

Earthquake Safety



भूकम्प प्रविधि
राष्ट्रिय समाज-नेपाल

NATIONAL SOCIETY FOR EARTHQUAKE TECHNOLOGY-NEPAL

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A step towards compliance with Building Codes

Enforcement of sound building codes is the first step for reducing damages during earthquakes and natural disasters. Nepal has introduced building codes aimed at preventing damages during disasters but the codes remain to be enforced for various reasons such as the lack of understanding of its need among policy makers and the general public and weak enforcement. Lack of capacity for understanding the code and proper policies to facilitate their enforcement are some major obstacles that remain.

NSET has been playing a leading role in advocating the need for pro-active measures to secure buildings, both public and private, against potential disasters. It has launched a number of collaborative awareness programs with various stakeholders, including training communities, integrating seismic-resistant mechanisms in new constructions, introducing safety measures in existing school buildings and making teachers and students aware of the potential risks and coaching trainers and mentors on vulnerability analysis, consequences and harm reduction measures to spread the word further.

The United Nations Centre for Regional Development (UNCRD) is supporting NSET's efforts to support national and local governments in recognizing problems, identifying appropriate processes in the building permit system, planning human and financial resource needed for code enforcement through certification and inspection under its Housing Earthquake Safety Initiative (HESI).

NSET is a part of the Housing Earthquake Safety Initiative (HESI) program (2007-2009) being implemented in Peru, Nepal, Indonesia and Algeria with UNCRD support. The program is a collaborative effort of government institutions and non-governmental organizations.

The key to attaining earthquake safety is to spread awareness at various levels as first step towards compliance with building regulations and safety measures. The demand for safer buildings can push the market to produce and supply the necessary skills and construction techniques.

National workshop: "Effective Enforcement and Dissemination of Building Code"

Nepal's ministries of Local Development (MOLD), Physical Planning and Works (MPPW), the Department of Urban Development & Building Construction (DUDBC), the United Nations Centre for Regional Development (UNCRD) and the National Society for Earthquake Technology-Nepal (NSET) organized a workshop on the enforcement of the building code (August 2-4, 2007). The meeting that discussed effective enforcement and dissemination of the building code was aimed at reaching out to local government officers. The goal was to try to influence local building permit enforcement by raising their awareness of the code and earthquake safety.

Several senior government and UN officials addressed the inaugural session of the workshop. The speakers included the officials from the MPPW, MOLD, DUDBC, UNCRD and NSET. Almost all the speakers stressed the need for preparedness for disasters, given Nepal's location in a disaster-prone area. The underlying message was: "it is never too late to begin preventive measures." They also spoke about the urgency for getting the interventions started.

The chief executive officers and the engineers of 20 municipalities of Nepal, senior officials of MPPW, MOLD,



During the National Workshop

UNDP Nepal and representatives of engineering colleges and professional societies working in aspect of disaster risk management participated in the workshop. The international participants included representatives from Hyogo prefecture (Japan), several experts from different Japanese universities and the Japan-based International Recovery Platform (IRP).

The objectives of the workshop were to contextualize the problems of building code implementation in Nepal in terms of the policy requirements, defining optimal administrative and technical frameworks for effective implementation by municipal governments and to identify interventions for enhancing the capacity of local government officials for

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effective building code enforcement. Another goal was charting out an action agenda expressing clear commitments of various stakeholders for the enforcement of the building code.

Nepal has a building code since 1994 AD but its enforcement remains weak.



Participants of the HESI workshop

Seminar: Japanese experience in Earthquake Resistant Building Design and Building Permits

NSET and UNCRD organized a seminar on “Japanese Practice of Earthquake Resistant Building Design and Building Permit Process and its Relevance to Nepal” in Kathmandu on 31 July 2007. The seminar was planned to precede the workshop and the aim was to disseminate the Japanese experience in safe construction and housing. The speakers shared the Japanese building design and permit processes with Nepali professionals to explore possibilities for potential adaptation in Nepal.

The seminar had 41 participants including representatives of the Japanese Embassy in Nepal; Japan International Cooperation Agency (JICA), Ministry of Physical Planning and Works (MPPW), Department of Urban Development and Building Construction (DUDBC), United Nations Centre for Regional Development (UNCRD), Kathmandu Valley Town Development Committee (KVTDC), National Society for Earthquake Technology- Nepal (NSET), municipalities, professional societies and academic institutions.

REGIONAL TRAINING PROGRAM

PEER Phase II Extended for One Year: April 2008 to March 2009

The U.S. Agency for International Development, Office of the Foreign Disaster Assistance USAID/OFDA has approved NSET's proposal to extend the implementation of PEER-II from April 2008 to March 2009. Additional program events included in the proposal are the development of course materials for MFR/CSSR Refresher Course and Multi-hazard HOPE, the Second Country Planning Meeting for Pakistan, training of PEER database administrators and an additional Regional Planning Meeting,

among others. The PEER-II implemented by NSET and its US-partners since 2003 would now continue until March 2009.

This additional year provide all PEER partner countries to meet their planned targets and agree on regional mechanisms for facing disasters. The project seeks to build national capacity through training professionals in emergency response procedures. Many of the PEER courses have now been adapted and are being used by the partner countries.

PEER EVENTS CONDUCTED DURING (Aug-Oct) 2007

Events	Event Level	Date
Nepal		
MFRIW MIW Refresher Course Development Workshop	In-country Sub-regional Regional	August 31-September 04, 2007 September 21-25, 2007 September 27-29, 2007
Pakistan		
CSSR Country Planning Meeting II CSSRIW	National National National	August 18-26, 2007 August 21, 2007 October 23-29, 2007
Philippines		
MFR CSSR MFR	In-Country In-Country In-Country	August 20 - September 1, 2007 September 5-12, 2007 October 6-18, 2007
<small>MFRIW- Medical First Responder Instructors Workshop; MIW- Master Instructor Workshop CSSR- Collapsed Structure Search and Rescue; CSSRIW- Collapsed Structure Search and Rescue Instructors Workshop MFR- Medical First Responder</small>		

RECENT PROGRAMS OF NSET

Thimpu Valley Earthquake Risk Management Project (TVERMP)

NSET has an agreement with the Standards & Quality Control Authority, Ministry of Works and Human Settlement, Royal Government of Bhutan for providing short-term technical advice to them for follow-up on the Thimpu Valley Earthquake Risk Management Program

(TVERMP). Under the agreement NSET will conduct structural and non-structural seismic vulnerability assessment of buildings, identify retrofitting options, develop standard guidelines and train engineers on safe construction techniques.

Up-streaming Community-based Approaches for Promoting Safer Building Construction in Lorestan, Iran

NSET has provided technical assistance to UNDP/Iran to implement the program Up-streaming Community Based Approaches for Promoting Safer Building Construction in Lorestan, Iran project. The overall objective of the program is to up-stream the

community-based approaches for promoting safer building construction and specifically it seeks to: a) discuss community-based approaches for promoting safer building construction and explore potentials of the use of such approaches in Iran, b) select/



localize/ customize different tools already available and develop new tools for promoting safer building construction through community mobilization and capacity development of end users, c) discuss possible modes of implementation and the role of different stakeholders, and d) identify the related policies for supporting these activities and to recommend possible policy options.

Strengthening Capacities for Disaster Risk Management in Iran

NSET has provided technical assistance to Asian Disaster Preparedness Center (ADPC)/ Thailand to implement the UNDP-Government of Iran Joint National Program for Strengthening Capacities for Disaster Risk Management, a five-year program in Iran. The goal of the program is to reduce vulnerability to disasters

and the prevention of loss of lives and property, infrastructure, and critical facilities in the Islamic Republic of Iran.

Other Involvement

Professionals from NSET visited Bhutan (1-7 October, 2007) to perform qualitative Structural Vulnerability Assessment of the UN Building in Bhutan with request from UNDP/ Bhutan.

TECHNOLOGY TRANSFER

Shake Table demonstration

NSET continued demonstrating the impact of earthquakes using its prize-winning Shake Table among different stakeholders in Nepal and abroad. The Shake Table has two identical buildings of the same shape and size scaled to 1:10 of the actual sizes. One building is built using earthquake resistant techniques and the other is done traditionally – or, without taking any special measures. Both the buildings are placed on the same shaking platform (table) and exposed to forces similar to that the buildings have to endure during earthquakes. Increasing load is applied to the table through which the force is transferred to the scaled models, and the weaker one, made without earthquake-resistant elements, collapses progressively. The tables are used to demonstrate how risk-reduction techniques in construction can help buildings withstand the forces during an earthquake and convince stakeholders of the simplicity of integrating earthquake-resistance into the buildings. NSET has conducted more than 25 such demonstrations in Nepal.

An A3 size (300 x 420 mm) Shake Table has also been developed for use with small-scale models for demonstrations at schools.

The Shake Table designed by NSET won Tech Museum Award under Microsoft Education Award Category in 2004 for technology transfer and awareness building on effectiveness of earthquake-resistant construction.

NSET demonstrated its first Shake Table test in January 1999. Since then, it has conducted many 'Shake Table demonstration' of the model buildings in many countries of the Asia-Pacific region including Afghanistan, India, Indonesia, Iran, Pakistan, Bangladesh and Tajikistan. NSET has also assisted many partner institutions to design their own shake tables for spreading awareness on safe building construction. NSET also supported UNCRD in the organization of special session on Shake Table demonstration at the World Conference in Disaster Reduction (WCDR), Kobe, Japan in January 2005.



Shake Table demonstration at Kathmandu Durbar Square

ORIENTATION PROGRAMS

Orientation Program on Earthquake Risk Reduction and Preparedness

July, 2007: At the request from Caritas Nepal, NSET conducted an orientation program on earthquake preparedness for the staff members of Caritas Nepal at the Caritas Nepal Office, Dhobighat, Lalitpur.

July, 2007: An Orientation program on earthquake preparedness was conducted for the Australian Youth Ambassadors for Development at Hotel Ambassador, Lazimpat, Kathmandu.

July, 2007: An orientation program on earthquake preparedness was conducted for teachers and students of Mahendra Shanti Secondary School at Balkot, Bhaktapur. The school is a partner in NSET's School Earthquake Safety Program (SESP).

August, 2007: At the request from the Standard Chartered Bank, New Baneswor, NSET conducted an orientation program on earthquake preparedness for its staff and executive



Delivering the orientation lecture

members at its Baneshwor Office and in October 2007 in its Lazimpat Office.

October, 2007: At the request from the US Embassy, NSET conducted an orientation program on earthquake preparedness for the staff of the

embassy at its office premises in Maharajgunj.

New agreements: NSET has signed a Memorandum of Understanding (MOU) with the Mahendra Adarsha Secondary School, Imadol, Lalitpur (July 25, 2007) to formally include the

school under the School Earthquake Safety Program (SESP). Under the SESP, NSET will support the school in the design and construction of a new building that would incorporate all seismic resistance elements in construction.

CONFERENCE / WORKSHOPS

(July 2007 - October 2007)

Month / Year	Conference/ Workshops	Venue	Participation
October	Asian Science and Technology Forum Tsukuba Seminar on "International Workshop on Information Platform for Disaster Reduction (IPDR Workshop)" 1-6 October, 2007	Tsukuba, Japan	Amod Dixit
October	"Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction"	Bangkok	Amod Dixit
October	"National Seminar on Seismic Microzonation" at Entrepreneurship Development Institute, EDI	Ahmedabad, India	Amod Dixit
October	"Regional Workshop on Accountability in Humanitarian Practice"	Kuala Lumpur, Malaysia	Amod Dixit

ACTIVITIES / NSET BRIEFS

Earthquake Awareness Program (EAP) – Dharan 2007



Students participating in the awareness rally

NSET and the Dharan Municipality organized various events under the Earthquake Awareness Program (EAP-Dharan 2007) from 19-24 August, 2007 to mark the 19th anniversary of August 21, 1988 earthquake. The program was supported by Action Aid Nepal.

The 1988 earthquake, with a magnitude of 6.6 in Richter scale, killed about 138 people, injured 2,117 and damaged more than 2,500 buildings in Dharan. The municipality and the residents are now working to reduce risks to avoid a similar damage, next time there is an earthquake. Since 1998 the municipality has been organizing a week-long Earthquake Memorial Day as part of its awareness-building effort to encourage residents to adopt risk-reduction measures.

Community Awareness: Ward No.15

The first EAP-Dharan program was held on 19 August, 2007 at Ward No.

15 of Dharan Municipality. The program sought to raise community awareness about the risks associated with earthquakes. In the program professionals from NSET made technical presentations on Earthquake Risk of Nepal-Dharan, Structural/ Non-structural Vulnerability and Earthquake Preparedness.

Preparation for EAP-Dharan

A preparatory meeting for the EAP was held at the Learning Centre of the municipality after the community awareness initiative. Over 45 representatives of different political parties, NGO, CBOs and other government organizations attended this meeting.

Community Awareness: Ward No.8

Another community awareness program was organized at Ward No. 8 of the municipality on the same day (19 August, 2007). About 20 participants from different backgrounds attended the awareness meeting, which had a large number of female observers and participants.

Training: Nepal National Building Code

NSET organized a two day training on the Nepal National Building Code was held on 20-21 August, 2007 as part of the EAP-Dharan 2007. The training

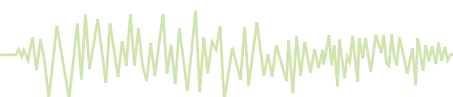
was held at the Learning Centre of Dharan Municipality. About 40 technical personnel from Dharan, neighboring municipalities and engineering institutes, hospitals and consulting firms attended the training.

Meeting with BP Koirala Institute of Health Sciences (BPKIHS)

NSET Executive Director Amod Mani Dixit met with officials of the BPKIHS (22 August) to discuss the possibilities of developing the hospital as the hub for a campaign to make hospitals in the eastern region earthquake safe. He said the structural/non-structural and functional vulnerability of major hospital buildings were pre-requisites towards attaining the goal of making hospitals safe and that the International Strategy for Disaster Reduction (ISDR) would be campaigning for safe hospitals in 2008-2009. BPKIHS representatives expressed their desire to take the process further and said they would be interested in being a part of the safe hospital campaign.

Awareness Rally

An awareness rally was organized as part of the earthquake memorial events on 22 August 2007. The rally involved participants from different indigenous groups, schools, professional associations, NGO/ CBOs and other government agencies and political



leaders. About 500 people marched with placards on earthquake safety from the municipality office to Chhata Chowk, Laxmi Chowk, Purano Bazaar, Machha Bhoudi, Bhanuchowk and back.

Nepal National Building Code implementation in Dharan

The awareness rally was followed by a ceremony to announce the enforcement of the Nepal National

Building Code Implementation in Dharan Municipality. The ceremony was participated by the Chief Executive Officer of Dharan Municipality, former mayor, representatives from all political parties, professional associations, civil society and NSET. Representatives of different stakeholders committed to support the implementation of the building code. Representatives of all organizations participating in EAP-Dharan were given certificates of participation at the event. At the ceremony the municipality also awarded a certificate to recognize its continued engagement for reducing earthquake risks in Dharan.

Remembering the earthquake victims

The commitment to enforce the building code in Dharan was followed by a somber ceremony where participants lit lamps in memory of those killed due to the earthquake in 1988. The memorial was organized at the



Amod Dixit, Executive Director, NSET was felicitated by Jagriti Samaj Nepal on the occasion of Earthquake Memorial Day on 18 August, 2007.

earthquake memorial park, Bhanuchowk, near the Dharan clock tower.

Earthquake orientation

As part of the EAP-Dharan an earthquake preparedness orientation program was held at the Sarada Balika Higher Secondary School (23 August 2007) that was attended by about 80 students and teachers of grades 8, 9 and 10. Resource persons from District Education Office, Sunsari also attended the orientation. The program was facilitated by Sunil Nepal, Information/Communication Officer, Dharan Municipality and President of the School Management Committee.



Remembering the earthquake victims : Lighting of 116 lamps at the Earthquake Memorial in Dharan

Kathmandu Kobe Exchange Program -2007

Kobe-Kathmandu exchange program was started in 2002 and has continued as an integral part of NSET's School Earthquake Safety Program (SESP). This year also, ten students and three teachers from Maiko High School, along with six members from "Support for International Disaster Education" (SIDE) team from Kobe, Japan, visited Nepal (18-30 August 2007). The main objective of this program is to raise awareness for disaster preparedness among students, teachers, and community members through learning experiences and sharing knowledge and culture. The Japanese visitors met and interacted with their counterparts at the public schools in Kathmandu Valley. The team performed various activities in different government schools of Kathmandu where the

SESP is being implemented. The activities included:

Eloquence contest:

Interschool Eloquence Contest was organized on 21 August 2007 jointly by Action Aid Nepal, Maiko High School and NSET on "Earthquake Preparedness in My School". The participants came from schools where the SESP is underway. Ten students from 10 schools took part in the contest.

Exchange of Culture Box:

Knowing each other's culture is absolutely vital for promoting international mutual co-operation in any field and hence it was also a part of the earthquake safety and disaster risk orientation. The "Culture Box" is a symbolic representation of the culture of a country. Exchanging the boxes therefore helps expand the understanding of different cultures. The Culture Box exchange took place on 23 August 2007. Besides, students from Maiko High School from Kobe,



Exchanging the culture

Japan, and from Balbikas Secondary School, Alapot, also performed in a cultural program.

Disaster education program:

The SIDE team from Kobe, Japan, organized a short training and awareness program for students of Balbikas Secondary School, Alapot, and Shree Krishna Higher Secondary School, Dhapakhel, on 24 and 27 August. Around 50 students from grade eight to ten from each school participated in the training program. The topics covered disaster mitigation and the curriculum on disaster studies, piloted by the Maiko High School of Kobe, Japan.



Participants from Maiko High School, Japan

Workshop on Disaster Preparedness and Response Plan Framework (DPRF) for an Emergency Due to a Major Earthquake in Lalitpur Sub-Metropolitan City, Nepal



Participants involved in the group work

NSET, Lalitpur Sub-Metropolitan City (LSMC) and United Nations Children's Fund (UNICEF) organized a workshop on disaster preparedness on 30 August 2007. The "Disaster Preparedness and Response Plan Framework (DPRF) for an Emergency Due to a Major Earthquake in Lalitpur Sub-Metropolitan City" workshop was organized under the project, Disaster Preparedness Response Plan Framework (DPRP) for Safe Drinking Water in Lalitpur Sub-Metropolitan City, Nepal. The main objective of the workshop was to present and revise the draft DPRF developed previously under the Disaster Preparedness and Response Plan (DPRP) project. Project Officer of UNICEF Madhav

Pahari welcomed the participants and spoke about the objectives. It was followed by a speech from the Chief Guest Hari Ram Koirala, Joint Secretary, Ministry of Physical Planning and Works (MPPW). He urged participants representing from various organizations, departments, institutions, donors and Nepal Government to work together and focus more on the implementation of the framework. Gillian Mellso, UNICEF representative said that the LSMC framework would be a model for other municipalities. The closing remarks were made by Krishna Prasad Devkota, Executive Officer, LSMC. He said the framework would be practical and applicable in the local context.

The opening ceremony was followed by technical session that began with a joint presentation of Ganesh Kumar Jimée, Project Manager, DPRP, NSET and Madhav Pahari, Project Officer, UNICEF. They spoke on the Earthquake Scenario of Kathmandu Valley-Lalitpur and the progress made so far under the project. The presentation was followed by a presentation by Niyam Maharjan, Head, Earthquake

Safety Section, LSMC. He spoke about the draft disaster preparedness and response framework (DPRF) for Lalitpur. A short discussion followed the presentation.

The technical session was followed by a group discussion on the Draft of Disaster Preparedness and Response Plan Framework (DPRF), which was facilitated by Surya Narayan Shrestha, Deputy Executive Director of NSET. For the group work, participants were divided in four groups: Health, Water & Sanitation and Infrastructure (Power, Roads), Assessment, Security, Search & Rescue, Coordination and Logistics, Relief (shelter/food/non-food). Each group was provided with draft DPRF and was asked to make comments/improvements.

After the group work and presentations by each group, agreements on the DPRF were announced by Amod Mani Dixit, Executive Director, NSET. He said all comments and suggestions would be considered while finalizing the DPRF and be presented in a final workshop. The workshop had over 70 participants.

Collaborative Disaster Mitigation

Collaborative Research and Development Project for Disaster Mitigation in Earthquake Prone Areas in Asia 'Joint Workshop on Theme 1 (Seismic Risk Assessment) and Theme 3 (Effective Dissemination of Safe Building Technologies)'

National Society for Earthquake Technology-Nepal (NSET) in cooperation with a number of partners organized a regional workshop on seismic risk assessment and effective dissemination of safe-building technologies on 27 September 2007. The partners organizations involved were the Building Research Institute (BRI) and Graduate Research Institute for Policy Studies (GRIPS) of Japan and Nepal Engineering College (NEC). The workshop on "Collaborative Research and Development Project for Disaster Mitigation in Earthquake Prone Areas in Asia, Joint Workshop on Theme 1 (Seismic Risk Assessment) and Theme 3 (Effective Dissemination of Safe Building Technologies)" sought to enhance capacity to manage damages caused by earthquakes. It

sought to achieve capacity building in research and development of disaster mitigation measures in Indonesia, Nepal, Pakistan, Turkey and Japan.

The objectives of the joint-workshop were (i) To introduce the International Research and Development Project to Nepali Stakeholders, and (ii) To present the Results and Status of the R&D Project Theme1 (Seismic Risk Assessment Methodologies) and Theme 3 (Effective Dissemination of Safe Building Technology) and discussion, including the New Tool for Earthquake Risk/ Vulnerability Assessment in Cities of Developing Countries using "Google Earth" and GIS. There were 44 participants representing Ministry of Physical Planning and Works, Ministry of Local Development, Department of Urban Development and Building Construction (DUDBC), Graduate Research Institute for Policy Studies (GRIPS), Building Research Institute (BRI), Kathmandu Valley Town Development Committee (KVTDC), Japan International Cooperation Agency



Dignitaries at the dias

(JICA), National Society for Earthquake Technology-Nepal (NSET), Municipalities, professional societies and various academic institutions.

Community Based Disaster Management Program (CBDMP)

Community Based Disaster Management Program (CBDMP) implemented by NSET is formulated to initiate community based disaster management initiatives at six municipalities (Putali Bazar Municipality, Syanja, Vyas Municipality, Tanahu, Bharatpur Municipality, Chitwan, Hetauda Municipality, Makwanpur, Malangwa Municipality,



Sarlahi and Kamalamai Municipality, Sindhuli) in Central and Western Development Regions of Nepal with support of UNDP Nepal.

Under one of the project activities, a five day training program on **Violence Against Women, Trafficking and HIV/AIDS** for selected community members of the project area was held in Pokhara (1-5 September, 2007) and Hetauda (7-11 September, 2007). Total

participants for this training program were 21 on each of the training.

Further, training for teachers and students sensitization program on issues of Disaster Management were conducted in the five different schools of each municipality namely Kamalamai, Hetauda, Putalibazar and Vyas Municipality in the month of August and September. Under this program more than 2000 students got



Students attending the awareness lecture

oriented on disaster management issues. Along with the training program basic vulnerability assessment of lifeline building, two buildings per municipality was also conducted in the respective municipalities.

Hospital Disaster Preparedness Drill



During the Hospital Disaster Preparedness Drill

response capacity of BPKIHS. The objectives were to create awareness on earthquake/disaster preparedness among hospital staff (doctors, nurses and other administrative and management staff); make concerned stakeholders aware on the role and importance of disaster drills in organizations like hospitals; and to help create a system of disaster preparedness, response planning, training, exercise and drills.

The drill was a “test” of the emergency response capability of BPKIHS.



During the Drill

NSET facilitated and supported a disaster preparedness drill organized at the B.P. Koirala Institute of Health Sciences (BPKIHS) in Dharan on 30 October, 2007. The drill was done in coordination with the Dharan Municipality, Action Aid Nepal and BPKIHS.

The drill was organized as part of the “Safe Hospitals Campaign” 2007-2008, declared by the UN International Strategy for Disaster Reduction (UN/ISDR). The main purpose of the drill was to help enhance the disaster

Other Activities

- NSET professionals participated in the Thematic International Workshop 2007 on “Feasible and Affordable Seismic Construction in Developing Countries”: a video conference at the World Bank Information Centre organized by Building Research Institute (BRI), National Research Institute for Earth Science and Disaster Prevention (NIED), Mie University and Graduate Research Institute for Policy Studies (GRIPS) of Japan.
- NSET professional Mr. Ganesh K. Jimée and Ms. Brigitte Balthasar participated and observed Earthquake Simulation in Bhaktapur Ward No. 12, Bhelukhel, Lalitpur conducted by NRCS with the support of DPNet.
- NSET professionals conducted Earthquake Vulnerability Tour in the core area of Kathmandu Metropolitan City (Naradevi-Bhedasingh-Machhindrabahal-Ason-Mahabaudha) for the representatives of USAID/OFDA on 17 September, 2007.

TRAININGS



During the training

Mason Training Program on Earthquake Resistant Building Construction

NSET, in association with the World Vision International Nepal (WVIN), conducted a five day “Mason Training Program on Earthquake Safety Construction” at Bungmati, Lalitpur from 10 to 14 September 2007. The main objective of the training was enhancing knowledge and skills of masons and construction workers on earthquake-resistant construction technologies. Other goals were a) Capacity enhancement of construction technicians for incorporating earthquake-resistant construction technology, disseminating the technology and implementing earthquake risk management activities; b) Dissemination of earthquake resis-

tant construction technology including retrofitting of existing buildings to those involved in building construction. Altogether 24 masons attended the training.

Training for Technical Personnel on Operation and Maintenance of selected Deep Tube Well (DTW) Systems

Under the project Disaster Preparedness and Response Plan Framework (DPRP) for Safe Drinking Water in Lalitpur, NSET organized “Training for Technical Personnel on Operation and Maintenance of selected Deep Tube Well (DTW) Systems” on 7 and

8 October 2007. Twenty-six technical personnel representing Nepal Water Supply Corporation (NWSC), Institute of Engineering (IOE), Pulchowk, National Agriculture Research Council (NARC) and Department of Irrigation (DOI) participated in the training. The training included a brief overview of earthquake risk faced by Kathmandu and possible consequences, general introduction of water supply system, deep tube wells and operation of tube well and back up generators. It also included a field visit and on-site demonstration. The participants were also trained on light maintenance techniques including developing and maintaining the operation and maintenance of log book.

Community Earthquake Learning Centre (CELC) cum NSET office building :



3D isometric view of NSET Building under-construction

National Society for Earthquake Technology - Nepal, (NSET) has started to construct Community Earthquake Learning Centre cum NSET office building at Bhainsepati, Lalitpur.

This building is aimed and planned for Community Earthquake Learning Centre for Nepal and region as well as NSET office. The building consists of basement and four floors, the total building area is 1157 M2 (16753 Sq.ft) and will be seismically safe designed as per Nepal National Building Code.

QUAKE MONITOR

Year	Magnitude	Location	Deaths
8/8/07	7.5	Java, Indonesia	No reports of damage or casualties
15/8/07	8.0	Near the coast of Central Peru	At least 514 people killed and 1,090 injured. More than 35,500 buildings destroyed and more than 4,200 buildings damaged
12/9/07	8.4	Southern Sumatra, Indonesia	At least 9 people killed, hundreds injured and many buildings damaged or destroyed in the Bengkulu and Padang areas
13/9/07	7.9	Kepulauan Mentawai Region, Indonesia	Buildings collapsed at Mukomuko
28/9/07	7.4	Mariana Islands Region	No reports of damage or casualties
30/9/07	7.4	Auckland Islands, New Zealand	No reports of damage or casualties
31/10/07	7.2	Pagan Region, Northern Mariana Islands	No reports of damage or casualties

Source: USGS

TIPS ON EARTHQUAKE SAFETY

Before an earthquake

- ✓ Develop a Family Earthquake Preparedness Plan and prepare an Earthquake "GO BAG" (Emergency Survival Kit) so that you can cope with earthquake being on your own for up to three days.
- ✓ Prepare communication plan to contact or meet your family members in case of an earthquake:
 - ✓ Identify reuniting place within premises of your house, in your neighborhood and outside your neighborhood
 - ✓ Identify contact points within your city, outside the city and outside your country
- ✓ Identify safe and unsafe places within your home, school or workplace.
- ✓ Safe places are:
 - ✓ Under a strong table; remember to hold onto its legs
 - ✓ Next to an interior wall
 - ✓ Somewhere close to you, no more than few steps, or two meters away, to avoid injury from falling objects.
- ✓ Unsafe places are:
 - ✓ Near to the windows with large glass panes
 - ✓ Staircases
 - ✓ Next to hanging objects, unfastened furniture
- ✓ Secure heavy items or furniture to the floor or wall

PROFILE



Ram Chandra Kandel

Director
School Earthquake Safety Division

National Society for Earthquake Technology – Nepal (NSET)

Mr. Ram Chandra Kandel, Director of the School Earthquake Safety Division, joined NSET as a civil engineer in 2001. He has been involved in various earthquake disaster mitigation activities since then. At NSET Mr. Kandel has served as Program Manager of SESP (2003 – 2006), Team Member for the Seismic Vulnerability Assessment of Hospitals (2003-2003) and various projects before becoming Director for School Earthquake Safety Division in October 2006.

He also served as a member of the team for Capacity Building Programs implemented by NSET in earthquake-affected areas of Pakistan with support of UNDP (Nov 2005-Jan 2006). Besides, he also served as Team Member for the Training Support for Earthquake Reconstruction and Rehabilitation Program implemented by NSET in Azad Jammu and Kashmir, with support from OFDA/USAID (Feb 2006-June 2007).

A recipient of Mahendra Vidhya Bhusan (National award in Education) in 2003, Mr. Kandel holds a Master's Degree in Industrial and Civil Engineering from Kiev State Technical University of Construction and Architecture, Kiev, Ukraine (1994) under government scholarship program. He worked as overseer at the Ministry of Local Development in the Far-western Region on water supply projects for about a year in 1986-1987. He was awarded a government scholarship for higher studies in the former Soviet Union. After completing his studies he worked at the Nepal Water Supply Corporation as an Engineer for seven months and then at a Class-A Construction Company for around four years.

FOR TIPS ON EARTHQUAKE RISK MITIGATION TUNE IN TO...

Radio Sagarmatha (FM 102.4) at 7.30 PM, Tuesday
Radio Annapurna (FM 91.8) at 7.30 AM, Wednesday

FOR MORE INFORMATION ON

Earthquakes and NSET's efforts towards earthquakes risk reduction log on to www.nset.org.np



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