

Government of Nepal
Ministry of Urban Development
Department of Urban Development & Building Construction

**Nepal National Building Code and Initiative
taken by DUDBC for its implementation**

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Session Outline

- Back Ground to Nepal National Building Code and Its current state of implementation
- Initiative Taken by DUDBC for implementation of Building Code
- Capacity Enhancement Initiative taken by DUDBC
- National Plan of Action for Safer Building Construction

Background

- After the Earthquake of 1988 A.D (2045 BS) the need for Nepal National Building Code was Conceived
- Government of Nepal with the financial support from UNDP/UNCHS (habitat) Started the work of preparation of Nepal National Building Code in 1993 and the Building Code was prepared through International Consultant in 1994
- The First edition of Building Code had 20 different code and in 2003 three codes (Architectural Code, Sanitary Code and Electrical Code) were added
- Building Code was Approved by Cabinet of Minister in July ,2003
- Building code was implemented in (58 Muncipalities, 28 District Headquarter Which were VDC and 76 Emerging Town which were VDCs) after it was published in Nepal Gazzette in February,2006 ³

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Nepal National Building Code

23 Volume of NNBC

Website: dudbc.gov.np



NEPAL NATIONAL BUILDING CODE

NBC 105 : 1994



SEISMIC DESIGN OF BUILDINGS IN NEPAL

His Majesty's Government of Nepal
Ministry of Physical Planning and Works
Department of Urban Development and Building Construction
Babar Mahal, Kathmandu, NEPAL



Types of NNBC

S.N	Type of Code	Application																		
1.	(International State of Art) NBC 000	<ul style="list-style-type: none"> Code adopted with provision from various international code and practices 																		
2.	(Professionally Engineered Buildings) <table border="1"> <tr> <td>NBC 101</td> <td>NBC 107</td> <td>NBC 113</td> </tr> <tr> <td>NBC 102</td> <td>NBC 108</td> <td>NBC 114</td> </tr> <tr> <td>NBC 103</td> <td>NBC 109</td> <td>NBC 206</td> </tr> <tr> <td>NBC 104</td> <td>NBC 110</td> <td>NBC 207</td> </tr> <tr> <td>NBC 105</td> <td>NBC 111</td> <td>NBC 208</td> </tr> <tr> <td>NBC 106</td> <td>NBC 112</td> <td></td> </tr> </table>	NBC 101	NBC 107	NBC 113	NBC 102	NBC 108	NBC 114	NBC 103	NBC 109	NBC 206	NBC 104	NBC 110	NBC 207	NBC 105	NBC 111	NBC 208	NBC 106	NBC 112		<ul style="list-style-type: none"> Building with more than 1000 sq.ft plinth area Building with more than 3 storey Structural Span more than 4.5m
NBC 101	NBC 107	NBC 113																		
NBC 102	NBC 108	NBC 114																		
NBC 103	NBC 109	NBC 206																		
NBC 104	NBC 110	NBC 207																		
NBC 105	NBC 111	NBC 208																		
NBC 106	NBC 112																			

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S.N	Type of Code	Application
3.	(Mandatory Rules of Thumb) NBC 201, NBC 202, NBC 205	<ul style="list-style-type: none">• Sub- engineer and other Junior Engineer can use these codes• Building with less than 1000 sq.ft plinth area• Building with less than 3 storey• Structural Span less than 4.5m
4.	Guidelines for Remote Rural Buildings (Low Strength Masonry / Earthen Buildings) NBC 203, NBC 204	<ul style="list-style-type: none">• For Rural houses which are low strength and Earthen Building

Revision of NNBC

- NNBC 202: 2015 Guideline for Load bearing Masonry, NNBC 203:2015 Guideline for Earthquake Resistant Building Construction: Low Strength Masonry, NNBC 204:2015, Guideline for Earth quake Resistant Building Construction, NNBC 206:2014 Architectural code is revised and is approved by Minister level decision (As per Building Act 1998 Clause 9) and is in the stage of being published in Nepal Gazzette for Public notice
- NNBC 205: 1994 Mandatory Rule of Thumbs for Low Rise RCC Building update in last stage and we be called as NNBC 205:2016 Ready to Use Detailing for Low Rise RCC Building
- NNBC 105:1994 – Scope and ToR is approved for revision & Hiring of Consultant for revision of NNBC 105 is in the process

Initiative taken for Implementation of Building Code

- Formulation of Acts (Building Act 1998, Apartment Act 1997)
- National Plan of Action for Safer Building Construction formulation and its implementation
- Steps taken for formulation of Additional Building codes
- Support to various Municipalities through ERRRP Project (2007-2011)
- Updating of Study of Earthquake Disaster Mitigation of Kathmandu Valley Under Ministry of Urban Development With Technical and Financial Assistance from JICA
- Introduction of new technologies and material through BCMCC

Initiative taken for Implementation of Building Code

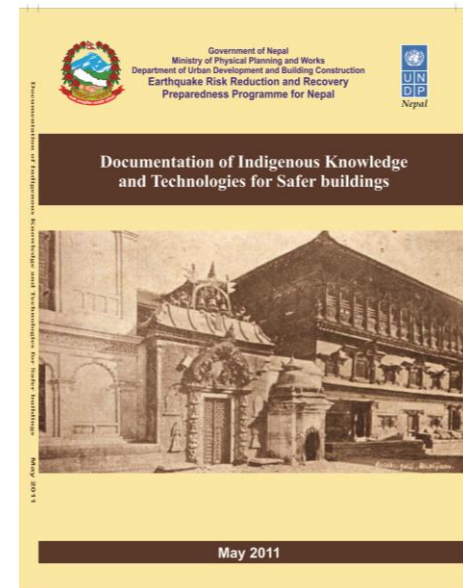
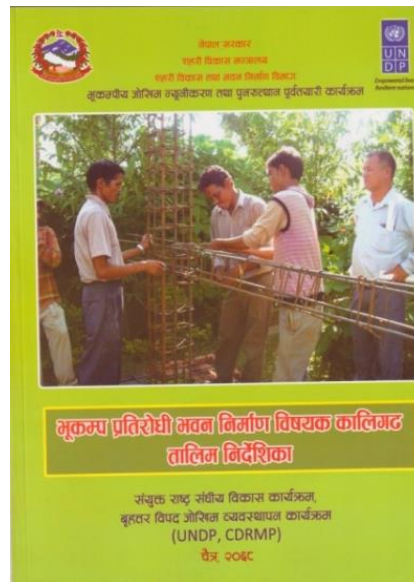
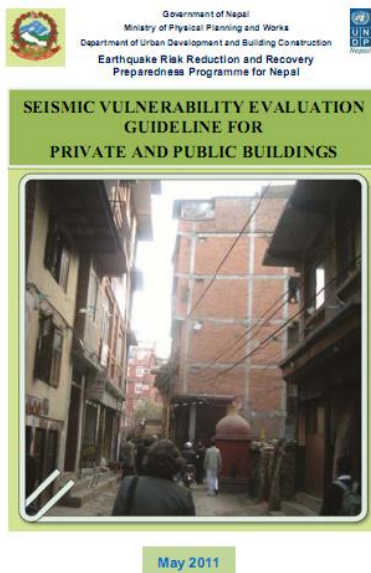
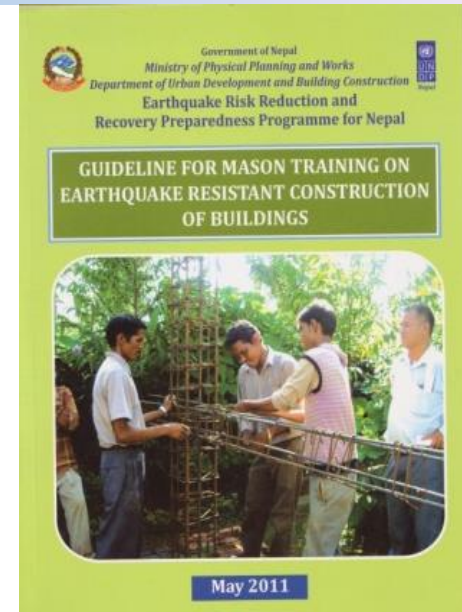
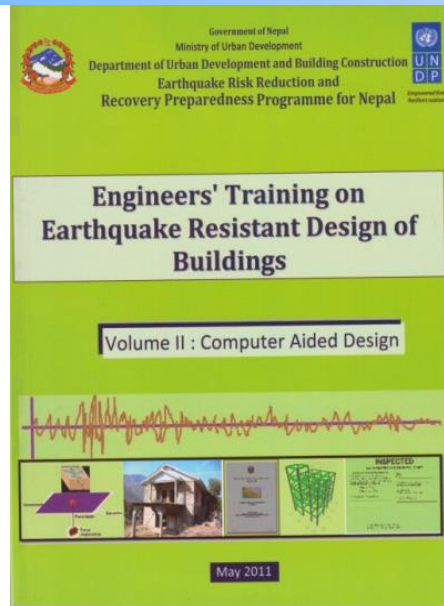
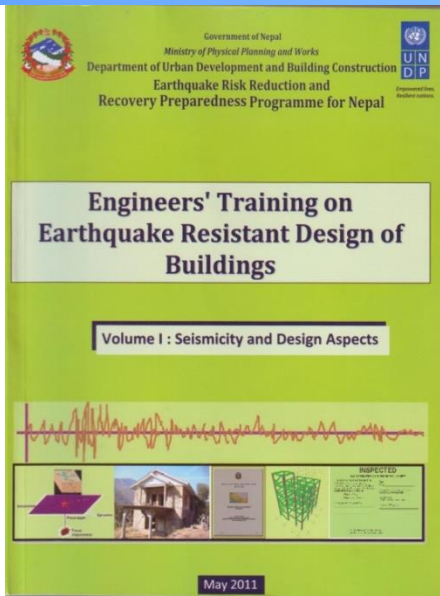
- Proposal to regulate NBC in all municipalities and VDC having more than 1000 House Holds
- Random Sampling of Building in Municipalities
- Conducting Building Construction mobile camps
- Mason Training, ToT Training for Engineers and Sub- Engineer
- TV/ Radio Campaigns
- Circulation of Posters, Pamphlets about EQ Resistant Building Construction Technology, Publication of Books, Guidelines
- Performance Contract with Chief Executive Officers of newly formed Municipalities for Implementation of NNBC



Training Programs



Few Publication of DUDBC



DUDBC's Work after April 25th 2015 Earthquake

- Rapid Visual Damage Assessment of Building
- 3 days Repair and rehabilitation training with coordination with NEA and IOE
- Assistance in preparation of PDNA Report
- Detail Damage Assessment of Building
- Advance Level Training on URM Building, RC Building & Geotechnical Investigation with technical assistance from Government of New Zealand and with coordination with NEA and IOE
- Formulation of Demolition Guideline

DUDBC's Work after April 25th 2015 Earthquake

- 3 days Advance level Push over Analysis Training
- Initiation of Revision and Updating of NNBC 105: Seismic Design of Building in Nepal
- Formulation of Earthquake Resistant Building Construction Training Guideline
- Issuance of permission for conducting EQ resistant building construction trainings (Altogether for around 8000 Masons to be re-trained about EQ Resistant Building construction technique till date have been granted approval)
- Construction of Prefab buildings & Temporary Shelters
- Issuance of permission for resettlement plans

DUDBC's Work after April 25th 2015 Earthquake

- Mobile team mobilized in affected areas
- Initiation of reconstruction work in affected areas
- Repair/ Rehabilitate and Retrofit work of major facilities like The Supreme Court, Inland Revenue Office initiated
- Finalization of National Plan of Action for Safer Building Construction with programs for immediate response after April 25th Earthquake

National Plan of Action for Safer Building Construction

- Vision :To create disaster resilient community through different initiatives of Safer Building Construction
- Goal: To mainstream all dimensions of Safer Building Construction in all levels of governance through internalization, adaptation and enforcement resulting into behavioral change in local communities within 20 yrs timeframe
- Objective: The overall objective of the National Plan of Action (NaPA) for Safer Building Construction (SBC) in Nepal is develop a common conceptual and strategic framework that helps to identify the necessary inputs and actions for contributing to safer urban/semi-urban building constructions against time and resources.
- There are 10 Main goals which are streamlined and 16 Strategies are adopted to accompany these goals

National Plan of Action for Safer Building Construction

Main Goals of NaPA

- Immediate Response to Recent Disaster
- Policies and Regulation
- Codes and Guidelines (Drafting and Revision)
- Risk Sensitive Land Use Planning and Building Bye Laws
- Capacity Building
- Physical Facility Support
- Awareness, Education and Demand creation
- Internalization, adaptation and Enforcement
- Monitoring and Evaluation
- Retrofitting

National Plan of Action for Safer Building Construction

Strategies of NaPA

- Identification and grouping of activities
- Identification, grouping and responsibility allocation of institutions
- Centrally Located /Capable Municipalities will be supporting new municipalities
- Resource Mapping Mobilization at central and local level
- Monitoring Strategy at central, mid and local level
- Specify Time Frame for National Plan of Action (20 Years)
- Government/semi government and private buildings in public use like school and hospitals need separate investigation and set of strategies and action for SBC enforcement
- Plan responsive institutional arrangement in DUDBC
- Safer Building Constructions as National Campaign

National Plan of Action for Safer Building Construction

Strategies of NaPA

- NaPA for SBC as living document
- Mechanism to capacity building and skill development for SBC
- Encourage application of IT in SBC enforcement and Monitoring
- Support to KMC and SMCs
- Support to municipalities where SBC enforcement is already ongoing
- Use of Mass Media for awareness raising and demand creation
- Private Sector mobilization

National Plan of Action for Safer Building Construction

Strategy & Timeframe

		Phase I			Phase II		Phase III				Phase IV														
		Time Frame																							
STR	Work Stream	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Remarks			
A	Immediate earthquake reconstruction and response																								
B	Policy and Regulation																								
C	Codes and Guidelines (Drafting and Revision)																								
D	Risk Sensitive Land Use Planning and Building Bye Laws																								
E	Capacity Building																								
F	Physical Facility Support																								
G	Awareness, Education and Demand creation																								
H	Internalization, adaptation and Enforcement																								
I	Quality Assurance and Monitoring																								
J	Retrofitting and Regeneration																								

Thank You

