

First World Landslide Forum

SESSION-2*: CASE STUDIES AND NATIONAL EXPERIENCES



The 2001 El Salvador earthquake-induced landslide, located in a neighborhood near Santa Tecla, El Salvador, buried numerous homes under tons of earth. The Hotspots report identified El Salvador as being at high risk for landslides, earthquakes, floods, and cyclones.

(Photograph by Edwin L. Harp/courtesy USGS)

Introduction to the first World Landslide Forum (WLF)

The First World Landslide Forum offers a global cooperation platform for range of organizations from academia, United Nation organizations, governments, private sector, and individuals willing to contribute for landslides and other related earth system risk reduction. The uniqueness of the Forum lies in the fact that it is neither a pure scientific/engineering discourse, nor a pure governmental and intergovernmental meeting, but a window of opportunity cutting across disciplines while contributing to landslide and other related earth system related risk reduction. Session-2 of the Forum, to be organized on 19th of November, will focus on case studies and national experiences.

Session-2 Highlights: Case Studies and National Experiences

It is widely recognized that landslide prone countries need to develop a better understanding of existing risk for effective mitigation or management. Knowledge of a natural hazard is the first aspect that should be investigated accurately when finding ways of reducing landslides. Landslides and the damages that they caused can be reduced through utilizing the knowledge of these natural hazards. By learning what causes landslides, where and when they occur and how to stabilize slopes, people can learn to avoid them and lessen the damages that landslides cause to human lives and infrastructure. Examples of previous landslides are important in finding their reasons of occurring, frequency, damages caused and ways that they could have been prevented. The information in turn can be used in ways that could prevent other landslides from occurring. Especially, the lessons learnt from landslide disasters which occurred in the different regions are needed to be discussed with the aim to exchange information and experience; it is critical to learn how lessons learned in one locality or country can be transferred to another, which could provide guidance on how to avoid the damages and deaths that caused. It can help all involved counties to cope with future landslide disaster risk prevention.

How will you benefit from Session-2

Session-2 will discuss landslides in specific regions such as Central Asia, Latin America, Balkan, etc. and will also dwell on landslides in Loess, quick-clays, Volcanoes, mining or power plant sites, etc. Case studies highlighting national experiences in recovery, policy changes and mitigation needs as well as success stories of regional or national landslide risk will form the vital form of the discussion. This Session is specifically planned to benefit those who have been involved in landslide issues as government officers, developers, managers of entities in planning of development and management of lands or those who may be interested in information exchange on country landslide issues. This session discuss national landslide risk reduction practices, institutional mechanisms, risk assessment, and loss reduction methodologies that have been developed as a result of various landslide experiences. Distinguished speakers of this session are from different geographical and geological regions and would highlight specific characteristics related to climate conditions, especially on rainfall, or geological conditions as well as land use practices. Your active participation will lead landslide risk reduction efforts in the global cooperation framework for the coming decade.

* This is an Open-Session of WLF, **PARTICIPATION IS FREE OF CHARGE.** United Nations University, Shibuya-ku, Jingumae 5-53- 70, Tokyo 150-8925, Japan

SCHEDULE FOR SESSION - 2 : WEDNESDAY, 19 NOVEMBER 2008

11:00 – 11:05

Introduction to Session, objectives and scope

Dr. Srikantha Herath, Senior Academic Programme Officer, United Nations University, Tokyo, Japan



Specializing in Hydrology and Water Resources Engineering. The research focus is monitoring and modeling of hydrological process and applications in urban hydrology, flood forecasting, damage estimation, sediment transport and water cycle change assessment using physically based distributed hydrological modeling aided by Remote Sensing and GIS. Holds Ph.D. in Civil Engineering from the University of Tokyo (1988).

11:06 – 11:20

Landslide Disasters in Sabah, Malaysia: Issues and Challenges

Prof. Felix Tongkul, Centre for Natural Disaster Studies, Universiti Malaysia, Sabah



Professor of Geology and Head of the Centre for Natural Disaster Studies at Universiti Malaysia Sabah (UMS). Holds PhD in Geology from University of London (1987). For the past 25 years, doing research on the geological evolution of Sabah and Sarawak. Actively involved in geological hazards (landslides, floods and earthquake) studies.

11:21 – 11:35

Creation of Rainfall Soil Chart for Forecasting Landslide

Roslan Zainal Abidin, MARA University of Technology, Malaysia



PhD (Kagoshima University, Japan). Presently, Director, International Research Centre on Disaster Prevention (IRCDIP) MARA University. Received number of medals for excellence invention and innovation research products at National/International Arena. Best innovation award from the Taiwan Invention Products Promotion Association (TIPPA) in ITEX 2008; Innovation Award in Government & Private Sector Joint Research, Government of Malaysia (2006), National Public Service Innovation Award from Malaysian Administration Modernization & Management Planning Unit, Prime Minister Department (2004). Member/panelist of large number of national/international agencies and consortiums.

11:36 – 11:50

Role of monsoon rainfall for landsliding in Nepal

Ranjan Kumar Dahal, Tribhuvan University, Nepal



Lecturer of Applied Geoscience at the Tribhuvan University, since 1997. Presently, PhD candidate at Kagawa University, Japan. Written one text book and contributed some chapters in two books. Published 12 papers in international journals and more than 20 conference proceedings and abstracts. Research focus: stability modeling, threshold analysis and hazard zonation of rainfall-induced landslides in the Nepal Himalaya and Shikoku, Japan.

11:51 – 12:05

Connecting diverse landslide inventories for improved landslide information in Australia

Monica Osuchowski (Geoscience Australia, Australia)



Joined Geoscience Australia (GA) in 2004. Honours degree in Environmental Geology, University of Tasmania. Research at GA focused on developing tools and resources to facilitate the discoverability and accessibility of natural hazard data and information to both scientists and decision makers. Presently scoping and developing a landslide research program for the Risk and Impact Analysis Group at GA.

12:06 – 12:20

Case study on local landslide risk management during crisis by means of remote sensing data

Nicola Casagli (University of Firenze, Italy)



Professor of Engineering Geology and Director of the Earth Sciences Department. MSc in Engineering Rock Mechanics, Imperial College of London, PhD in Engineering Geology. Director of the European Centre of the International Consortium on Landslides. Deputy chief-editor of the Landslide journal. Coordinator of the Centre of Competence on geological risks established by the Italian Civil Protection Department at the University of Florence.

12:21 – 12:35

Landslide mitigation strategy and implementation in China

Yueping Yin, Deputy Chief Geologist, China Geological Survey, Beijing, China



Director, Department of Hydrogeology & Geologic Environment, China Geological Survey; Member - State Committee of the Wenchuan Earthquake Disaster; State Expert group of the Geohazd prevention of the Three Gorges Project. Hosted national key research projects on landslide hazard assessment and prevention, especially, at the Three Gorge Reservoir, the Yangtze River. Presently hosting a project on landslides triggered by Wenchuan earthquake.

12:35 – 14:00

LUNCH BREAK

14:00 – 14:15

Rock slope failure in weak rocks: Two case studies

Laura Longoni, Politecnico di Milano, Italy



Degree in Environmental Eng. at Politecnico Di Milano, 2002. Worked as grant researcher in the same institute (2003-2007) and later became Junior Staff Researcher. Teaching and research activities are mainly focused on engineering geology subjects, landslide monitoring and modelling. Since 2005 is a member of the founding board of the Politecnico internal project about Hazard Management (PROMETEO—<http://www.polimi.it/prometeo>).

14:16 – 14:30

A civil protection operative tool for emergency management of landslide

Gerardo Colangelo, Basilicata Region, Italy



Geologist of Regional Department of Infrastructure and Civil Protection, Basilicata Region, Italy. Degree in geological science. As a Researcher of CNR, Italy (1998-2004) studied electromagnetic and self potential signals for the monitoring of seismic active areas. Since 2004, research focused on the study of geophysical methods applied in areas affected by hydro geological hazard.

14:31 – 14:45

Large slow-moving rock slides - earth flows: the case study of Ca' Lita (northern Apennines, Italy)

Lisa Borgatti, Bologna University, Italy



PhD in Environmental Geology, Researcher in Engineering Geology. Focused on the study of large scale mass movements affecting weak and lithologically and structurally complex geological formations, with references to geotechnical - geomechanical characterization, in situ and remote sensing monitoring, hazard and risk assessment and mitigation. Also dealing with the relationships between landslides and climate changes from the Lateglacial to date. Presented in over 15 national/international congresses and published approx. 30 papers and several technical

reports. Recently, Editor of the special issue of "Geomorphology" (Elsevier Science): vol. 66 - 1-4.

14:46 – 15:00 Environmental consequences, emerging issues, and management options associated with landslide disaster: Experiences from Nepal Himalaya



Dr. Prem Prasad Paudel, Government of Nepal

M.Sc. and Ph.D. in Forest conservation and erosion control engineering from Kyushu University, Japan. Works with Ministry of Forests and Soil Conservation, Department of Soil Conservation and Watershed Management. 14 years of experience in the field of Soil Conservation and Watershed Management. Contributed about 30 research articles in the field of soil erosion, published in international and national journals. Recently received Young Scientist award from the Government of Nepal.

15:01 – 15:15 Landslide monitoring data and its application to risk management
Chris Massey, Engineering Geologist, Institute of geological and Nuclear Science, New Zealand



Expertise: Rock mass evaluation, Structural geological mapping, Aerial photograph interpretation, Geological and geomorphological mapping, Geophysics: Construction supervision, Drainage design, Emergency response and mitigation design, Foundation design, Geohazard assessments, Landslide monitoring, Retaining wall analysis and design, Rock and soil slope analysis, Rock fall analysis and design, Underground roof support (mining), Information Technology: GIS and other geotechnical software. Fellow of the Geological Society (FGS), Chartered Geologist: Member.

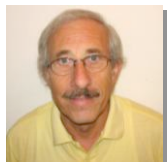
15:16 – 15:30 Managing landslides in Guatemala, critical issues
Juan Carlos Villagran de Leon, UNU-EHS, Germany



Ph.D. from University of Texas at Austin Since 1993, Scientific Advisor to Guatemalan Disaster Management Agency (CONRED), and later became a regional consultant in Central America for the German Technical Cooperation Agency (GTZ), the United Nations Development Program (UNDP), US-AID; NGOs such as Acción Contra el Hambre (ACH), Plan International, as well as the Central American Coordination Centre for Natural Disaster Prevention (CEPRENAC). Responsible for research and capacity building efforts on issues of risk reduction, coping capacities, and early warning at UNU-EHS. Authored large number of publications in areas of disaster risk management, risk assessment, and early warning.

15:30 – 16:00 C O F F E E B R E A K

16:00 – 16:15 Landslide hazard strategies in Slovakia



Jan Vlcko, Comenius University BRATISLAVA, Faculty of Natural Sciences, Dept. of Engineering Geology, Slovakia

Head, Dept. of Engineering Geology. Study focus: urban geotechnical problems, stability problems of several historic sites (Slovakia, Czech Republic, Peru). Member of International Association of Engineering Geology and the Environment, International Consortium on Landslides, Associate Editor for the journal Environmental Geology and a member of Editorial board in Landslides journal both published by Springer Verlag. Made presentations around the world and published more than 120 papers.

16:16 – 16:30 Towards the mitigation – Landslides in Sri Lanka



Nihal Rupasinghe, Ministry of Irrigation & Water Management, Sri Lanka
Chairman, Central Engineering Consultancy Bureau (Ministry of Irrigation & Water Management, Sri Lanka). B.Sc. Eng.(Hons) from University of Peradeniya, Sri Lanka and PG Dip. in Hydro Power (Norway). Member of Institution of Engineers Sri Lanka and Institute of Civil Engineers (London). Major focus areas include water resources development and disaster management.

16:31 – 16:45 Landslide hazard activities in the United States



Peter T. Lyttle, U.S. Geological Survey, Virginia, USA

Peter T. Lyttle is USGS Program Coordinator for the Landslide Hazards Program and is also a Vice President of the International Consortium on Landslides. His main area of research has been the tectonic history of the Appalachian Mountain system in the United States.

16:46 – 17:00 Landslide-risk reduction strategies and practices in the Philippines
Sandra G. Catane, Associate Professor, National Institute of Geological Sciences, University of the Philippines



Also, Heads the Engineering Geology-Landslide Research Laboratory and Deputy-Director for R&D in the University. Researches major landslides mechanism and volcanic debris-avalanches in the Philippines. Did comprehensive studies of Guinsaugon 2006 landslide (Southern Leyte, >1000 casualties). Organized trainings and conferences on landslides (dealt with the science and socio-economic aspects). Published large number of papers in ISI journals. Recognized expert in landslides field in the Philippines.

17:01 – 17:30 Summary of Session-2 and way ahead
Dr. Srikantha Herath, United Nations University

Venue:

Reception hall, Second Floor, United Nations University
Shibuya-ku, Jingumae 5-53-70, Tokyo 150-8925,
Access: <http://www.unu.edu/access/>

Websites:

First World Landslide Forum: <http://www.iclhq.org/WLFweb/WLF.htm>

Program details and other information: <http://wm.hq.unu.edu>

For further information, please contact: Dr. Akhilesh Surjan, Phone: +81-3-5467-1212, Email: Surjan@hq.unu.edu

GETTING TO UNU



United Nations University

UNU is on Aoyama Dori, a five-minute walk from Omotesando station (Exit B2, Chiyoda, Ginza, and Hanzomon lines) or ten minutes from Shibuya station. It is next door to the Children's Castle (Kodomo no Shiro) and opposite Aoyama Gakuin University.

Please note that there is no vehicle parking available on the premises.

ABOUT ESD PROGRAMME OF UNU

Environment and Sustainable Development (ESD) Programme of the United Nations University addresses “Environmental Changes Risk Management” focusing on the interactions between human activities and the natural environment, and their implications for the sustainable development. Environment Security is the goal of ESD programme, where social systems act with ecological systems in a sustainable manner, with all individuals having fair and reasonable access to environmental goods and means to address crises and conflicts. www.unu.edu/esd/

Partnerships and initiatives for policy making related to Environmental Change Risk Management

Feedbacks of anthropogenic pressures against the stability of global environment appear differently in their timing, endpoints, and geographical locations with developing countries and vulnerable communities faced with larger direct and indirect adverse impacts. UNU-ESD is committed to addressing global environment change by identifying the changes and impacts in their early stages and bringing the identified issues up to the international agenda while building scientific capacities through projects in developing countries to mitigate and adapt to these changes.

Some examples of international programs where UNU-ESD is actively engaged are; International Program on Landslides (IPL), International Flood Initiative (IFI), Asian Water Cycle Initiative under Global Earth Observation System of Systems, Proposal for Strategic Agreement of International Chemical Management (SAICM), Stockholm Convention, People, Land Management and Environmental Change (PLEC), CWANA (Central and West Asia and North Africa) Plus partnership in managing dry lands, Asia Pacific regional task force on urban risk reduction, Globally Important Agriculture Heritage Systems (GIAHS), and Sustainable Land Management in Mountainous Mainland Southeast Asia (SLM-MMSEA).

These partnerships and initiatives are established to address emerging global problems due to rapid environmental changes that adversely affect the production systems, infrastructure and life line systems of societies.

Disaster Risk Management is one of the major programs of ESD. The rapid changes due to development process and ever increasing expansion of human settlements bring about unexpected risks to urban communities. Concentration of wealth in major urban centers poses huge economic risks in the event of a catastrophic disaster resulting from events that exceed the design standards.

One of the ESD projects examines the optimal means to “prepare for the unforeseen” extremes brought about by environmental change. Risk assessment for hazards brought about by extreme events are carried out with dynamic spatial information to arrive at realistic scenarios in order to mitigate adverse impacts and reduce loss of lives and properties. Based on detailed pilot studies, a set of tools have been developed and a training programme established to enhance and share knowledge among responsible agencies in the Asia Pacific region to use advanced numerical models for rainfall downscaling, inundation modeling and risk assessment. In the context of increasing rainfall intensities observed in recent times that directly threaten urban areas with flood water volumes that cannot be managed with existing drainage systems, the tools provide means to investigate and adopt a combination of soft and hard measures for managing flood risks.

Climate change impacts and associated risks, especially in water resources and food sectors is another area of active research at UNU. **Migration and insurance for climate change adaptation** are some of the emerging research fields made necessary by climate change today.