiatives in order to preserve its tangible and intangible heritage and private houses within the historic core areas. The tourist entry fee collected from international tourists visiting the monument zone is used for heritage conservation, infrastructure development, and environmental improvement, as well as further tourism promotion. A local NGO, the Maya Foundation, has obtained some funding to start constructing post-earthquake housing in the Pilachhen area (ward no. 7), an initiative in which the local household communities are actively involved. This project is aided with technical support from CE Construction Private Limited. The reconstruction of individual houses is also on-going.

In addition to these construction initiatives, the city is also focusing on livelihood improvement. Local communities in the monument and buffer zones are now using their traditional houses for guesthouses, lodges, and restaurants, thereby generating income. Such activity has helped citizens recognize the economic value of traditional houses outside their heritage values. The Lalitpur’s women group has a strong understanding of the need for conserving their neighbourhoods and homes in order to improve the local economy. With support from the Japan International Cooperation Agency (JICA) senior volunteer group, they have prepared a ‘Patan Durbar Area Fire Service Strength Reinforcement Plan’.



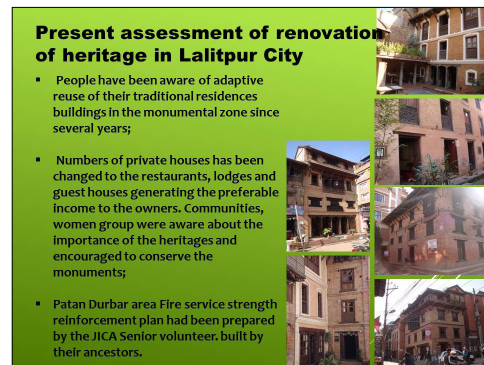
[11]



[12]



[13]



[14]

[Slide 15]: Issues and challenges: Conservation of monuments & private houses

The city faces some challenges in the conservation of both monuments and private houses, especially in the post-earthquake period. First, there is no conservation master plan at the settlement level. Presently, the conservation strategy is limited to regulating individual houses. As yet, there is no classification or grading system for private houses based on their heritage value. In the absence of an overall conservation plan, some work carried out on an individual basis does not complement the conservation of the area. Second, the existing legislation and building bylaws that do focus on individual houses encourage new construction rather than restoration and preservation. This, along with the absence of urban design or architectural guidelines, does not support conservation. The National Building Code, as well, does not support the renovation and reconstruction of traditional houses using traditional materials and construction technology. Third, some provisions of the prevailing building bylaws are not relevant to the present societal context and hence most households simply ignore them when undergoing construction, even if they do abide by the building bylaws. Fourth, the municipality is not in a position to give substantial incentive packages to those undergoing the conservation of private houses. Traditional houses require high maintenance and repair costs due to use of extensive wooden materials. Wood is not easily available in the market and, if available, is very costly. Local people are now attracted to new building materials like aluminium for doors and windows and an RCC frame structure for building. Fifth, traditional houses and monuments are still vulnerable to earthquakes and fire. The existing measures are inadequate to save them from such disasters.

Issues and challenges: Conservation of monuments & private houses

- Lack of periodic and over all conservation practice;
- Building code and classification of the heritage prohibits reconstruction of the age old heritage which is at risk at the time of natural disaster;
- Lack of proper control over city planning, e. g, high buildings built near World Heritage Site, to allow vehicle inside the age old heritage area, sound pollution, etc.;
- The major threat to heritage preservation and management is the risk of natural disaster like earth quake, fire, flood, landslide, etc.;
- If the local do not think that they own their heritage and have to preserve for the world and for their future generations, there will be a risk of vanishing of one of the great civilization and culture from the earth.

[15]

[Slide 16]: Issues of conservation of private buildings

It is common practice to divide vertically traditional houses into different parts when transferring parental property to children. The divided sections are often haphazardly renovated, and this trend has changed the buildings' load transfer system, thereby increasing their vulnerability. Many households prefer to demolish old structures and replace them with new ones using RCC frames, even in situations where the old structure could be renovated and restored. There is a misguided conception among the general public that modern equipment cannot be used in old houses. Even banks and financial institutions give low value to old houses and are reluctant to give out loans for repair and renovation. All these facts discourage the owners of traditional houses in the historic core area from timely maintenance and operation. On top of this, the municipality and DOA are unable to frequently monitor the private houses in the protected monument zone.

Issues of conservation of private buildings

- Vertical division of the private buildings;
- Demolition of buildings more than 100 years old & structurally sound structures;
- Wrong conception over impossibility to adapt traditional houses to modern life;
- Failure to implement building bylaws;
- Poor maintenance and restoration of old houses due to low economic;
- Increase of land value;
- Weak monitoring system during construction of private buildings;
- Lack of incentives for the conservation



[16]

[Slide 17]: Expectation of LSMC

In order to address these challenges, the city is seeking outside support. The cost of renovating the damaged houses and replacing the collapsed housing with new construction requires a substantial budget, which the city is unable to provide. Without external support, it would be difficult to achieve a safer community and preserved neighbourhoods. Second, city officials are unfamiliar with the standards of building safe communities and preserving neighbourhoods in the post-earthquake period. They require training in order to build their ability to plan and implement initiatives.

Third, the active engagement of local households and communities is essential to the rebuilding process. Coordination among various public agencies, local communities, and NGOs, including donor agencies, is essential. Finally, any failure to rebuild damaged private houses in a systemic way may cause the area to again be placed on the danger list. Hence, the rebuilding of private houses should be the government's foremost priority, along with the preservation of historic monuments.

Expectation of Lalitpur Sub Metropolitan City

- Renovation cost is high but LSMC does not have sufficient budget allocation to address all the post-earthquake damage in the city. It is seeking donors' support for the renovation of the monuments damaged by the earthquake;
- Capacity building training for the staff of the municipality is vitally essential to enhance the conservation project. LSMC will be very thankful to have support in this sector;
- Conservation of urban fabric is a great challenge to LSMC. Lack of incentive to private houses discourages conservation. Conservation of urban fabrics reduces the possibility of enlisting WHS in danger list again.

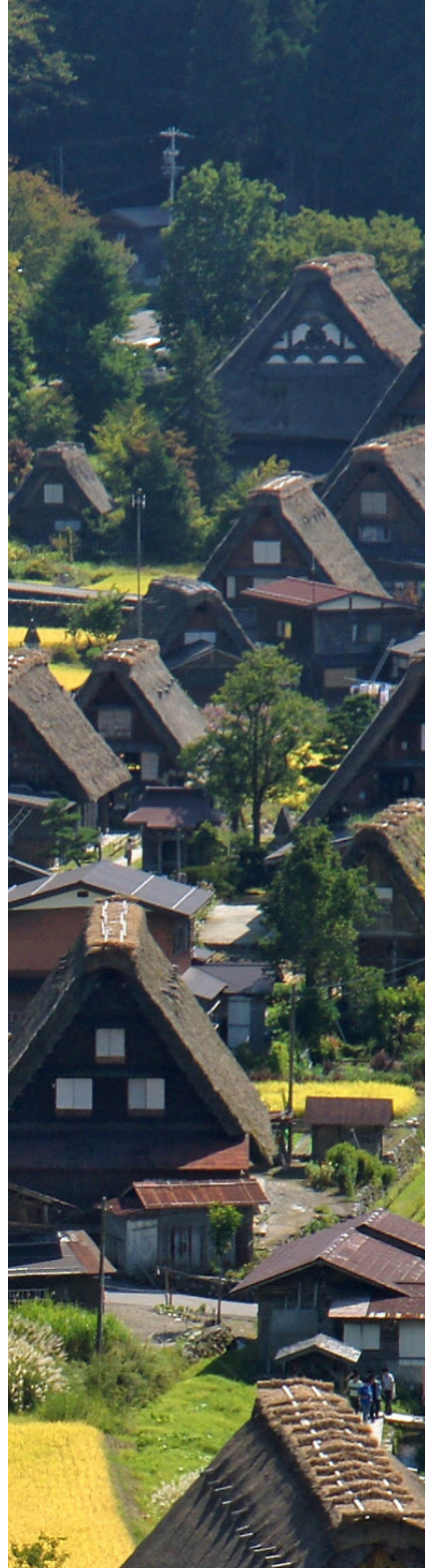
[17]



[18]

Note:

- 1) The Government of Nepal upgraded the status of Lalitpur Sub-Metropolitan City into Lalitpur Metropolitan City by cabinet decision on 10 March 2017 in restructuring the local bodies as new federal set-up of the country.



6. The Cases of the Preservation of Historic Districts in Japan



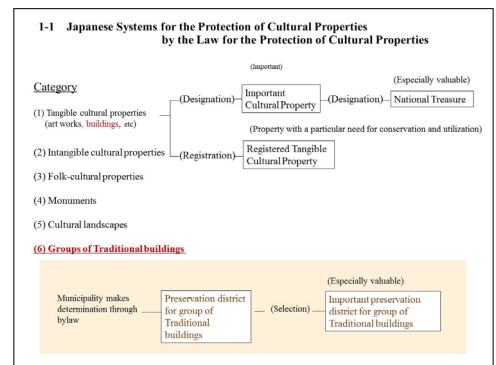
Preservation System for Historic Districts in Japan



Dr Nobuo Kamei
[Director General, TNRICP]

[Slide 01]: Japanese systems for the protection of cultural properties by the law for the protection of cultural properties

According to the Law for the Protection of Cultural Properties, there are six categories of cultural properties, as you see in this slide. The ‘Groups of Historic (Traditional) Buildings’, inscribed as the sixth, becomes our legal framework to conserve the historic districts of Japan as ‘preservation districts’.



[01]

[Slide 02]: Background

This morning, Prof Nishimura explained the background of the birth of the conservation concept and actual system concerned with this law, so I will only summarise it in this slide.

We systematised conservation in an amendment to the Law for the Protection of Cultural Properties in 1975. ‘Groups of Traditional Buildings’ became an official category of cultural property and requires protection measures.

Background

As counter measures against the urban and regional developments, 11 municipalities independently established bylaws for preserving the townscape and beautiful scenery of the urban area from 1968 until 1975.

At the National level, it was required to create the new system to support those bylaws from related municipalities, i.e. a city, a town or a village, and the citizens who lived in the district where would expected to conserve. Almost at the same time, Architectural Institute of Japan appealed to establish the national system to conserve the area as well.

From 1972 to 1973, the Agency for Cultural Affairs held the meetings concerned on the preservation measures and directly researched at 3 districts in Takayama city, Kurashiki city and Hagi city to plan counter measures for preserving historic urban districts. As the result of these research, they found the way that municipality became a project implementing body, kept its basic characteristic of the urban district and preserved mainly the appearance of buildings while considering the enhancement of the habitability and allowing some transformations.

Then, they systematized it on the occasion of the amendment to the Law for the Protection of Cultural Properties in 1975.

[02]

[Slide 03]: System for the Preservation of Groups of Traditional buildings

Legal definitions are presented here:

- ‘Groups of Traditional Buildings’ are defined as ‘traditional buildings with high value, which create historical sceneries in combination with their environment’.
- ‘Preservation Districts for Groups of Traditional Buildings’ are designated as the districts determined by municipalities under the provision of city plans and bylaws, in order to preserve ‘the groups of traditional buildings’ and their environment, which create value.
- ‘Important Preservation Districts for Groups of Traditional Buildings’ are selected on the basis of an application made by the municipality to the national government as the districts

1-2 System for the Preservation of Groups of Traditional buildings

A system for the preservation of historic settlements and townscapes, adopted with the amendment of the Law for the Protection of Cultural Properties in 1975 .

(Definition of words)

Groups of Traditional buildings
Groups of Traditional buildings, which create a historic scene in unity with the surrounding environment, and which are of high value.

Traditional buildings
Buildings and other constructions consisting a Groups of Traditional buildings

Preservation Districts for Groups of Traditional buildings
Districts designated by the municipality for the purpose of preserving groups of Traditional buildings and the environment with which they are integrated and which forms their value.

Important Preservation Districts for Groups of Traditional buildings
On the basis of application made by the municipality, the national government selects districts which are highly valuable for the nation as “Important Preservation Districts for Groups of Traditional buildings.”

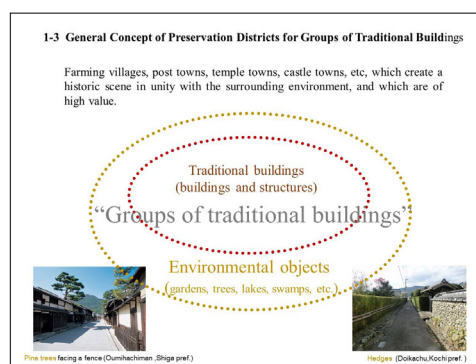
[03]

which are highly valuable to the nation.

Please remember these definitions.

[Slide 04]: General concept of preservation districts for groups of traditional traditional buildings

This slide shows the general concept of preservation districts for groups of traditional buildings. Here, you see the buildings and the other structures along with the environmental objects, such as garden trees, that compose the historic environment. And all three elements are expected to be preserved well.



[04]

[Slide 05]: The classification standard of important preservation districts for groups of traditional buildings

The classification standard of ‘Important Preservation Districts for Groups of Traditional buildings’ is published in the official gazette of the Agency for Cultural Properties.

Those which make up the preservation district for groups of traditional buildings fall under one of the following categories.

- (1) Preservation district for groups of traditional buildings whose designs are of especially high value.

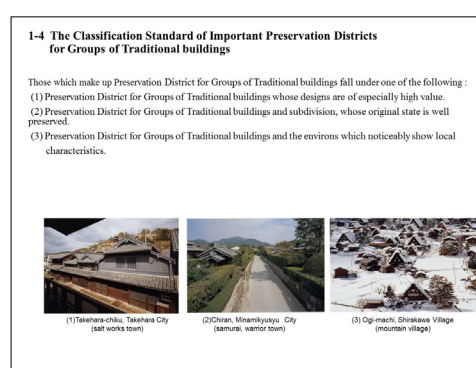
Takehara District (Left) is an example of this standard.

- (2) Preservation district for groups of traditional buildings and subdivisions, whose original state is well preserved.

Chiran District (Middle) is an example of this standard.

- (3) Preservation district for groups of traditional buildings and the environs which noticeably show local characteristics.

Shirakawa District (Right) is an example of this standard.



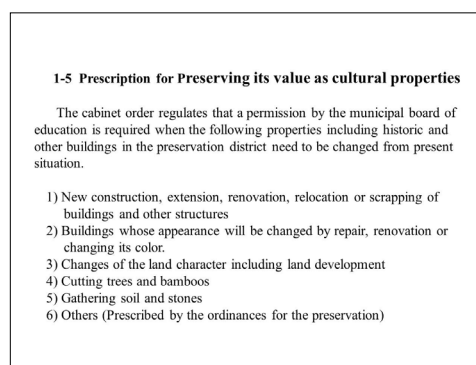
[05]

[Slide 06]: Prescription for preserving the value of cultural properties

Here, I will explain the flow chart of our preservation system to retain the value of historic districts. The cabinet order regulates, that the permission of the municipal board of education be obtained when the following properties, including historic and other buildings in the preservation district, need to be altered.

- 1) New construction, extension, renovation, relocation or scrapping of the buildings and other structures
- 2) Buildings whose appearance will be changed by repair, renovation, or the changing of colour
- 3) Changes of the land character, including land development
- 4) Cutting trees and bamboo
- 5) Gathering soil and stones
- 6) Others (prescribed by the ordinances for the preservation)

Furthermore, criteria for permission regarding building location,

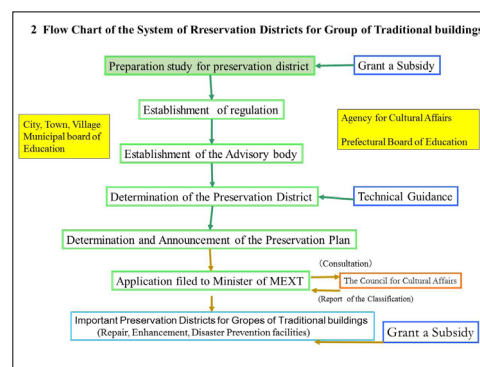


[06]

size, form, design, and colour etc. of traditional buildings have been determined. Municipalities adopt the permission system, using the bylaws for the preservation, to restrict activities that change current conditions according the cabinet order. The municipalities announce the criteria for obtaining building permission prescribed independently in the preservation plan.

[Slide 07]: Flow chart of the system of preservation districts for groups of traditional buildings

Here I show you the flow chart of our system for preservation districts for groups of traditional buildings.



[07]

[Slide 08]: Academic study committee

As preparation study for the preservation district, academic study of preservation measures is required to define and evaluate the characteristics of the district and its traditional buildings. In this study, government subsidy is expected.

The study committee should be organized with certain scholars of architectural history, architecture, history, and sociology, along with representatives of the community and administrative officers.

2-1 Academic Study Committee

Organization of the study committee, including

- Scholars on architectural history and architecture as a chief investigator
- Experts on history and sociology of local community
- Representatives of local residents
- Administrative officers.

[08]

[Slide 09]: Academic study topics for historic areas

It is necessary to research historic areas in the following three aspects:

- 1) Understanding the local history and developmental, natural, social, and economic situation of the area
- 2) Understanding the characteristics of target traditional buildings and other properties and their state of preservation
- 3) Establishing the preservation measures for the properties, including the traditional buildings in preservation district

2-2 Academic Study Items of Historic Areas

- 1)Understanding the local history and development, natural, social and economic situation of the area.
- 2) Understanding the characteristic of target Traditional buildings and other properties and its state of preservation.
Conducting detailed study on the buildings, which are required to be preserved, the composition of the buildings, the preserved trees, lake, pond, hedge and etc.
Conducting investigation on the history and folklore of the area together with drawings and photographing.
- 3) Establishing the preserving measures for the properties including the Traditional buildings in preservation district

[09]

[Slide 10, 11]: Procedure for designating a preservation district for groups of traditional buildings

The determination of historic preservation districts requires several steps:

- 1) Study of the range of preservation district
- 2) Forming consensus with residents regarding (why and how) to preserve the districts

- 3) Establishment of the bylaws for preservation, referring ‘the standard bylaw’ given by the agency for cultural affairs
- 4) Determination of the preservation district

We have two special cases. In the first case, a preservation district is located within a city planning area, and it is designated in accordance with the City Planning Act. In the second special case, it is located outside of city planning area, it is determined by notification of municipalities in accordance with the bylaws for the preservation.

- 5) Establishment of the preservation plan

2-3 Procedure for Designating a Preservation District for Groups of Traditional Buildings (1)

1) Study of the range of a preservation district;
Following to the investigation for the preserving measure, the preservation policy is studied on within the concerned administrative departments. (A Conception is planned that enables to preserve of the group of Traditional buildings, to improve life environment and to promote of historic manufactures.)
The way of deciding a range of a preservation district for a group of Traditional buildings, the following elements are considered to decide a range of a preservation district

- a) Land lot of each building
- b) A neighborhood association and council
- c) Residential streets and blocks
- d) Streets, rivers and natural geometric landscape such as mountain ridge

2) Making consensus of local residents;
Making consensus through understanding on the concerning matters including idea and method by the meetings for reporting the investigation results and for explanation regarding (why and how) to the preserving districts

[10]

2-3 Procedure for Designating a Preservation District for Groups of Traditional buildings(2)

3) Establishment of the bylaws for the preservation
Municipalities establish the bylaws for the preservation based on the "standard bylaw" given by the agency for cultural affairs.

4) Determination of the preservation district
•Inside city planning area;
The area of a preservation district is determined in accordance with city planning act
•Outside of city planning area;
The area of preservation district is determined by notification of municipalities in accordance with the bylaws for preservation.

5) Establishment of the preservation plan

[11]

[Slides 12, 13]: Framework of the preservation plan

The framework of the preservation plan is prescribed by the bylaws. The preservation plan must be announced by the municipality.

The preservation plan consists of the following items:

- 1) Basic items on the preservation of the preservation district. (cf. history, characteristics, policies, etc...)
- 2) Determination of the properties, including the traditional buildings
 - Establishing the decision criteria for traditional buildings.
 - Making a inventory of the traditional buildings and environmental properties
 - Developing a plan that shows the location and range of traditional buildings
- 3) Contents of the preservation and re-arrangement of the buildings
 - Establishing the policy on the repair and renovation of façades, the standard of preservation, and renovation of buildings
 - The policy on the reconstruction of the environmental elements, standard of preservation, and conservation
- 4) Measures for preservation, including subsidies
- 5) Contents on the environmental enhancement

2-4 Framework of preservation plan (1)

The framework of the preservation plan is prescribed by the bylaws for the preservation and the plan is need to announcement of the municipality

- 1) Basic items on the preservation of the preservation district.
 - Description of the history and formulation of the preservation district
 - Description of the characteristic of groups of the Traditional buildings
 - Description of the characteristic of nature and historical environment of the district
 - Presenting the overview including the basic policy on preserving the district
- 2) Determination of the properties including the Traditional buildings
 - Establishing the decision criteria for the Traditional buildings.
 - Making the list of the Traditional buildings and environmental properties
 - Drawing the plan that shows the location and range of the Traditional buildings.

[12]

2-4 Framework of preservation plan (2)

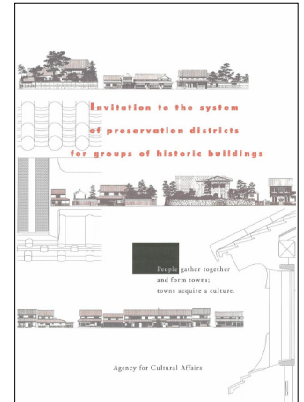
- 3) Contents on the preservation and re-arrangement of the buildings
 - Establishing the policy on the repair and renovation of the façade, and the standard of the preservation and renovation of the buildings
 - The policy on the reconstruction of the environmental elements and the standard of preservation and conservation
- 4) Measures for the preservation including subsidy
 - The contents on the subsidy for preserving and retrofitting of the façade.
 - Providing and arranging the materials and members for preserving, which are difficult to purchase
 - Technical support on the repair and enhancement of the façade
- 5) Contents on the environmental enhancement within preservation districts
 - Facilities for the preservation and management, sign, information board
 - Setting up the disaster prevention facilities for initial fire extinguishing
 - Others (Arrangement of electric poles, street lights, sign boards, etc.)

[13]

within preservation districts

You have a copy of the brochure in which the outline of a preservation district for groups of traditional buildings us introduced. Please read it later for your understanding [Appendix-2].

This brochure is from an old edition, please correct the number of preservation districts in the first sentence on page 2, from 64 to 112.

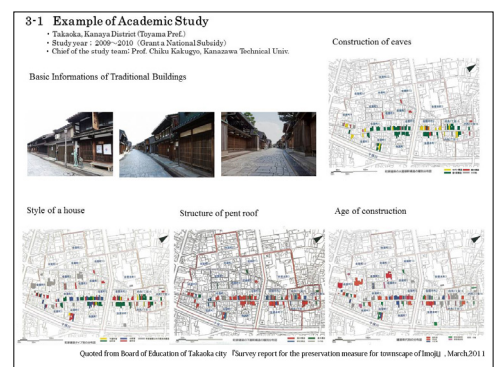


[Appendix-2] Brochure

[Slide 14]: Example of academic study

Here, I show you an example of academic study.

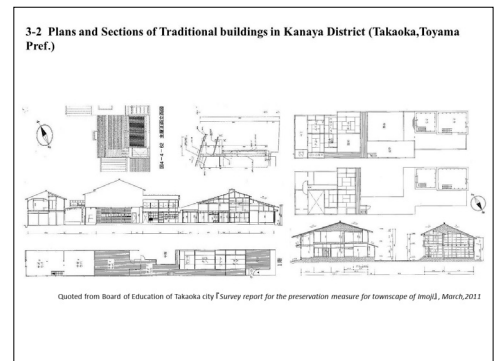
Basic information concerning traditional buildings is gathered, such as styles of houses, structure of eaves or pent roofs, and age of construction, to determine the characteristics of traditional buildings.



[14]

[Slide 15]: Plans and sections of traditional buildings in Kanaya district

To make the characteristics of traditional buildings clear, the plans and sections should be described.

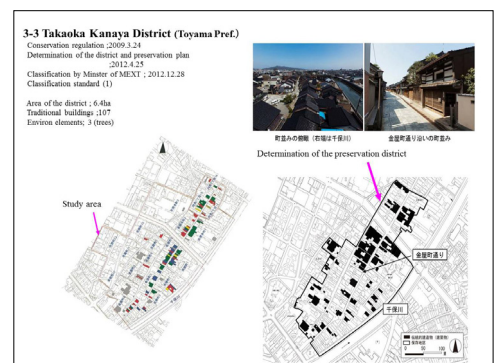


[15]

[Slide 16]: Takaoka Kanaya district (Toyama Pref.)

After the study, a report should be published. Explanation meetings for the inhabitants of the target area are held several times to form a consensus on whether their area should be nominated as a preservation district. Sometimes the range of preservation area does not necessarily match the surveyed range for social or economic reasons.

In case of Kanaya District, there are no traditional buildings on the west side of the study area and the consensus between inhabitants has not been reached for the northern section. The preservation district was limited as shown (smaller than the study area).

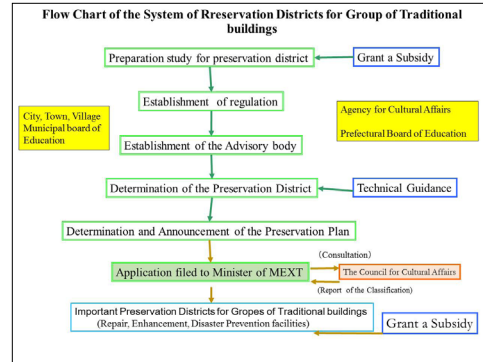


[16]

[Slide 17]: Application submitted to the minister

Municipalities apply to the Minister of Education, Culture, Sports, Science, and Technology. Then he consults the Council for Cultural Affairs. The council will judge whether the area is of high value and suitable to one of the classification standards.

If it is selected, preservation districts designated by municipality become ‘Important Preservation Districts for Groups of Traditional buildings’.



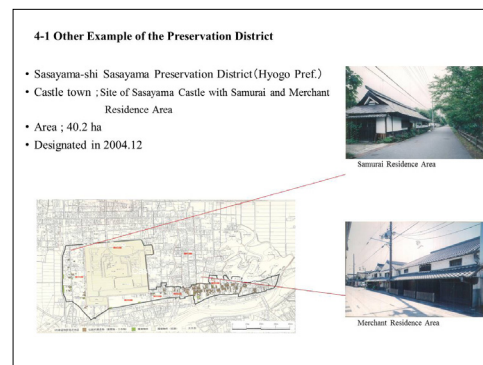
[17]

[Slides 18,19]: Another example of a preservation district

Here, I introduce two examples of preservation districts.

The Sasayama District consists of three areas, the castle site, the samurai’s residence area, and the merchant residence area.

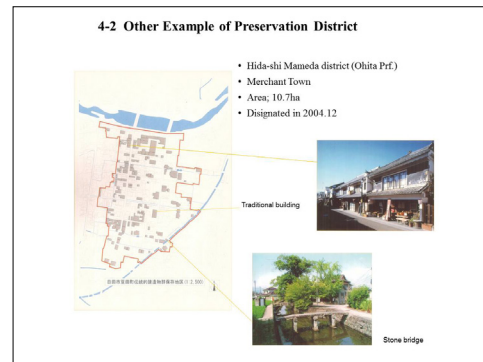
Although the town is spread around the castle, the northern and eastern parts of the town have modified by new developments, so the preservation district is limited to the undeveloped area.



[18]

The next example is Mameda District in Hita City. Hita was developed as a commercial and financial centre of the Kyushu Region in the early 17th century.

Many traditional buildings are preserved in Mameda District, and it was selected as an ‘Important Preservation District for Groups of Traditional Buildings’ in 2004.

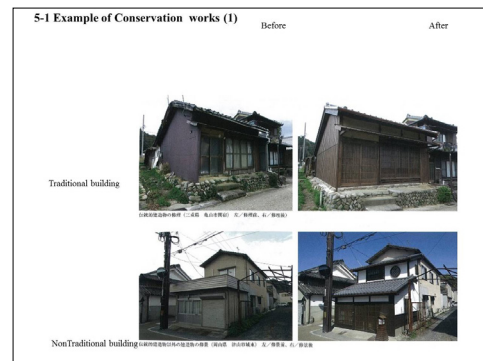


[19]

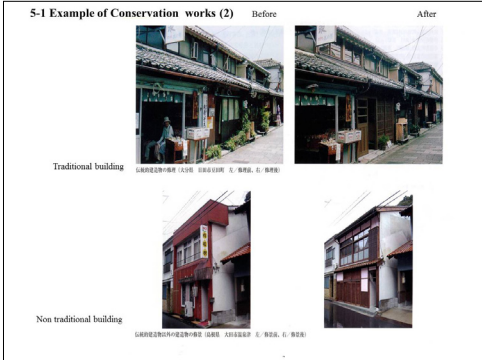
[Slides 20-22]: Example of conservation works

I will explain the government subsidies for conservation projects, such as repairing or enhancement of buildings and creation of disaster prevention facilities.

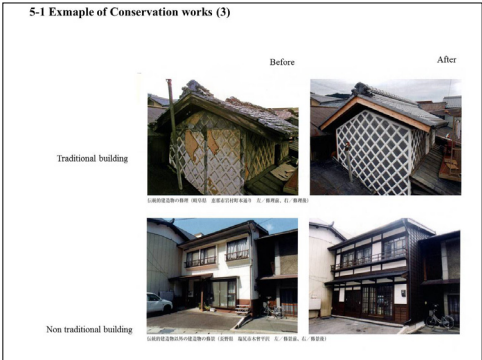
The examples in the slides show the differences between two photos before and after conservation works. Government subsidies for the projects are given by the municipalities following their conservation plan.



[20]



[21]

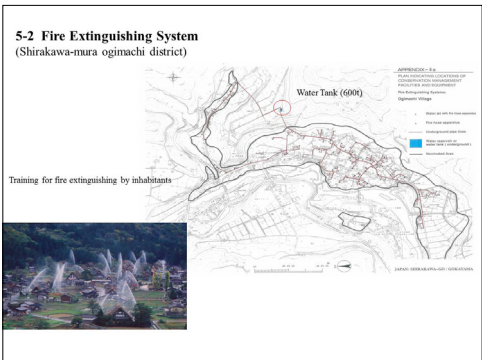


[22]

[Slide 23]: Fire extinguishing system (Shirakawa-mura Ogimachi district)

This is the example of the fire extinguishing system created by government subsidy. In Shirakawa-mura Ogimachi District, many buildings have timber frames and thatched rooves, which are highly susceptible to fire.

For the reason mentioned above, we built this system. The photo on the bottom-left shows the training scene, where inhabitants could learn how to use extinguishing equipment. In Shirakawa-mura Ogimachi district, they have strong seasonal winds during the winter, increasing the fire hazard and necessitating daily training.



[23]

[Slide 24]: Profits of the preservation of the townscapes as cultural properties

Today, the important preservation district for groups of traditional buildings is counted as one of the ‘important areas where historical heritage and town management should be implemented’.

Supporting projects concerning urban district foundation development are expected, including beautification of the street pavements, burying the transmission network, and removing non-utility electric poles, and improving the townscape.

We are proud of the following profits to the townscapes as cultural properties over the 40 years after establishing the preservation system.

- 1) Enhancement of the awareness of the residents for preservation, who participate in ‘Machizukuri (town development with local

6 Profits of the preservation of the townscapes as cultural properties

From the experiences over 40 years after establishing Japanese preservation system, we could say to have got following profits.

- 1) Enhancement of the awareness of residents for the preservation, who participate to “Machizukuri (Town development with local communities)”
- 2) Reunion of the local communities
- 3) Establishment of consensus of local residents and etc. as a proud of the local area
- 4) Reviving the historic environment and enjoying its comfortable environment
- 5) Economical effect by preferential public investments (Tourism and promotion of local manufacture, etc.)
- 6) Achievement of finding talented people and carrying out human resource development who are engaged in the preservation of the historic district

[24]

- communities)’
- 2) Reunion of the local communities
 - 3) Establishment of consensus of residents as a proud of the local area
 - 4) Reviving the historic environment and enjoying its comfortable environment
 - 5) Economical effect by preferential public investments (tourism and promotion of local manufacture, etc.)
 - 6) Achievement of finding talented people and carrying out development of human resources engaged in the preservation of the historic district

[Slide 25]: Conclusion

As Prof Nishimura explained concerning the present situation and the effect of the movement for the preservation of historic districts this morning, the preservation process of the townscape is considered today as a strong Machi-Zukuri (Japanese way of Town development with local communities) system implemented by municipalities using local history.

Preservation activities provide good opportunities to consider the future of a district and the area, not only for the municipal officers, but also for the residents and many concerned. It also shows the success of finding and developing human resources, both officials and residents.

This is my conclusion, and thank you for your attention.

7 Conclusion

Preservation of the townscape is considered as Machi-Zukuri (Town development with local communities) system using the local history by the municipalities today, about 40 years have passed after the preservation system was established.

Activities for the preservation give good opportunities to consider the future of district and area together with municipality, not only for the officers of municipality but also for the residents and many person concerned.

It brings good results of finding and developing human resources both of officials and residents.

Thank you for your attention!

[25]

Seismic Strengthening of Cultural Properties in Japan

Dr Mitsuhiro Miyamoto
[Lecturer, Kagawa University]



[Slide 01]: Variations of cultural properties in Japan,

In Japan, there are some variations in cultural properties. Regarding architecture, cultural properties are classified into Designated Cultural Properties, such as National Treasures and Important Cultural Properties, Registered Tangible Cultural Properties, and Important Preservation Districts for Groups of Historic (Traditional) Buildings.

Variations of cultural properties in Japan

- ◆ Tangible Cultural Properties
 - Designated Cultural Properties (National Treasures, Important Cultural Properties etc.)
 - Registered Tangible Cultural Properties
- ◆ Groups of Traditional buildings
 - Important Preservation Districts for Groups of Traditional buildings



[01]

[Slide 02]: National treasures and important cultural properties

National Treasures and Important Cultural Properties are the most important cultural properties in Japan.

The designation system for these cultural properties has strict criteria. When they are conserved, it is difficult to change the exterior or interior of these properties.

National Treasures, Important Cultural Properties



Five-storey pagoda in Horyuji Temple (National Treasure)



Former Iwate Bank (Important Cultural Property)

As of Nov. 1st in 2016
National Treasures (223)
Important Cultural Properties (2456)

Designation system have strict criteria (both outside and inside)

[02]

[Slide 03]: Registered tangible cultural properties

Registered Tangible Cultural Properties are another type of cultural properties in Japan.

The designation system for these cultural properties has less strict criteria. When they are conserved, it is difficult to change the exterior, but the interior can be changed as necessary.

Registered Tangible Cultural Properties



Nankai Building (Osaka Prefecture)



Soy sauce storehouse (Kagawa Prefecture)



As of Nov. 1st in 2016
Registered Tangible Cultural Properties (10,677)

Designation system have less strict criteria (only outside)

[03]

[Slide 04]: Important preservation districts for groups of traditional buildings

Important Preservation Districts for Groups of Traditional Buildings were explained by Dr Nobuo Kamei. The designation system for these properties have even less strict criteria as it is difficult to change the facade of the district, but interiors can be altered freely.



[04]

[Slide 05]: Conformity to building standards law

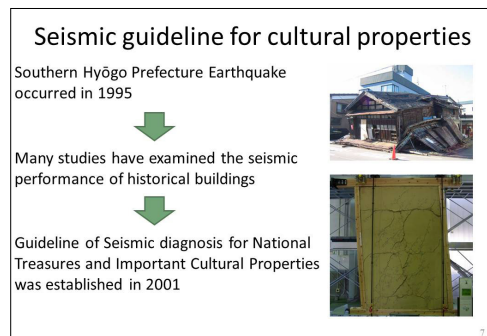
Under the Law for the Protection of Cultural Properties in Japan, designated cultural properties, such as National Treasures and Important Cultural Properties, do not necessarily conform to Building Standards Law in Japan. However, seismic diagnosis is recommended in accordance with guideline established by the Agency for Cultural Affairs, Government of Japan. On the other hand, other cultural properties must conform to Building Standards Law in Japan, unless permission is obtained by special committee or bylaw, although seismic diagnosis is necessary.



[05]

[Slide 06]: Seismic guideline for cultural properties

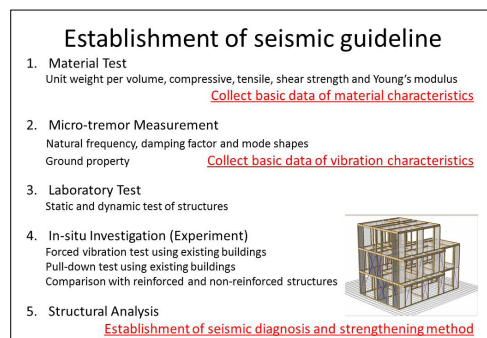
In Japan, many historical buildings were greatly damaged by the Great Hanshin Earthquake occurred in the Southern part of Hyōgo Prefecture in 1995. Consequently, many studies have examined the seismic performance of traditional buildings. The seismic guideline for cultural properties was established by the Agency for Cultural Affairs, Government of Japan in 2001.



[06]

[Slide 07]: Establishment of the seismic guideline

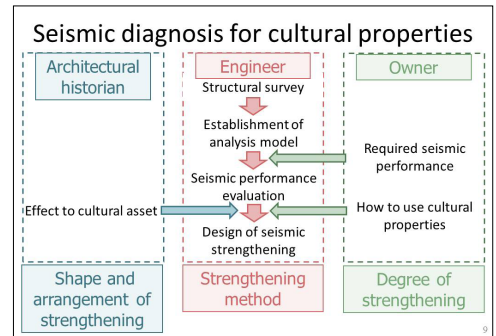
To establish the seismic guideline for cultural properties, the following research was conducted in Japan. First, material testing and micro-tremor measurements were conducted to collect basic data regarding material and vibration characteristics. Second, laboratory testing and in-situ investigations were performed to evaluate the seismic performance and effect of seismic strengthening. Finally, structural analysis was executed to simulate the tests, and seismic diagnosis and strengthening methods were established.



[07]

[Slide 08]: Seismic diagnosis for cultural properties

This is the flow chart for the seismic diagnosis of cultural properties. Structural engineers conduct the structural survey and establish the analysis model. They evaluate the seismic performance of cultural properties by structural analysis and design seismic strengthening. This system is same as that for general buildings. However, to decide the seismic strengthening method for cultural properties, the required seismic performance, the use of cultural properties, and the effect on the cultural asset are important. On the basis of these three factors, the nature, shape, arrangement, and degree of seismic strengthening methods are determined.



[08]

[Slide 09]: Required seismic performance

The required seismic performance for cultural properties is into categorised into three levels.

Level I cultural properties can be used after a large earthquake. These cultural properties are infrastructure facilities or large structures which are always used. Level III cultural properties collapse during an earthquake and can be reconstructed. These cultural properties are those which almost no one remains inside or people visit for short periods . Level II cultural properties do not collapse and no one dies within in them during a large earthquake. This level is the generally required level of seismic performance, similar to Building Standards Law in Japan.

Required seismic performance
Guideline of Seismic diagnosis for cultural properties

	Level I	Level II	Level III
Required performance	Cultural properties can be used after large earthquake.	Cultural properties are not collapsed and no one dies inside after large earthquake.	Cultural properties can be reconstructed after large earthquake.
Use of cultural properties	Infrastructure facilities or large structures which are always used.	Except for Level I and III	Almost no one stay inside or people stay only for short time.

Same level as Building Standards Law in Japan

Established by Agency for Cultural Affairs, Government of Japan

[09]

[Slide 10]:

Policy of seismic strengthening (Reinforcement)

To decide the seismic strengthening method for cultural properties, consideration of the cultural asset is important. Consideration of cultural asset means the minimum strengthening, a reversible strengthening method, maintenance of the asset’s design, preservation of the cultural asset, and the ability to distinguish between strengthened and original members.

Policy of seismic strengthening

- ◆ Consideration of cultural asset
 - Necessity minimum strengthening
 - Reversible strengthening method
 - Not to degrade design of cultural asset
 - Not to damage members of cultural asset
 - Capable of making distinctions between strengthening and original members

[10]

[Slides 11-14]: Example of seismic strengthening

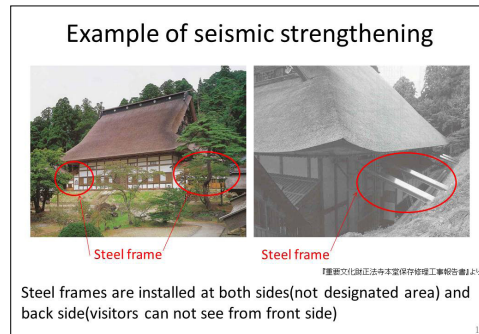
These pictures show an example of seismic strengthening. Damping devises were installed where visitors cannot see from inside, such as in the attic space and under the floor.

Example of seismic strengthening

Damping devises are installed where visitors can not see from inside.

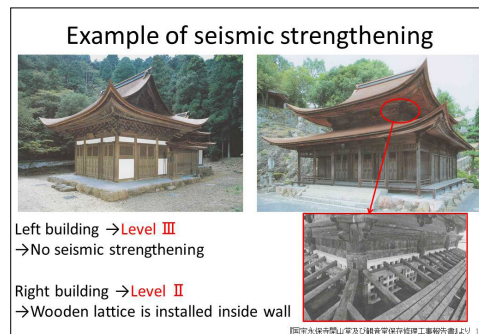
[11]

These pictures show an example of seismic strengthening using steel frames. They are installed from both sides, where the area is not designated as cultural property. In this case, they were installed on the back of this temple where visitors cannot see them.



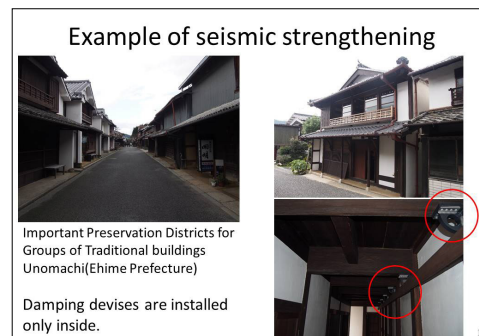
[12]

These pictures show an example of seismic strengthening by changing the required seismic performance. To the left of building, nearly no one remains in the building or people stay only for a short time. As the required seismic performance is Level III, no seismic strengthening was needed and the building to the right is usually used. As the required seismic performance of this building is Level II, a wooden lattice was installed inside the wall where visitors cannot see it.

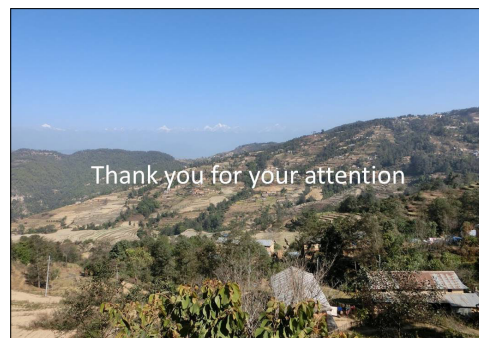


[13]

These pictures show an example of seismic strengthening in an important preservation district for groups of traditional buildings. Damping devices were installed only on the inside of the buildings, and the facade of the district was not changed.



[14]



[15]



7. Discussion & Comments



Panel Discussion



Moderators



Mr Masahiko Tomoda
Head of Conservation Design Section, Japan Center for International Cooperation in Conservation, TNRICP



Dr Bijaya Krishna Shrestha
Professor, Post-Graduate Department of Urban Design and Conservation, Khwopa Engineering College

Panelists



Dr Nobuo Kamei
Director general, TNRICP



Dr Yukio Nishimura
Professor, Faculty of Engineering, The University of Tokyo



Dr Mitsuhiro Miyamoto
Lecturer, Faculty of Engineering, Kagawa University



Ms Barsha Shrestha
Architect, Karyabinayak Municipality



Mr Shekhar Shrestha
Inhabitant, Kirtipur Municipality



Mr Prem Kumar Sonam
Engineer, Panauti Municipality



Mr Bal Krishna Manandhar
Engineer, Shankharapur Municipality



Mr Ram Govinda Shrestha
Chief, Heritage Section, Bhaktapur Municipality



Ms Chandra Shova Shakya
Senior Architect, Heritage Conservation Section, Lalitpur Sub-Metropolitan City

Introduction

Before the beginning of the panel discussion in the afternoon, Mr Tomoda thanked all the presenters for their presentations. Then, along with Dr Bijaya K. Shrestha, he began the discussion. According to him, based on the presentations, most of the Nepalese historic settlements, the responsible local authorities, and the central agency are facing two big challenges. One is ‘how to handle the emergency situation after an earthquake, as short-term response is an urgent issue for all’. Another challenge is ‘how to preserve Nepalese culture and heritage with longer term policy’. He also mentioned the Japanese cases that took many years to implement; some took more than 40 years to establish a legal system for the protection of historic settlements. In the case of Nepal, this must be accomplished in a short period of time; both short and long-term issues need to be addressed simultaneously. To begin the panel discussion, Mr Tomoda posed a question about the urgent issues raised by the National Reconstruction Authority (NRA)’s proposed building bylaws for heritage settlements. As Dr Shrestha was closely involved in preparation of this document, Mr Tomoda requested that Dr Shrestha briefly explain the concept and outline of this bylaw.

Dr Bijaya K. Shrestha

Thank you very much Mr Tomoda. We heard the presentation from four municipalities that have settlements inscribed on the World Heritage Tentative List, as well as two more properties that are inscribed as World Heritage Sites. Among them, the cases of Kirtipur and Panauti differ, as they have regulations for issuing building permits for the reconstruction of historic core areas damaged by earthquakes.

Historic settlements like Bungamati and Khokana had Village Development Committees (VDCs) until the recent past, and have simple rules for regulating house construction even in core areas. However, after the Gorkha Earthquake, the Ministry of Federal Affairs and Local Development (MOFALD) and the Ministry of Urban Development (MOUD) issued strong directives applicable to all municipalities; namely the ‘Basic Construction Bylaws related to Settlement, Development and Building Construction 2015 (2072)’. Many of the provisions in these bylaws, such as the requirement for an at least 6m-wide road for new construction, are not practically applicable in historic settlements, which have narrow streets and pedestrian lanes. However, as these directives were issued by the central government with the approval of the Council of Ministers, they are mandatory. Many new municipalities and historic core areas are now in a state of confusion, as they are not even able to make these provisions in pre-earthquake periods. Building permit processes were also therefore held up in the post-earthquake period. Now, those individuals who are willing to rebuild their houses are unable to do so as the relevant municipalities are yet to issue building permits.

Acknowledging the urgent need for separate building bylaws focusing on the reconstruction of historic core areas, UN-Habitat coordinated with the National Reconstruction Authority (NRA), Department of Archaeology (DOA), and Department of Urban Development and Building Construction (DUDBC) to prepare separate building bylaws focusing on the conservation of historic settlements in the Kathmandu Valley. This document was needed urgently for two reasons: to control haphazard reconstruction irrespective of the heritage value of the settlements; and second, to provide grant and loan support from the Government of Nepal (GON) to the earthquake victims. This document, prepared quickly, was based on existing building bylaws for monument zones (and buffer zones) of Kathmandu, Lalitpur, and Bhaktapur, as well as on other similar documents at the DOA, including the Ancient Monument Preservation Act of 1956. A series of meetings were held at the NRA and DUDBC, where the earlier draft version was finalized. This has been passed to the departmental level and submitted to the MOUD for a cabinet decision.

This document has some basic features, as follows:

First, it intends to preserve the existing building footprints of the historic settlements. The existing street patterns and open spaces hierarchies, including their sizes, shapes and patterns, will be retained. There are some redevelopment ideas surfacing for the reconstruction of the damaged historic core area which propose widening and changing the earlier street patterns. The replacement of many small houses (fine grains) and small courtyards (public and private) with a single monolithic structure with courtyards and vehicular access has been proposed. The lower floors have been proposed for commercial use, while earthquake victims will be accommodated on the upper floors, in an apartment system. Such a proposal will not only destroy the urban fabric of historic settlements, but will also change the lifestyles of the inhabitants. To prevent such an illogical proposal from being implemented, the protection of earlier building footprints should be legalized in the new building bylaws. Second, after the earthquake, many laypeople developed the perception that reinforced cement concrete (RCC) frame structures are stronger than those of traditional houses. The existing building bylaws and the National Building Code (NBC) do not elaborate on traditional building materials and construction technology. Conservation also entails the promotion of traditional building materials and construction technology. This bylaw mentions the possibility of reconstruction using three different construction technologies: (i) brick and mud mortar, including wood with load bearing systems, (ii) RCC structures, and (iii) confined masonry (combining frame and load bearing systems). The technology to be used for reconstruction shall be finalized based on the span, size, and shape of the house, occupants' needs, and available budget. In summary, this document allows for the use of traditional building materials and construction technology with improvements for earthquake resilience. Third, regulations rely on building height restrictions (setting a maximum permissible height of 35ft) rather than floor area ratio (FAR), to maintain the previous skyline and townscape. Fourth, reconstruction of houses with traditional materials and construction technology is slightly more expensive than normal construction, due to extensive usage of wood and decoration on doors and windows. Hence, without incentives, locals may not easily agree to use these materials and methods. However, the size and type of incentive should be decided by the relevant municipalities, and based on the local context.

Additionally, there is still confusion surrounding legal precedence in the bylaws. As per the NRA Act of 2015, the NRA can prepare building bylaws for historic towns and settlements; the Local Self Governance Act 1999 also empowers municipalities to do this. Hence, there was a discussion about whether the proposed new building bylaws should be approved by NRA, the local municipality, or the cabinet. Since this new document must replace the earlier central government's post-earthquake directive, it was decided that it should be sent to the cabinet through DUDBC and MOUD.

Mr Masahiko Tomoda

Thank you, Dr Bijaya. In the process of preparing new bylaws, it seems that there was some confusion around the difference between the policy of the central government (or NRA) and that of the local municipalities. I would like to ask representatives of each of the four municipalities to comment on their arguments against the proposed bylaws.

Mr Ram Govinda Shrestha

Bhaktapur Municipality has its own building bylaws for the entire municipal area, including the historic core area and World Heritage Site. However, after the earthquake, and after considering the central government's directives, the municipality refined its earlier bylaws in consultation with local communities. These amended bylaws were forwarded to

NRA, the central government, and the DOA, before implementation. The GON's directives were difficult to apply in the context of the historic core area of Bhaktapur. For example, according to these guidelines, no one can build houses in the core area, as 2m of setback are required for new construction. All of the municipalities have the right to prepare their own bylaws, and Bhaktapur Municipality used that right.

Ms Barsha Shrestha

There are no special building bylaws for the historic settlements in Karyabinayak Municipality. The municipality is coordinating with UN-Habitat and the NRA regarding newly proposed building bylaws for the heritage settlements. As these have not been approved by the cabinet, Karyabinayak Municipality has been unable to issue building permits for new construction and retrofitting. Without building permits, locals cannot restore their damaged houses. Hence, locals, i.e. earthquake victims, are facing problems due to the delay in approving the proposed building bylaws. We hope that the proposed bylaws will be approved soon, so that people living in temporary shelters can rebuild their homes. Another issue associated with reconstruction in Karyabinayak Municipality is land ownership. Almost all of the people in Khokana, and some earthquake victims of Bungamati, do not have land ownership certification. This may create problems for rebuilding houses and obtaining grant and loan support from the Government of Nepal and private financial institutions.

Mr Prem Kumar Sonam

In the case of Panauti, there is a bylaw for the historic core area, which was prepared in coordination with DOA. The municipality has been implementing it. Therefore, the problem is not a lack of bylaws, but the process of issuing building permits. All documents and drawings submitted by house owners applying for a building permit for houses in the historic core area are first sent to the DOA for necessary checking. After receiving them back from the DOA, the municipality begins the process of checking the drawings and designs against the bylaw provisions, visiting the site, and finally, issuing the building permit. This process takes a lot of time. Another issue is related to financial support. Building houses in the traditional style in the core area is costlier than normal construction. Only if there is financial support for private homeowners will they follow the building bylaws and build houses the traditional way. However, the municipality does not have the resources to provide them incentives or financial support. Panauti Municipality has been facing these two major issues in term of building bylaws.

Mr Bal Krishna Manandhar

Shankharapur Municipality is a newly formed municipality. When it was a village development committee (VDC), there were hardly any restrictions on house construction. The municipality has now received one bylaw from the NRA, which has not been approved by the cabinet. That bylaw restricts building height up to 35ft. However, restricting the height of the ground floor may be problem, as people prefer higher ground floors for shops or other commercial activities. The second issue is the need to keep wooden panels for doors and openings on the ground floor. If one places an iron rolling shutter, it costs only NRs. 20,000. However, wooden planks may cost as much as NRs. 200,000. Hence, people are compelled to sell their land and properties to build houses in the historic core area. They prefer some sort of incentive, but the municipality is not able to offer such support due to its poor resources.

Ms Chandra Shova Shakya

The Lalitpur Sub-Metropolitan City (LSMC) follows bylaws prepared by the DUDBC and DOA,

which cover the historic core area and the World Heritage Site within its municipal boundaries. Fixing the height of the building in the building bylaws at 35 or 45ft can sometimes create a problem. For instance, if the plot is, say, just 9ft, and if the maximum height allowed is 45ft, the building will not only look ugly, but will also become vulnerable due to its cylindrical shape. In this case, a floor area ratio (FAR) provision, which regulates the overall built areas based on plot size or area, might be better than a height restriction.

Regarding the issue of 6m-wide roads for house construction, LSMC has this problem in newly added village development committees (VDCs), where houses were damaged and the existing streets are narrow. As per the new directive, some setback must be maintained even after implementing a 6m-wide street. In this case, there would be no space for rooms.

Mr Shekhar Shrestha

I am Shekhar from Kirtipur Municipality. I am also an inhabitant of this municipality. The proposed building bylaws were shown to the municipality. As far as I remember, there are provisions for brick exposure, a 4m-wide road, and 35ft height restriction for the houses in the historic core areas. Besides these, the municipality has not prepared any major plans for post-earthquake reconstruction in the core area. In fact, people are confused over how to rebuild their houses. Within such confusion, some of them have already started rebuilding; these people are afraid because they have constructed their homes without the approval of the municipality. Others are waiting for municipal codes and funds from the GON, which they are not able to receive, because they were not able to prepare drawings and plans of their proposed houses and have these approved by the municipality. In summary, people are not satisfied, and they are worried about future rejection by the relevant authorities. This is the overall situation of Kirtipur Municipality.

Dr Bijaya K. Shrestha

The cases of Panauti and Kirtipur are a little bit different from those of the rest of the municipalities, as the earthquake caused less damage here, in comparison to other historic settlements.

From the presentations of Japanese cases, it is clear that a group of buildings may hold heritage value. Both the government and private sector are able to fund properties in order to protect their heritage value. In the case of Nepal, there has been sufficient funding for the reconstruction of public monuments, such as temples and stupas. However, no one is showing interest in investing in the reconstruction of private houses in the historic core areas, simply because they are privately owned. Delaying construction of temples and other structures by two years does not make much difference, but delaying the construction of private houses even a single day will have numerous negative consequences. Acknowledging all these facts, the proposed new building bylaws have a provision for demarcation of the historic settlement as a heritage zone based on a combination of different parameters. Once this settlement becomes cultural property within a heritage zone, the government and donors may invest to protect such properties, even though their ownership is private.

Mr Masahiko Tomoda

Anyway, there should be more coordination between central and local governments and agencies for the conservation of historic towns. For example, coordination between the NRA and DOA is necessary. One of the problems with the new building bylaws is that they were prepared in an emergency, and they do not take into account that each settlement had unique characteristics, features, and values. It is necessary to modify these bylaws according to the context of each historic settlement.

Next, I would like to discuss the topic of longer term policy. Sometimes central government policies may simplify or unify historic settlements. However, each community or settlement has its own characteristics, features, and cultural values. A big question is how we may conserve such cultural values, features, or identities. An evaluation of cultural values should be reflected in the long-term management policy. I would like to obtain opinions and comments from Dr Nishimura.

Dr Yukio Nishimura

Your question is about how to identify uniqueness or identity? In our case, which I think is universal, the evolution of the settlement should be surveyed. Settlements have long histories and represent uniqueness. It is necessary to determine how the settlement was created, the identity of the main centre, and the identities of gradual and developing sites. This may be reflected the community structure, festivals, and many other sectors. So, in order to understand local culture or structure, both the tangible and the intangible heritage must be surveyed. This is the universal starting point for understanding. Of course, you have to identify important heritage buildings as well as the buildings contributing to the townscape. I think this kind of survey can be done through judicious research. This kind of structural understanding of settlements is at least a starting point for our survey. Maybe this can be universal.

Mr Masahiko Tomoda

One of the key issues for finding uniqueness is the involvement of the local community and residents in the process of preparing a management plan or longer term preservation policy. What do you think, Dr Nishimura?

Dr Yukio Nishimura

I think the survey itself is a good tool for communicating with the local community and enhancing people's pride. For example, we prepared a small photo leaflet showing a town before and after the earthquake. We would like to share this kind of information with local communities. We are happy to work with them. Our intention is to open minds and to share the information for their sake. The survey is a sort of intervention within local communities. So maybe it will be sensitive to them. Understanding a settlement's uniqueness means making a community better and improving living conditions. It is necessary to share these kinds of bylaws and difficulties with the community. As Dr Bijaya K. Shrestha mentioned, the heritage settlement should be one category. It is therefore also important to liaise with each municipality to create a stronger voice. We must work together to create different bylaws. I think that liaising with each municipality can create a very strong link with other agencies. I am not very sure of the current situation, but this was my experience in a different situation.

Dr Bijaya K. Shrestha

Despite many difficulties, people living in temporary shelters and other earthquake victims are friendly and cooperative. Whenever we visit their temporary sites with foreigners, they often offer tea with a smile and allow photographs without hesitation. They do share their difficulties and problems. The culture, family ties, and religious beliefs make Nepalese society resilient in times of disaster, such as earthquakes. Earthquake victims come for various programs, meetings, consultations, and orientations, but they are not able to participate with full hearts because they are homeless. In other countries, disaster victims live in temporary shelters having minimum facilities. However, in the case of Nepal, they are forced to live in temporary shelters lacking basic amenities. The corrugated galvanized iron (CGI) sheet shelters are very hot during the summer and make a lot of noise during rain. It is difficult for many families to share such spaces.

Mr Ram Govinda Shrestha

For construction and repair of monuments and public heritage, Bhaktapur Municipality usually adopts the Users' Committee's model. In this model, local users are directly involved in construction work. If they are unable, or their participation is not possible, the municipality does the renovation work itself by hiring workmen on a daily payment basis. The participation of local people through the Users' Committee is preferable. They remember their heritage, and take care of it, while feeling ownership of cultural properties.

Ms Chandra Shova Shakya

The Lalitpur Sub-Metropolitan City also use a similar process as Bhaktapur. Most of the heritage construction work is carried out through Users' Committees. However, in our case, the Users' Committee should also contribute 20% effort, either in cash or in kind. The involvement of local people means they feel ownership over cultural properties. If Users are unable or unwilling to do such conservation work in monument zones, the Users' Committee does not contribute. In such cases, the LSMC also carries out work by using contractors.

Mr Masahiko Tomoda

The system of consensus among the stakeholders is quite important. A good system of consensus among stakeholders: communities, residences, local government, and central government is required. What is the process of building consensus for conservation and preservation of heritage? I would like to ask this question to Dr Nobuo Kamei.

Dr Nobuo Kamei

There are various ways and steps to establish consensus. In our experience, at the start of survey, we organized a council with scholars, the inhabitants and programmatic officers. After that, step by step, the results of survey were delivered to the inhabitants. What was done in the survey and the value of the societies and buildings were explained. Sometimes, it took over 30 years to make final consensus. There were some towns where people did not come to a final decision for more than 40 years. But finally, they would understand their town's value and the necessity of the designation as a conservation area. This may come from a kind of pride for those who were born there, grew up there, and will die there.

In addition, it is very important to make networks at the inhabitant and administrative levels. In Japan, there are several group conferences. For examples, a non-profit organization conducts 'Townscape Conservation Seminar' which started independently for studying and interacting with inhabitants, researchers, and administrative officers about 40 years ago. On the other hand, there is an administrative townscape conservation council which organized by more than 70 municipalities that have jurisdiction over important preservation districts. They discuss how to ensure inhabitants' understanding and shared experiences. It is important to create such opportunities.

Dr Bijaya K. Shrestha

I think this issue is very important. I would like to share Nepalese experiences in community participation and involvement. Community participation in Bhaktapur is a special case for multiple reasons. First, Bhaktapur Municipality has implemented the German Development Project for ten years; this project focuses on conservation and development. It consists of many activities, including training work, renovation and reconstruction of monuments and heritage sites, and the establishment of brick and wooden factories. Most of the renovation and reconstruction work was carried out using Users' Committees. Hence, the local people are familiar with heritage values and

the importance of conservation. Second, there is political stability at the local level and resulting continuity in policy and programs, as the same political party has been ruling in Bhaktapur for the last two decades. Third, though it is the smallest municipality in Nepal, its investment per capita and per sq. km is the highest in the country. Last but not the least, there are Newar people, who have been living in the Kathmandu Valley, living in the city, particularly in the historic core area. The number of outsiders living there is negligible. Unlike Bhaktapur, many Newar people of the core areas of Kathmandu Metropolitan City and LSMC have been moved to peripheral areas and newcomers are renting the spaces in which these Newar people lived. Those renters come from different backgrounds and have little sympathy for the conservation of heritage value. In such situations, community participation might be difficult.

Mr Masahiko Tomoda

Now, last topic for discussion is how to secure or solve the traditional structural value of old houses? This must be studied with the assistance of municipal structural engineers. The question is how to study structural system of traditional houses. This question, I would like to ask of Dr Miyamoto.

Dr Mitsuhiro Miyamoto

In Japan, Japanese traditional structures are of various types. For example, many kinds of joints, columns, and structures are used. In Nepal, traditional structures are not as varied, and the brick masonry structure is very simple. To understand the structural system of traditional houses, it is first important to categorize the types of structures in detail, including their thickness, length, and height of masonry walls. Then, we should categorize and calculate the number of structures of each type, and propose a method for studying each structure.

Mr Masahiko Tomoda

Thank you very much. In my understanding, the budget, resources, and availability of technical experts in Nepal are limited. Therefore, I think it is necessary to do this kind of study using cooperation or joint cooperation, rather than by an independent municipality or authority. In this scenario there should be a cooperation framework, or network of historic districts, settlements, and municipalities who have the power to solve such technical issues.

Dr Bijaya K. Shrestha

This type of workshop is essential. We are able to share our experiences and knowledge. Networking is required, not only among municipalities, but among international agencies and groups with valuable input. Information available and our experiences here in Nepal are limited and inadequate. If we network with international experts, it will be beneficial to us in solving our problems.

Mr Masahiko Tomoda

Ok, let close this panel discussion.

Comments from Various Participants



Mr Hiroki Yamada

I would like to receive comments on this conference and the preservation of historic settlements from the participants.

Ms Nabha Basnyat Thapa, UNESCO Office in Kathmandu

First of all, I would like to thank the organizing committee for inviting us to this important workshop. I have found the presentations and panel discussion very meaningful and the discussions on building bylaws, the community involvement in the process, and coordination among various stakeholders were valuable. There was also discussion of the incentives for maintaining traditional building styles. Emphasis has been given to traditional construction technology and building materials for conservation in historic core areas. The use of reversible seismic structures is required, along with the study and analysis of their usage. I want to further add traditional infrastructure services, such as water channel networks, and to create public spaces. Regarding the process of incorporating further heritage on the World Heritage List, the State Party, i.e. the Department of Archaeology (DOA), together with municipalities and local communities, should prepare the nomination documents that define the heritage to be of Outstanding Universal Value. The study is to be carried out as Prof Nishimura mentioned earlier. After the state party submits the nomination documents to the Secretariat, UNESCO World Heritage Centre, the World Heritage Committee decides on the inscription of the site to the World Heritage List. The combination of the roles of central government, municipalities, and local communities is vital in this process.

Dr Suresh Suras Shrestha, Department of Archaeology

Thank you very much. This event has been prepared in coordination with the DOA. Six municipalities have been involved in this one-day program, and their presentations are important. Thanks to all the presenters and congratulations to the municipalities. The discussion carried out here has been fruitful, but we do not have systematic coordination. The proposed building bylaws are lacking coordination among the different agencies, including the DOA. I kindly request that all government agencies and municipalities coordinate with regard to the conservation of historic core areas. As Nabha already mentioned, community participation is essential for nomination to the WHS, which is also mentioned in the UNESCO's operation guidelines.

When you go back to work in your offices, please convey the need for coordination in all that we endeavour to your colleagues. Due to inadequate coordination in the preparation of bylaws, there remains confusion, and the bylaws are yet to be approved by the government.

On the issue of heritage and conservation, the MOUD's management and preparation of bylaws may not be the correct channel. These are historic settlements, and they should be managed by either the Department of Archaeology or the Ministry of Culture. Nepal is lacking bylaws that are structurally focused and that have adequate consideration from the conservation perspective. Thank you very much.

Mr Suresh Pradhan, Sankhu Reconstruction Committee

Hello, good afternoon. This is Suresh Pradhan, the Chairperson of one of the Reconstruction Committees in Sankhu. This organization has been set up to determine what to do and how Sankhu should be rebuilt. The views shared in the presentations and discussion have been informative. Most of them are also in the line with what we are discussing in Sankhu, which is on the World Heritage Tentative List. We have similar problems and issues and want to build back better. Thank you very much to the respected professors and experts from Japan.

I would like to shed some light on what was not covered in the discussion. First, many VDCs have simply been converted into new municipalities by the Government of Nepal, in order that they may collect taxes and revenue without qualifying for municipal status. These newly established municipalities lack the resources to provide incentives to homeowners in the core area, who prefer to rebuild their houses in the traditional style and with historical identity. There is also a lack of vision with respect to the conservation of historic core areas. Why do we need to nominate towns as World Heritage Sites? What are the consequences? Some people oppose these methods, as they think that rebuilding houses in the traditional style will cost a lot of money. All four municipalities prefer to be listed in the WHS. However, do people know what kind of responsibilities the inhabitants living in the WHS need to perform? Educating the community is necessary for the conservation of historic settlements. Second, there is a lack of leadership. At present, all the municipalities are led by civil servants who are not accountable to local people. They are neither sensitive to the local culture nor can they take on larger projects. There is also lack of human and financial resources. The third issue that we need to think about is economic viability. A study must be carried out on why it is problematic to maintain monuments now, when it was possible to do so in the past. In the past, there was social trust, but at present, this is missing. The government also needs to think in this direction. The fourth point is that local inhabitants are moving out of these towns. This trend will affect local festivals and other cultural issues. Then, we lose intangible heritage. To prevent this loss, there should be policy formulation, not only on the municipal level, but also at higher levels, such as with the involvement of the central government and NRA. Lastly, participation is essential in the reconstruction process.

Mr Nabin Dongol, Khokana Reconstruction Committee

I am Nabin Dangol from Khokana. Mr Pradhan from Sankhu has just mentioned many issues. Khokana, as a historic Newari settlement, has similar problems, as well as unique issues of its own. First, there have been wider discussions and government has proposed plans concerning major National infrastructure projects, such as the Outer Ring Road, satellite city and Fast Track Highway; It all includes agricultural land acquisition, and passing along which will affect the historic settlements of Bungamati and Khokana in many ways. Second, many outsiders are trying to buy land properties and some houses in these historic towns according to the prediction that the land prices rise high later. People have begun to sell their farm lands so that they can afford to rebuild their damaged houses. It needs proper awareness programs and guidelines for the people to reconstruct their houses preserving the traditional aesthetics. Local people need to know clearly what are the benefits of rebuilding in traditional architecture, how much it will cost to strengthen the traditional building, and what are the incentives and benefits. Then if loans would be provided for it from the government, committee or any projects, they will agree to do so. A significant number of poor people who do not have land or money are still living in temporary shelters and experiencing difficult conditions. In such situations, people tend to prioritize reconstruction of private houses over heritages and public buildings. If people are not happy or basic needs are not enough, the beautiful intangible heritage, such as festivals and other cultural activities, cannot be continued with the same spirit. In addition, there is a high probability of migration to outside of the settlement, displacement,

and reconstruction with RCC structures. The municipality and other concerned bodies should take this problem seriously.

Mr Hiroki Yamada

It has been a long but fruitful day. Finally, I am very happy to have Mr Dahal, Director General of the Department of Archaeology, here with us. I kindly request that he deliver the closing remarks.

Mr Bhesh Narayan Dahal

Thank you, Dr Nobuo Kamei, Director General of the Tokyo National Research Institute for Cultural Properties, Dr Yukio Nishimura, University of Tokyo, Tomoda san, Yamada san and other Japanese experts, Dr Bijaya K. Shrestha, participants from different municipalities, and ladies and gentlemen.

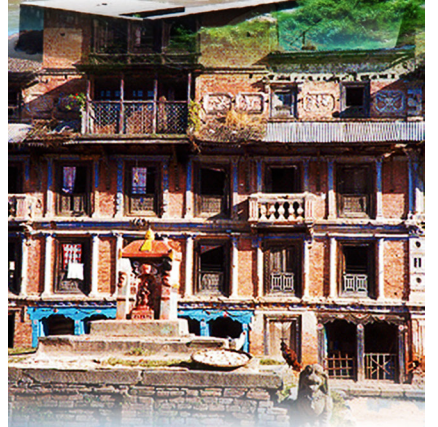
First of all, I would like to thank the Tokyo National Research Institute for Cultural Properties for conducting this kind of conference on the preservation of historic settlements in the Kathmandu Valley. I hope that this is beneficial to local governments and authorities, especially those connected to national and international experts. Local municipalities overseeing post-earthquake reconstruction and rehabilitation processes in our historic settlements are also managed as per provisions of the Ancient Monument Act 1956 (2013). This act is practically insufficient, and in reality, these municipalities are managed by the building bylaws promulgated in coordination with the Department of Urban Development and Building Construction, the Ministry of Urban Development, the Department of Archaeology, and other related agencies that guide the preservation of historic settlements. However, there are some provisions on post-earthquake conservation, reconstruction, and rehabilitation, as well as renovation guidelines on settlement development, city planning, and building construction 2015 (2072).

I hope today's conference, as well as the involvement of professional and local experts, will improve our focus on the preservation and conservation of historic settlements, and establish sustainable coordination mechanisms for this purpose. This conference is of great importance to local experts and authorities, professionals, and local communities; it allows for knowledge to be enhanced and beneficial ideas to be shared, and it strengthens these renovation, rehabilitation, and reconstruction activities in damaged historic settlements. Therefore, this kind of conference is very significant. We need more discussions and recommendations in order to formulate and implement bylaws or guidelines regarding the preservation of historic settlements. I hope this training and workshop will succeed in promoting cooperation, by developing networks among government agencies and heritage professionals, and by enabling the exchange of knowledge and ideas in pre and post-earthquake situations.

Dear colleagues, guests, and participants, it has been a great pleasure to have the Tokyo National Research Institute for Cultural Properties (TNRICP) conduct this conference. I would like to thank the director general of the TNRICP, Prof. Yukio Nishimura, and participants from different government and non-government organizations, especially the municipalities, for conducting the conference successfully.

Thank you very much.





8. Issues and Prospects



Issues and Prospects

Mr Hiroki Yamada
[Associate Fellow, TNRICP]



8.1. Summary of the project conducted by the TNRICP team

An investigation of Khokana town in the fiscal year of 2015 revealed that the laws or systems related to the preservation of historic settlements in Nepal remain inadequate. To contribute to the rehabilitation and reconstruction process by using the results of investigation, the provision of regulatory and administrative assistance to improve the preservation system is necessary. Issues related to the preservation of historic settlements need to be clarified and then shared with local authorities. Acknowledging these needs, a conference on the preservation of historic settlements was organised in November to realise the cooperative relationship (Historic settlements Network) among local municipalities, which regulate the historic settlements in the Kathmandu Valley.

Prior to the conference, we visited four municipalities (Karyabinayak, Kirtipur, Panauti, and Shankharapur) and interviewed the municipal Chief Executive Officers (CEOs) and officers regarding the existing cultural heritage preservation system in their municipalities. These four municipalities have historic settlements already listed in the World Heritage Tentative List (WHTL). Two other municipalities, Lalitpur Sub-Metropolitan City and Bhaktapur Municipality, which are preserving the World Heritage Site (WHS) that fall within their jurisdiction, were also consulted on the preservation of WHSs. In addition, the Nepal office staff of UNESCO and UN-Habitat were asked about their work in the preservation of historic settlements. A summary of the situation and issues associated with the preservation of the historic settlements in Nepal and prospects for the future is as follows.

8.2. Critical issues regarding the preservation of historic settlements in the Kathmandu Valley

According to the interviews with local government officials, it is clear that the following three issues regarding the preservation of the historic settlements in Nepal need to be resolved:

- (1) The historic settlements and private traditional houses are not legally designated cultural assets.
- (2) The incentive and penalty mechanism, which is in place for individual house construction alone, is not effective in practice. Moreover, such measures are yet to be established at the settlement level.
- (3) 'Traditional brick masonry (with mud mortar) houses in three-four stories', which constitute the main parts of the historic townscape, do not comply with the current National Building Code (NBC) requirements; consequently, it is quite impossible to reconstruct them or build new buildings in the traditional form and style.

8.3. Systemic issues with the preservation of historic settlements

An ideal solution for the three issues mentioned above is to ensure that national funds are allocated to incentivise the preservation of historic settlements or traditional houses by inhabitants and other relevant individuals. Even if sufficient Department of Archaeology (DOA) or other governmental funds are not available, officially certifying the buildings as cultural assets will make it possible to facilitate the preservation of traditional houses, including private ones, using foreign funds, for instance, funds from Japan. Without this certification, and with their present status alone to recommend them, preservation efforts are unlikely to be bolstered by official funds from foreign countries. If the private houses are designated as cultural assets after the identification of the historic settlements as cultural assets, one can expect the allocation of national and international funding^{1),2)}

8.3.1. Preservation system for the core zone of a WHS

In the core zone of the WHS of the Kathmandu Valley, the monuments and houses, albeit situated in residential areas, are regulated by the building bylaws of each municipality, and the Ancient Monument Preservation Act 1956 (2013), over which the DOA has jurisdiction. Despite the regulation on the core zone of World Heritage Site, the existing incentive and penalty system is simply not effective.

The local government (municipalities) can specify an incentive package for individual homeowners to promote the conservation of traditional houses in the ‘protected monument sub zone’ and ‘protected sub zone’ inside ‘old city zone’, as per the prevailing building bylaws. For the maintenance and renovation of artistic objects, the municipalities can provide technical and financial support to individuals. For instance, Bhaktapur Municipality is providing 100% of the cost of materials (traditional materials) used on the visible facades (not the inner walls) and 75% of the cost of wood used for roofs and door and window frames, as prescribed by the additional clauses for the protected monument sub zone in the building bylaws. The existing bylaws emphasise the need to conserve ancient building facades, doors and windows, and so on, although they also allow the vertical division of houses up to a width of 2.4 m. Moreover, the Government of Nepal can waive the house and land taxes levied on private ancient monuments through a notification in the Nepal Gazette.

Despite the fact that all these provisions exist, their implementation is not effective and tangible results are not visible. The lack of clear-cut guidelines, the involvement of multiple agencies, incentives that are inadequate in terms of attracting owners to renovate or reconstruct the buildings as per the standards prescribed in the bylaws, and a long bureaucratic process even for receiving incentives are the main reasons why the provisions are inefficient³⁾. Overall, these measures have been designed considering individual buildings, instead of groups of houses at the settlement scale

8.3.2. Preservation system for the townscapes of historic settlements in the WHTL

The townscapes of the historic settlements in the WHTL are controlled by the building bylaws of the concerned municipalities. The building bylaws of Kirtipur Municipality and Panauti Municipality were formulated after these areas received the municipal status. However, they have also implemented the NBC for regulating building construction. Karyabinayak Municipality, which preserves Khokana, and Shankharapur Municipality, which regulates Sankhu, are yet to regulate building construction, particularly with respect to the historic settlements listed in the WHTL. Before receiving the municipality status, these village development committees (VDCs) used regulations such as height control and a simple process

for permitting private house construction. Since the historic core areas are already densely built, these regulations are mainly for the peripheral areas newly being developed.

8.3.3. Laws and regulations established after the Gorkha Earthquake

Following the Gorkha Earthquake, 'Basic construction bylaws related to settlement development, city planning and building construction 2015 (2072)' were formulated by the Government of Nepal and applied to all the municipalities and VDCs. This regulation requires many provisions related to the design of houses and guidelines for their approval. Any new construction of houses requires to maintain 6m wide clear right of way (ROW) of public road plus setback of another 1.5m from one's plot boundary. In already built area having less than 4m wide public road, the new construction shall maintain the 2m of ROW from the central line of the road. However, it is not possible to apply this regulation to the damaged areas of the historic settlements in the Kathmandu Valley. The old municipalities already have building bylaws for all zones including the historic core area within their jurisdiction. The problem lies with newly established municipalities. They have withheld building permits in their historic core areas and are currently waiting eagerly for new regulations or guidelines from the central government. Acknowledging the urgent requirement for regulations guiding the reconstruction of the historic core area, a summary draft of such a regulation was prepared in cooperation with UN-Habitat, the National Reconstruction Authority (NRA), the DOA, and the Department of Urban Development and Building Construction (DUDBC). The 'Preservation of Heritage Settlements and Building Construction Bylaws 2016 (2073) (translated from Nepali)' consider various existing regulations and directives; Dr Bijaya K. Shrestha, one of the key collaborators of this project, actively worked as a member of the team that prepared the bylaws. After intensive discussions at the NRA and DUDBC, this draft was finalised and submitted for cabinet approval. During the course of the discussions, the extremely lengthy process of approving new building bylaws through cabinet was examined in detail, as well as many municipalities 'difficulties in implementing some of the clauses of 'Basic construction bylaws 2015 (2072)'. It was decided that content from the proposed new bylaws for the historic settlement would be incorporated as a major chapter in the revised bylaws, which was a much easier and faster undertaking. Accordingly, in January 2017, the Council of Ministers revised the 'Basic construction bylaws related to settlement development, city planning and building construction 2015 (2072)', with the addition of a new chapter, Chapter 14 (a), for the provision of historic settlements. It was recently published in the Nepal Gazette and now has legal status. These bylaws should be evaluated thoroughly since the preservation of future historic settlements will depend on them; despite requiring further, detailed discussions, they will directly affect all the 53 historic settlements in the Kathmandu Valley⁴.

8.3.4. Regulations regarding the reconstruction of traditional houses

The townscapes of historic settlements in the Kathmandu Valley consist mainly of brick masonry: they comprise three and a half storey houses in mud mortar. These structures were built more than a hundred years ago. The reconstruction of such houses using traditional materials and construction technology must follow the prevailing building bylaws, as well as the NBC of Nepal. Under the mandatory rule of thumb (MRT), the NBC of Nepal allows only two and a half storeys buildings in mud mortar. If one wants to rebuild houses with more than two storeys, it is necessary to present the structural calculation at the concerned municipalities for obtaining a building permit. No one is sure about the structural calculation for a brick in mud mortar structure designed as a three-storey house. Local engineers are trained well in structural design for houses with reinforced cement concrete (RCC) frames; further, various

computer programs are available for RCC modelling. However, hardly any such tools exist for modelling brick in mud mortar structures.

The Government of Nepal has prepared a 'Design catalogue for reconstruction of earthquake resistant houses' that comprises various models of one- or two-storey houses built using different construction materials. Local structural engineers and experts from the Japan International Cooperation Agency and other agencies were also involved in the preparation of the design typology. However, these houses are useful mainly in rural areas. Such a catalogue is yet to be prepared for urban areas, or the historic core settlements.

Many homeowners in the historic settlements have voluntarily demolished the upper floors (of damaged parts), thereby keeping the structures two storeyed with a temporary cover of corrugated galvanised sheet, for safety. Although they are known to be vulnerable, such structures are either occupied by the homeowners themselves or rented to others. Preserving at least the two remaining stories of important buildings is essential. If someone wants to add floors to an existing storey, no one is sure of the associated structural calculation: how strong is the existing, two-storey older part of the house? If someone wants to construct a three-storey house that is same as before, it is necessary to understand the seismic performance of traditional masonry buildings and create the calculation method for them. Without such calculation methods, it is not possible to create a structural design for the proposed upper floors or traditional buildings, and the municipality cannot issue a building permit. Moreover, the government's grant for such renovation or addition is only half of the total cost of reconstruction. During the briefing given to local communities on the outcome of the Khokana project on 5 September 2016, many inhabitants of Khokana opined that although the reconstruction of traditional houses was desirable, they could not take a risk of the potential damage that future great earthquakes might inflict⁵. Some homeowners have already rebuilt their houses with RCC structures in Khokana without requesting or receiving any official building permit from the municipality.

Many established municipalities such as Bhaktapur, Kirtipur, and Panauti allowed the use of RCC frame structures covered with exposed brick for the rehabilitation of the traditional townscape of the Kathmandu Valley. Such provisions were made even for private house reconstructions in the protected zone of WHS. Both local building bylaws and the Ancient Monument Preservation Act 1956 allow the use of different materials and construction technology in historic settlements, irrespective of their original building materials and construction technology in certain circumstances. Often, newly rebuilt houses have different floor heights and building styles, although they must fulfil certain requirements, such as featuring brick exposed walls, sloped roofs, and decorative wooden doors and windows. Similarly, generic facade detailing is proposed for traditional houses located in urban and rural areas in many cases. The individual character and essence of each historic settlement is yet to be studied and established.

Creating consensus regarding the definition of traditional houses in the Kathmandu Valley is beyond the scope of this study. However, at present, no distinction is made between old houses and the valued, or prized, traditional houses that can legally become cultural assets in the future. Since the traditional houses are not legally designated as cultural assets, the same building standard of the NBC is applied to all the so-called traditional houses without exception.

8.4. Summary of activities for the preservation of historic settlements, and future prospects of collaboration with Japanese experts

In 2016, issues regarding the preservation of historic settlements were discussed with local authorities; a conference facilitated the exchange of opinions between Japanese experts and municipal engineers. In this fiscal year of 2017, the TNRICP team envisions the following partnerships:

(1) Formation of the Historic Settlements Network

With respect to the preservation of historic environments, each municipality faces a different situation and each preservation system is different. Therefore, it is necessary that municipalities share their approaches for, knowledge about, and information on conservation. It is also important that the municipalities cooperate with each other, reflect on, and extrapolate from their experiences at the local to the national level to influence the national laws and system.

The Historic settlements Network proposed in this project establishes direct relationships between the local officers of all the four municipalities. In future, such a network can also include chief executive officers (CEOs) and local community members. Engineers can act as the key persons of this network. It will be beneficial to organise mutual site visits and exchange views and ideas between the reconstruction and rehabilitation committees formed in different municipalities. Such networking among municipal staff and local communities across different historic settlements will ultimately promote preservation activities.

(2) Assessment of historic settlements

The new chapter on ‘Special Provisions for the Heritage Settlements’ inserted as part of the first revision to the ‘Basic construction bylaws related to settlement development, city planning and building construction 2015 (2072)’ regulates the construction of private, individual houses in the 53 historic settlements of the Kathmandu Valley. These provisions alone cannot preserve the historic settlements in their entirety. Each settlement must be investigated, its history delineated, its intangible cultural heritages noted, and its values determined; then, the traditional houses and elements worth preservation and protection are identified. Some investigations have already been carried out on an individual basis. However, at present, there is no organisation or system to unify such fragmented information.

The system in Japan that designates the historic settlements and districts to be preserved has already been in use for more than 40 years. The criteria and survey methods for the selection of settlements are well established. However, it is difficult for Japanese experts to conduct the necessary investigations for preserving even a single historic settlement in Nepal. On the other hand, Nepalese experts have advantages over the Japanese ones, because they are more familiar with the culture of the Valley and are living close to the target settlements, hence, may be better able to explore its settlements.

However, the findings of any investigation on the traditional townscape and intangible cultural heritage of Khokana carried out by Japanese experts as a pilot project would be extremely meaningful. The investigation method, techniques, and content structure may be used as a framework and applied to other historic settlements in the Valley.

We need to contribute to the localisation of the investigation of historic settlements as follows: 1) share the survey method used in Khokana at the meetings of historic settlements network; 2) compare, classify, and categorise the 53 historic settlements in the Kathmandu Valley; and 3) propose the investigation guidelines for the cultural assets designation of

historic settlements and traditional houses.

(3) Stabilisation and reconstruction of traditional houses

It is difficult to adapt traditional houses and monuments, which constitute historic settlements, to the current building standards directly. In Japan, structural strength and fire resistance performance are verified through research and continued experiments before improving preservation techniques and systems. Currently, the NBC substantially prohibits the reconstruction of houses using traditional construction methods, and this situation has accelerated the removal of damaged houses, as well as the rebuilding of reinforced concrete houses. Seismic performance evaluation methods for traditional houses and simple and low-cost stabilisation techniques should be explored. Henceforth, we will tackle this issue, propose a roadmap for the establishment of such techniques, and further the investigations on the seismic performance evaluation methods used for existing traditional houses (brick masonry in mud mortar houses with three to four stories).

*This chapter was written after the conference.

Table8-1: List of laws pertaining to historic settlements

No.	Title	Jurisdiction	Effectuation	Remarks
1	Act related to the reconstruction of earthquake-affected infrastructure 2015 (2072)	NRA	2015	Effective only for 5 years (the lifetime of the NRA); however, the Government of Nepal can extend one more year, if it fees so even after five year period.
2	Ancient Monument Preservation Act 1956 (2013)	DOA	1956	It is effective in the historic core area, which includes the monument zone, buffer zone, etc.
3	Town Development Act 1988 (2045)	Kathmandu Valley Development Authority (KVDA)	1988	It mainly deals with the reconstruction, extension, and development of towns, including land-pooling projects.
4	Kathmandu Valley Development Authority Act 1989 (2045)	KVDA	1989	The KVDA is responsible for preparing plans and executing them within its jurisdictional territory.
5	Guthi Corporation Act 1976 (2033)	Government of Nepal	1976 (Originally established in 1964)	It replaced the earlier Guthi Corporation Act 1964 (2021) and Guthi Corporation Act 1972 (2029). The Guthis comprise traditional community-based trusts having legal ownership of most of the religious monuments. However, the Guthi Corporation Act 1964 was enacted to nationalise all Guthis and create a centrally organised unit called the ‘Guthi Sansthan’. The Guthi Sansthan is still the legal owner of many monuments and historic buildings within the Protected Monument Zones. Many monuments and historic buildings located within the WHS belong to the Guthis.
6	NBC 1994 ⁶⁾	Ministry of Urban Development (MOUD)	Different periods, depending on the municipality	It is applicable to different types of building construction. However, for the structure using brick in mud mortar (traditional technology), the building should be less than 1000 sq. ft. and not go beyond two and a half stories in height. Instead of an engineering calculation, MRT will be used.
7	Basic construction bylaws related to settlement development, city planning, and building construction 2015 (2072) ⁷⁾	MOUD	2015	To be applied by all local bodies (VDCs or Municipality, District Development Committee); they will adjust the prevailing bylaws accordingly.
8	Building bylaws 1993 and Building bylaws 2008 (2064) ⁸⁾	Kathmandu Valley Town Development Committee	Depend on the municipalities	
<p>Note: There are many regulations pertaining to the earthquake of 2015, such as ‘Grant disbursement procedures for private houses – 2016 (2073)’, ‘Refinancing procedures for the reconstruction of private houses destroyed by the earthquake – 2015 (2072)’, ‘Housing reconstruction grants distribution guidelines – 2015 (2072)’, ‘Training facilitation and management guidelines’, and so on. Further, the DOA has been trying to pass a ‘Basic Guidelines for the Conservation and Reconstruction of Earthquake Damaged Heritage 2015 (2072)’; however, it is not finalised yet as of the end of May, 2017.</p> <p>The year in parentheses means the official Nepal year of Bikram Sambat</p>				

Note:

- 1) According to the Ancient Monument Preservation Act 1956 (2013) (revised on 27 July 2013), in Chapter 2, an 'Ancient Monument' is defined as a 'temple, monument, house, abbey, cupola, monastery, stupa, bihar etc. which have their importance above One Hundred year, from the point of view of history, arts, science, architectonics or art of masonry, and this word shall also mean the site of the monument as well as the human settlement or place, and remnant of ancient human settlement'. Therefore, as discussed in Chapter 2, historic settlements are considered cultural assets in accordance with the Ancient Monument Preservation Act. However, an occasion for the Act's implementation has not yet arisen.
- 2) According to the Ancient Monument Preservation Act, in Chapter 3B, proprietary rights exist in the case of private ancient monuments. As discussed in Chapter 3C, private houses inside the Preserved Monument Area (PMA) should be preserved by the relevant authorities. If it is required from the national or international points of view on preservation, the DOA can conduct restoration or maintenance. In paragraph (3) of the same chapter, the management of the private monuments outside the PMA is described as being entrusted to the authorities or a local body (VDC or Municipality, District Development Committee) under the direction of the DOA.
- 3) According to Chapter 12 in the Ancient Monument Preservation Act, penalties exist. However, they are limited within the PMA. Besides, these are not intended for private houses. It is quite confusing for private homeowners as there is no clear understanding of the 'acceptable changes' that are allowed in private houses with respect to WHS areas, especially considering the controlled development of private property. The dual jurisdiction of different law enforcement agencies further complicates the process. Many private owners cannot afford to reconstruct or build their houses in the traditional style. The price of bricks and wood has increased, and skilled human resources for maintenance are scarce and costly. The traditional knowledge of such craftsmanship has also declined over the past decade. In many cases, these have actually led to demolition, as well as the reconstruction of heritage buildings as per designs matching the bylaws that are officially valid for buildings.

The protected monument sub-zone comprises different houses that were built during different periods, whereas the bylaws have adopted a single, blanket approach for the conservation, maintenance, renovation, and retrofitting of private houses in historic core areas. As both the DOA and municipalities are yet to prepare a listing of private monuments, there is always controversy regarding the renovation and retrofitting of traditional houses in the historic core areas.

The Ancient Monument Act (1956) empowers the DOA as a responsible governmental agency to conserve, maintain, and renovate public monuments and owners themselves in the case of private monuments. For local private monuments, both municipalities and the concerned persons should operate under the direction of the DOA. The DOA can also punish a defaulter with a fine worth NRs. 10,000 to NRs. 100,000 or imprisonment not exceeding six months or both. However, the Local Self-Governance Act 1999 also considers the recording, maintenance, and preservation of the tangible and intangible heritage within their jurisdiction as duties of elected government bodies. Due to the scarcity of human and other resources, the DOA is not effective in maintaining and renovating private monuments (as opined by Dr Bijaya K. Shrestha).

- 4) Issues regarding 'the Preservation of Heritage Settlements and Building Construction Bylaws' are added as Chapter 14 (a) in January 2017 of 'Basic construction bylaws related to settlement development, city planning and building construction 2015 (2072)'. My personal opinions on these bylaws are as follows:
 - As the details regarding the penalties are not clear, their effects are not guaranteed. In addition, the feasibility of the incentive is not guaranteed, since only taxation measures and the reduction of taxes for building permission expenses are explained in the document as an example.
 - While the materials allowed for building the surface of houses are limited to brick or wood, reinforced concrete is not prohibited for building their structures. In general, it is necessary to change the structures of houses to ensure the safety of the inhabitants. However, for valuable houses that are cultural assets, techniques such as the stabilisation of traditional structures to

ensure security are not illustrated.

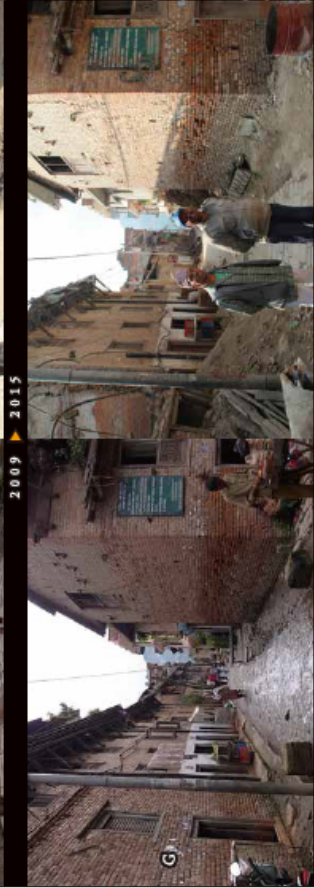
- In the section of 'Provision for settlement management', section 'Master plan of preservation of heritage settlement', paragraph (a), it is written that 'The local body shall prepare a master plan for the preservation of a settlement and get approval from the city council or village council within one year from the approval of these bylaws in consideration of physical infrastructure and population data'. However, it is difficult for many municipalities to observe this regulation, since the master plan for the preservation of settlements should be based on detailed investigations and it is difficult to prepare such a plan in one year. Further, the production of a model plan is necessary.
- 5) Many inhabitants stay on the ground floor of damaged houses in daytime and sleep in the temporary houses built for earthquake victims at night (based on the last fiscal year's on-site survey).
 - 6) Although the NBC was prepared after the 1988 earthquake in Nepal with support from the United Nations Development Programme (it was completed in 1994), its implementation has not been effective. The implementation of the NBC of Nepal was made mandatory by instruction of the then Ministry of Local Development; however, the Building Act and building bylaws do not include provisions from the Code. Therefore, it is practically not applied to the Building Permit Process. Lalitpur Municipality voluntarily initiated the application of the Code in the Building Permit Process in 2003. Kathmandu Metropolitan City started the implementation of the Code only from 2007 onwards. Many municipalities did not implement the NBC at all. However, after the April 2015 earthquake, the Government of Nepal has not only modified the NBC but also made it mandatory (again) for implementation in all municipalities, as well as in VDCs. The NBC consisted of several numbered documents. In those documents, NBC 202 (Load Bearing Masonry) and NBC 203 (Low Strength Masonry) are the provisions most closely connected with the historic settlements in the Kathmandu Valley. (These were revised in 2015.)
 - 7) In fact, prior to implementing the Preservation of Heritage Settlements and Building Construction Bylaws 2016 (2073), the Ministry of Federal Affairs and Local Development initiated the 'Town development, urban planning and building related basic guidance - 2017 (2015)' on August 2015. However, the MOUD advanced the former document, and it was approved by the Council of Ministers (Cabinet) on October 2015. As a Cabinet decision, it became mandatory for all VDCs and municipalities. As this regulation was prepared mainly for newly developed areas, many clauses of this regulation are not applicable to the reconstruction of historic core areas. Many municipalities found some of the clauses difficult to implement and, hence, the document was recently revised by the Council of Ministers. As part of the revision, one new clause (chapter) was introduced regarding the reconstruction of historic settlements in core areas. No separate building bylaws for historic core areas have been approved by the Cabinet recently (i.e. at the time of writing this report, February 2017); however, a separate chapter, Chapter 14(a), on 'Special provisions for construction in heritage settlements' has been added in 'Basic construction bylaws on town development, city planning and building construction 2015 (2072)'.
 - 8) In 1976, the government adopted a land-use plan for the Kathmandu Valley and established Town Development Implementation Committees in each of the three districts of the Valley. These committees were given the legal authority to enforce land-use regulations and promote and regulate urban development activities. After the promulgation of the Town Development Act 1988, Town Development Committees throughout the country were reorganised and given sufficient authority to regulate urban development through the enforcement of building bylaws, as well as through land development schemes. Over time, the building bylaws enacted in 1976 under the Kathmandu Valley Town Development Plan became obsolete and impractical. In order to address the emerging issue in urban planning within the context of the Local Self Governance Act 1999, Kathmandu Valley Town Development Committee (KVTDC) drafted new planning and building bylaws, which were approved by the government in 1993. KVTDC and the municipalities are still operating building and planning permit activities based on these bylaws, which rule that planning permits from KVTDC are mandatory for launching land subdivisions or housing development schemes. In 1998, the Apartment Ownership Act was initiated by the government to promote apartment living. This act enabled the

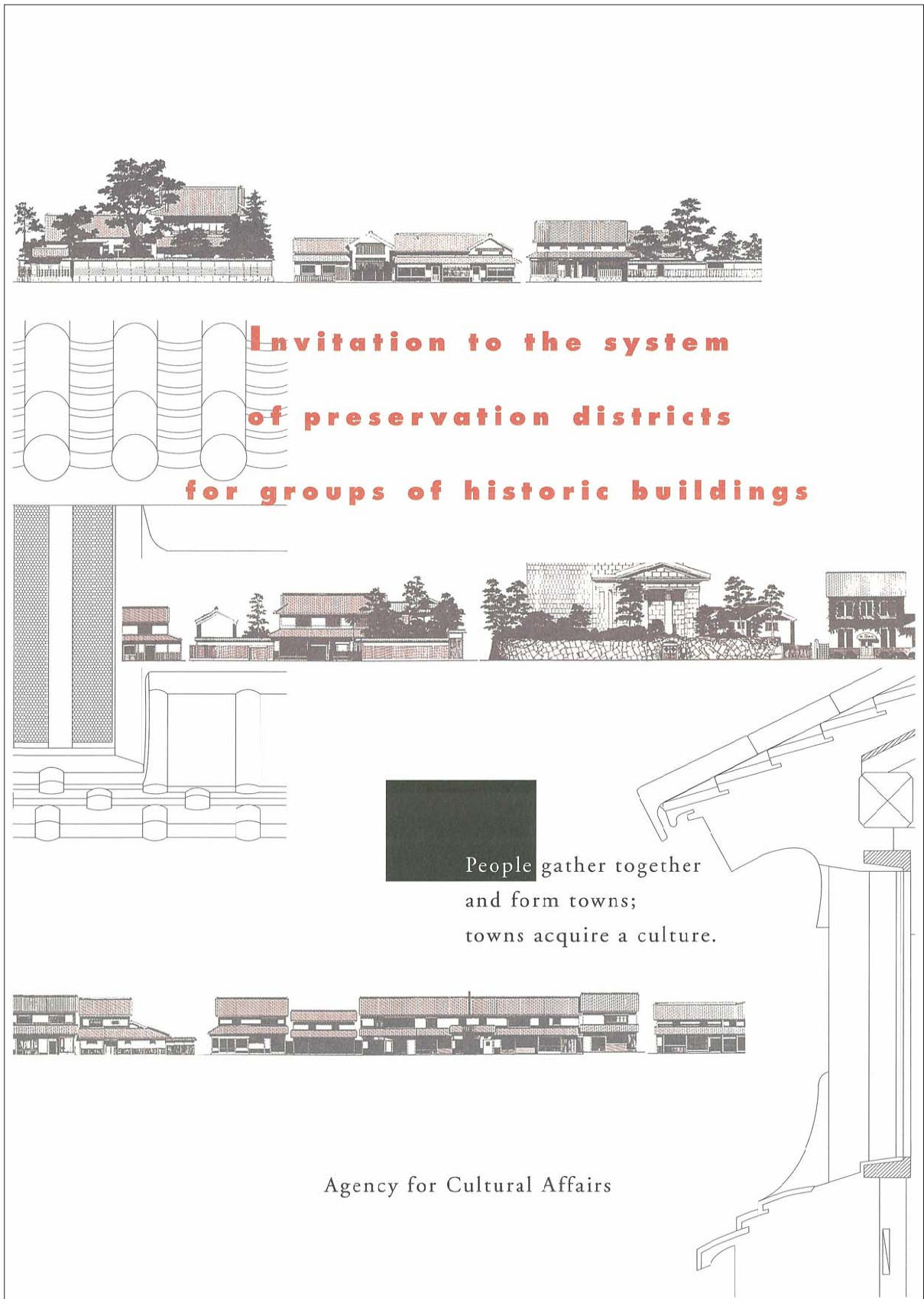
private sector to build and sell apartments at affordable prices. The act was finalised only in 2003 because of legal and administrative hurdles. The earlier 1993 bylaws were revised and modified in 2008, and many municipalities within the Kathmandu Valley are currently following the bylaws, some of them with minor modifications to suit the local context (e.g. Bhaktapur Municipality).

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Villages and towns that are rich in character make up the Japanese culture, which we should inherit to the next generation.

Mountainsides, riversides, basins and seashores, Japanese people have built villages and towns at various locations on the Japanese islands along the north-south direction.

The southern islands have open houses protected by windbreak forests and stone retaining walls. Areas with high snow have houses of Gassho-Style (thatched gable roof). Towns have lines of Machiya (tradesmen's houses) with beautiful and fine Koshi-mado (windows of wooden latticework). Villages have many farmer houses with large, thatched roofs. People improved their life in their environment. From one generation to another, they refined the culture of their daily life. While each building had its own characteristics, the buildings harmonized with the other buildings.

In the past 40 years, villages and towns have changed drastically. Many historic buildings and neighborhoods are torn down.

Many residents and civil groups started preservation movements all over Japan in the early 1970's, which caused local public bodies to establish their own preservation measures, which produced favorable results. This kind of valuable scheme should be promoted in the future.

Thus, "the system of preservation districts for groups of historic buildings" was established in order to support such preservation activities. This system aims at preserving the historic landscapes of villages and towns, improving the historic landscapes as the "today" place for living, and for inheriting them to the next generation with the assistance of the national government.



Illustrations by Kenzo SAKASHITA



Sixty-two preservation districts all over Japan: More preservation districts are under consideration

The system of preservation districts for groups of historic buildings (hereinafter referred to as "preservation districts") started in 1975. Since then, many cities, towns and villages, which were rich in history and culture, have designated preservation districts.

In the more than 20 years since the introduction of the system, the number of preservation districts reached 64 (as for "the important preservation districts for groups of historic buildings", 61) as of July 2004.

The whole historic landscape, particularly historic buildings, have been preserved and improved, which have become essential for local activation while making use of historic characteristics.

System carried out by municipalities

In the system of preservation districts, municipalities, taking opinions of community, designate preservation districts. Thus, municipalities are the central figures in promoting preservation projects, in terms of giving permission for the alteration of the present state, repairs and enhancement within preservation districts.

Classification of Important Preservation Districts for Groups of Historic Buildings

The national government classifies important preservation districts for groups of historic buildings after receiving applications submitted by municipalities. Within the important preservation districts for groups of historic buildings, the national government gives financial assistance and technical instruction, with To, Do, Fu, or Ken (Prefectures), to the preservation projects executed by the municipalities.

Improving daily life while preserving historic landscapes

Within preservation districts, municipalities grant subsidies for the repair of damaged historic buildings, the enhancement of existing non-historic, newly built or rebuilt buildings; cover the expenses of the exterior and fundamental structure. The municipalities execute projects, which refresh or enhance the daily life of the residents while preserving the historic landscapes, and facilitate the acquisition of fire prevention equipment for the improvement of the disaster prevention function of preservation districts. Favorable tax incentive, such as the municipal property tax, is improving.

Municipalities establish and promote their own plans, such as repairs and enhancements, ensuring the safety of preservation districts and the improvement of the environs. On the other hand, the national government and Prefectures provide instructions to the municipalities by the formulation of plans and guidelines for their execution, and they support them with a variety of favorable treatments.

Let's review the local history and culture

The classification standard of important preservation districts for groups of historic buildings

Those which make up preservation districts for groups of historic buildings fall under one of the following.

- (1) Preservation districts for groups of historic buildings whose designs are of especially high value.
- (2) Preservation districts for groups of historic buildings and subdivision, whose original state is well preserved.
- (3) Preservation districts for groups of historic buildings and the environs which noticeably show local characteristics.

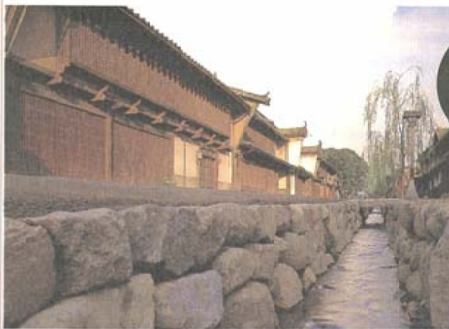
Samurai
quarter

Chiran-cho
Chiran



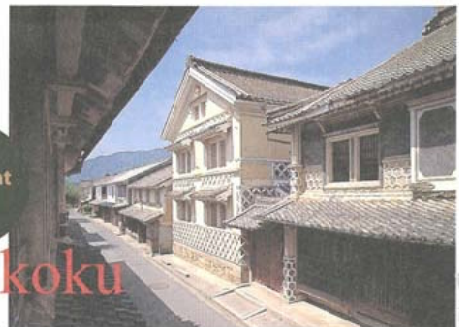
Post town,
Sericulture
manuf.

Toubu-machi
Unno-juku



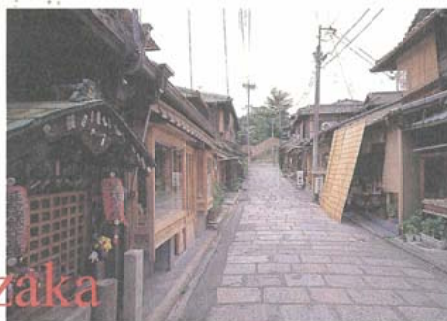
Merchant
town

Uchiko-cho
Yokaichi-gokoku



Temple
town

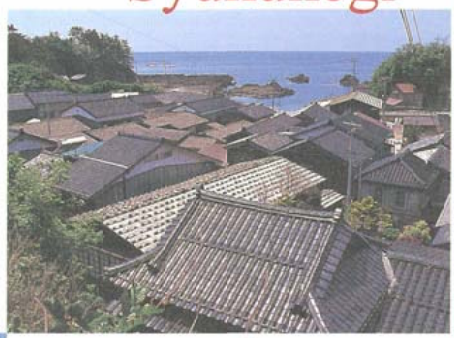
Kyoto-shi
Sanneizaka



Exemplifications classified of Important Preservation Districts for Groups of Historic Buildings.

Port town

Ogi-machi
Syukunegi



Merchant town

Sawara-shi
Sawara



Island village

Taketomi-cho
Taketomi-jima



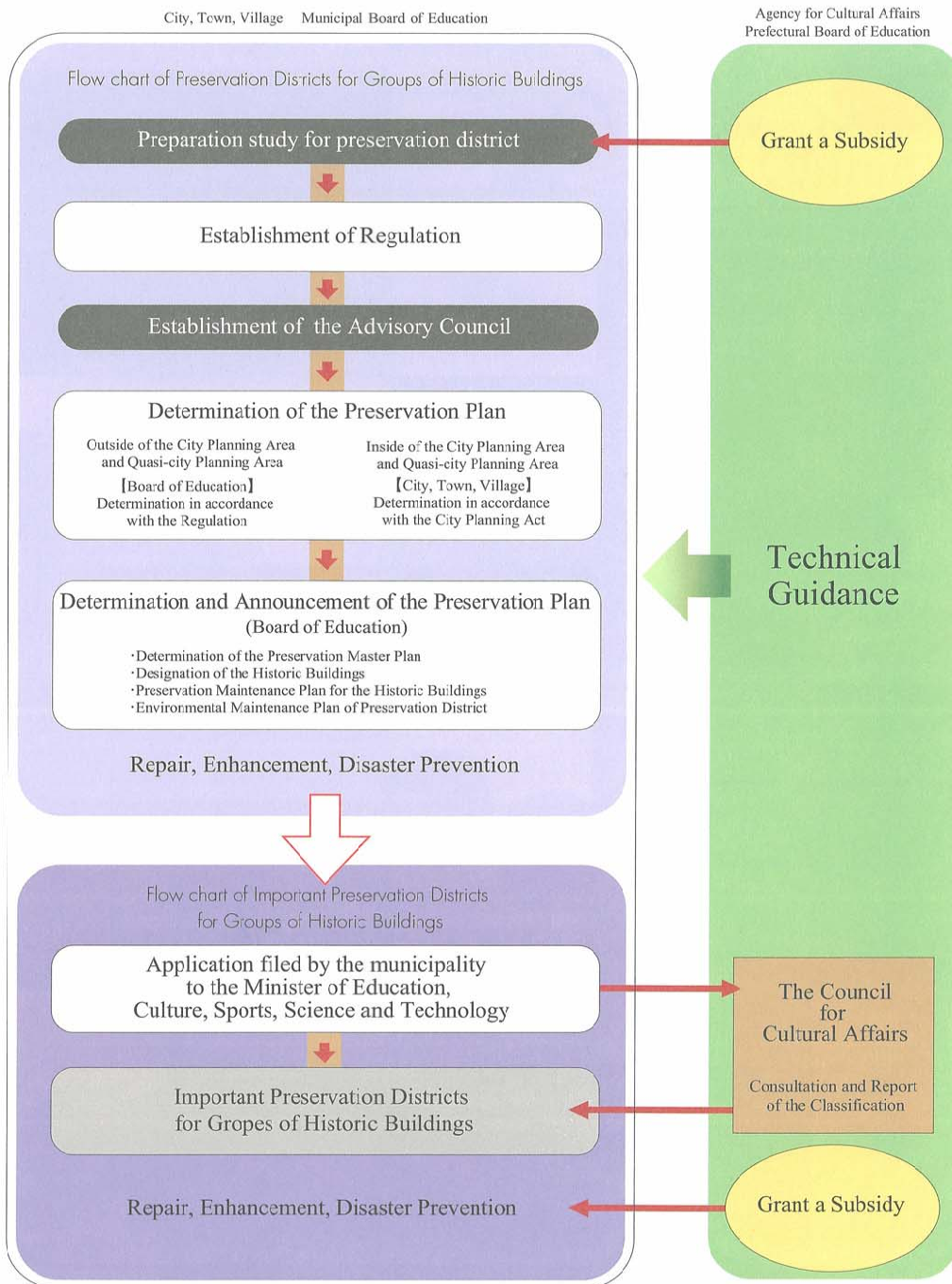
Temple town

Tondabayashi-shi
Tondabayashi



Photo credited by Hiroaki MISAWA
Figure, credited by Mitsuru URAGAMI "Hokusai Manga"

Outline of the System of Preservation Districts for Groups of Historic Buildings



5

Tax Incentive

National tax

(1) 30% inheritance tax deduction for assessed values within preservation districts for groups of historic buildings.

(2) No land value tax is imposed on land within preservation districts for groups of historic buildings.

Municipality tax

(1) No fixed assets tax is imposed on listed historic buildings within important preservation districts for groups of historic buildings.

(2) The fixed assets tax for land on which are located listed historic buildings that are within important preservation districts for groups of historic buildings is reduced to within one half of the property's taxable value. The fixed assets tax for land for buildings other than listed historic buildings is also reduced in accordance with the particular conditions within the municipalities.

Long-term preservation projects for the rebirth of towns and villages

After enduring wind and snow, many of the buildings which comprise preservation districts for groups of historic buildings are dilapidated and are in need of immediate repairs. Such buildings that are not in harmony with the characteristics of the preservation districts should be enhanced so that they become harmonious with the historic landscape.



Repair of a historic building (Machiya) at Miramimachi, Waki-machi



Enhancement of a building other than the historic buildings at Mimitsu, Hyuga-shi



Repair of a historic building (vernacular house with thatched roof) at Kita, Miyama-cho

Disaster prevention facilities are essential to the preservation of villages and towns

The preservation districts which are mostly composed of wooden buildings need disaster prevention measures. Many preservation districts are improving disaster prevention device, such as improvement of fire prevention facilities and the reinforcement of stone walls which are in need of repair, while at the same time considering the historic landscape. They also practice disaster prevention training periodically.



Facilitating fire prevention equipment at Sanmachi, Takayama-shi

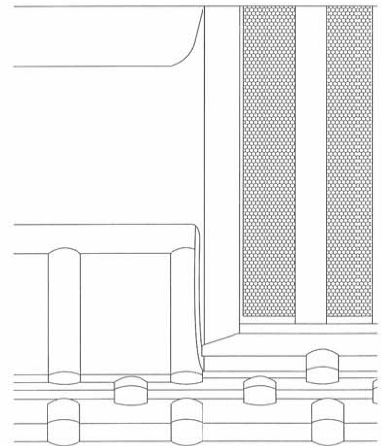
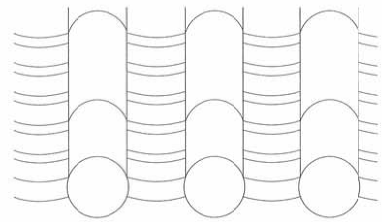
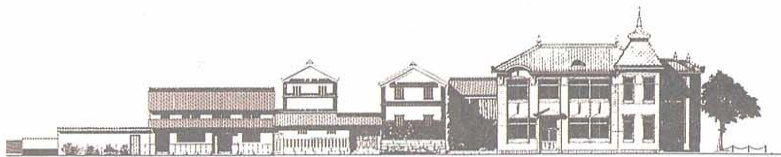


Facilitating a water tank for fire protection at Omoriginzan, Oda-shi

Training for prevention of disasters at Ouchijuku, Shimogo-machi

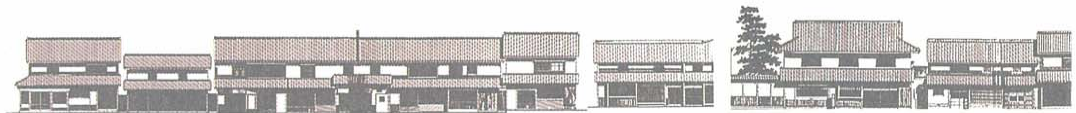


People gather together
and form towns;
towns acquire a culture.



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Appendix-3 : The List of Abbreviations

ASF-UK	Architecture Sans Frontieres-United Kingdom
BARDeC	Bungamati Area Reconstruction and Development Council
CBO	Community Based Organisations
CEO	Chief Executive Officer
CIUD	Centre for Integrated Urban Development
CGI	Corrugated Galvanized Iron
CIUD	Central for Integrated Urban Development
DDC	District Development Committee
DOA	Department of Archaeology
DUDBC	Department of Urban Development and Building Construction
DG	Director General
GON	Government of Nepal
FAR	Floor Area Ratio
FNCCI	Federation of Nepalese Chamber of Commerce & Industries
ICH	Intangible Cultural Heritage
HCA	Historic Core Area
JICA	Japan International Cooperation Agency
KMC	Kathmandu Metropolitan City
LSMC	The Lalitpur Sub-Metropolitan City
LDTA	Local Development Training Academy
KMC	Kathmandu Metropolitan City
KRRC	Khokana Reconstruction and Rehabilitation Committee
KVDA	Kathmandu Valley Development Authority)
KVPT	Kathmandu Valley Preservation Trust
KVTDC	Kathmandu Valley Town Development Committee
MOUD	Ministry of Urban Development
MOFALD	Ministry of Federal Affairs and Local Development
MOHA	Ministry of Home Affairs
NBC	National Building Code
NGO	Non-Governmental Organization
NRs.	Nepalese Rupees
NRA	National Reconstruction Authority
NRCS	Nepal Red Cross Society
NSET	National Society for Earthquake Technology-Nepal
PMZ	Protected Monument Zone
PPP	Public-private partnership
RCC	Reinforced Cement Concrete
TNRICP	Tokyo National Research Institute for Cultural Properties, Japan
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-Habitat	United Nations Human Settlements Programme
VDC	Village Development Committee
WHS	World Heritage Site

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