



**UNITED NATIONS
UNIVERSITY**

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All media welcome:

Press conference will be held on Friday, January 20th from 4:30p.m. – 5:00p.m. at Elizabeth Rose Conference Hall (5F) at United Nations University (UNU), after the three day conference. To reserve a seat in advance, please contact:

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Landslides

*Asia has Most; Americas, the Deadliest; Europe, the Costliest;
Experts Seek Ways to Mitigate Landslide Losses;
Danger Said Growing Due to Climate Change, Other Causes*

Asia suffered 220 landslides in the past century – by far the most of any world region – but those in North, Central and South America have caused the most deaths and injuries (25,000+) while Europe’s are the most expensive – causing average damage of almost \$23 million per landslide.¹

And, warn international experts, climate change-related increases in the number and intensity of storms, including typhoons and hurricanes, will produce in tandem a rising danger of landslides in future.

“Increasing rainfall intensities and frequencies, coupled with population growth can drastically increase landslide-associated casualties, especially in developing countries, where pressure on land resources often lead to slope cultivation and slope agriculture which are very much prone to landslide disasters,” according to the International Consortium on Landslides (ICL), United Nations University, Kyoto University and UNESCO scientists organizing an international, multi-agency, three-day meeting on landslide prevention and damage mitigation.

Climate change may promote landslides in other ways as well. A December landslide that claimed 60 lives in Yemen was blamed on mountain boulders shifting due to changes in

¹ OFDA/CRED International Disaster Database (see Table 1 in this release).

temperature. Other landslide inducements include earthquakes, volcanic eruption, poorly planned developments, and mining.

Marking the first anniversary of the landmark UN World Conference on Disaster Reduction in Kobe, Japan, almost 100 experts from 14 nations, representing scores of global institutions and governments, will gather at United Nations University in Tokyo from January 18-20 to set international priorities for mitigating human and financial landslide losses and to promote a global network of International Programmes on Landslides.

Among natural disasters, landslides are reported as the 7th biggest killer, after windstorms, floods, droughts, earthquakes, volcano and extreme temperature, claiming 800-1000 lives on average in each of the last 20 years. An average of 940 people annually were killed by landslides in the decade 1993 to 2002, a majority of those victims from Asia (Source: EM-DAT, CRED, University of Louvain, Belgium).

Large-scale landslides along coasts or in oceans can cause tsunamis; the deadliest on record was caused by a landslide in the Unzen volcano in 1792 which killed 16,000 Japanese, due to landslide debris and the resulting tsunami wave. Occurring at the top of a volcano, landslides can trigger eruptions, most famously that of the USA's Mount St. Helens in 1980.

Landslides also threaten some of the world's most precious cultural sites, including Egypt's famous Valley of the Kings, home to the Pharaohs Tombs; Lishan China, site of the Huaqing Palace, built in the Tang dynasty (618-907); and Machu Picchu, Peru, the mountaintop fortress city of the ancient Incas.

The Machu Picchu threat was recently investigated by international experts from Japan, Italy, Czech, Slovakia, Canada and Peru under the International Programme on Landslides at Kyoto University (KU).

“Special attention should be given to cultural and natural heritage sites of universal and irreplaceable values,” says Prof. Kyoji Sassa of KU. “In some places, particularly in developing countries, the natural threats are being exacerbated by rapid tourism development.”

As is true of other natural disasters, developing countries – especially those in Asia and the Americas – suffer most from landslides. However, the problem plagues even highly advanced countries. A 35 year study of Japan (1967-2002) shows landslides occurred every year, killing almost 3,300 people over that time.

In terms of economic damage, Japan reports annual losses of US\$ 4-6 billion; India, Italy and USA each report about US\$1-2 billion.

“While all regions experience landslide disasters, the harm they cause is most acute in developing countries, where the knowledge base required to identify landslide prone areas is often either non-existent or fragmentary” says Badaoui Roubhan, Chief of the Disaster Reduction section, UNESCO.

Experts worry that in many places:

- Available resources are insufficient to carry out adequate investigations to understand risks and identify hazard zones;
- There is no strong political commitment for risk reduction measures such as land use planning;
- Appropriate building codes, safety regulations, and response plans are not developed and applied;
- Appropriate financial incentives are not utilized; and
- Expertise in landslide risk reduction is not fostered in local institutes and universities.

While several strategies to reduce landslide losses will be proposed and considered Jan. 18-20, “there is no one-size-fits-all strategy,” says UN Under Secretary-General Hans van Ginkel, Rector of UNU and chair of the meeting. “The question is, short of recommending unrealistic bans on development in areas that could someday be affected, what would best protect people against the high costs of landslide disasters?”

Strategy success is a function of specific geo-physical characteristics, population distribution and socio-economic conditions. For example, Hong Kong is landslide prone, with steep slopes and intense rainfall. However, it is also highly industrial with dense population and infrastructure, confined to a small land area with almost no agriculture, thereby suggesting a structurally-centered strategy for landslide prevention and damage mitigation.

Very different measures are needed in developing agricultural countries where the population is distributed over a wide area characterized by steep slopes and intense rainfall – such as Nepal or Sri Lanka or the countries of South America. In such places, mitigation success requires slope preservation in strategic areas (e.g. those adjoining major roads, railways, etc.), through appropriate drainage and retaining structures.

“Early warning can play a critical role in reducing death and suffering from catastrophic landslide disasters in many such countries” says UNU scientist Srikantha Herath. “Recent advances in short-term rain forecasts, together with mathematical models that predict the surface and

subsurface water movement should be harnessed to detect and warn of potential landslide locations that result from a decrease of soil strength with saturation associated with extreme rain. Much work is needed in this area including development of appropriate monitoring and modeling tools. These efforts should go hand in hand with mapping of landslide hazard hot spots (at global, regional and street level) coupled with community education.”

Professor van Ginkel noted that ICL, UNU, Kyoto University and UNESCO are very much committed to the development of such a process.

Officials at the meeting will consider designation of 2007 as World Landslide Year and a call to hold the 1st World Landslide Forum in 2009. They will also formalize an international network of national landslide programmes, its world centre to be headquartered at Kyoto University (at the UNESCO-Kyoto University-International Consortium on Landslides UNITWIN Cooperation Programme), to promote common approaches and share best practices.

Proposed for consideration at the meeting are the following candidate issues for priority action and further research:

(1) Landslide risk reduction Methodology:

Monitoring and Early Warning and Global landslide satellite monitoring;
Risk Identification and Hazard Mapping:

(2) Landslide threats

- Catastrophic landslides induced by earthquakes and heavy rains.
- Landslides threatening cultural heritage sites

(3) Capacity Building

Education
Online database

(4) Preparedness and Recovery

Policy, Planning
Disaster Recovery to avoid secondary disasters and create safer community

Organizers: The International Consortium on Landslides (ICL), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Meteorological Organization (WMO), Food and Agriculture Organization of the United Nations (FAO), United Nations International Strategy for Disaster Reduction (UNISDR), United Nations Environment Programme (UNEP), United Nations University (UNU), and Kyoto University.

Co-sponsors: The Government of Japan (Cabinet Office; Ministry of Foreign Affairs; Ministry of Education, Culture, Sports, Science and Technology; Ministry of Agriculture, Forestry and Fisheries, Ministry of Land Infrastructure and Transport); the Ministry of Foreign Affairs, Italy; Civil Protection Department (Presidency of the Council of Ministers); Ministry of Environment, Slovak Republic; Ministry of Environment, Czech Republic; National Emergency Management Agency, Korea; Embassy of Switzerland in Japan; Science Council of Japan, Academy of Forest, Wood and Environment, Japan, and the Japan Landslide Society.

More details the round table discussion to be held on January 18-20 at United Nations University can be downloaded from the following websites.

Event background, programme and participant list (in English)

<http://landslide.dpri.kyoto-u.ac.jp/RTD-Bulletin%203-E.pdf>

Event background, programme and participant list (in Japanese)

<http://landslide.dpri.kyoto-u.ac.jp/RTD-Bulletin%203-J.pdf>

OFDA = Office of Foreign Disaster Assistance of the United States Agency for International Development

CRED = Center for Research on the Epidemiology of Disasters of Catholic University of Louvain, Belgium

EM-DAT = Emergency Events Database

About UNU

Established by the U.N. General Assembly in 1973, United Nations University is an international community of scholars engaged in research, advanced training and the dissemination of knowledge related to pressing global problems. Activities focus mainly on peace and conflict resolution, sustainable development and the use of science and technology to advance human welfare. The University operates a worldwide network of research and post-graduate training centres, with headquarters in Tokyo.

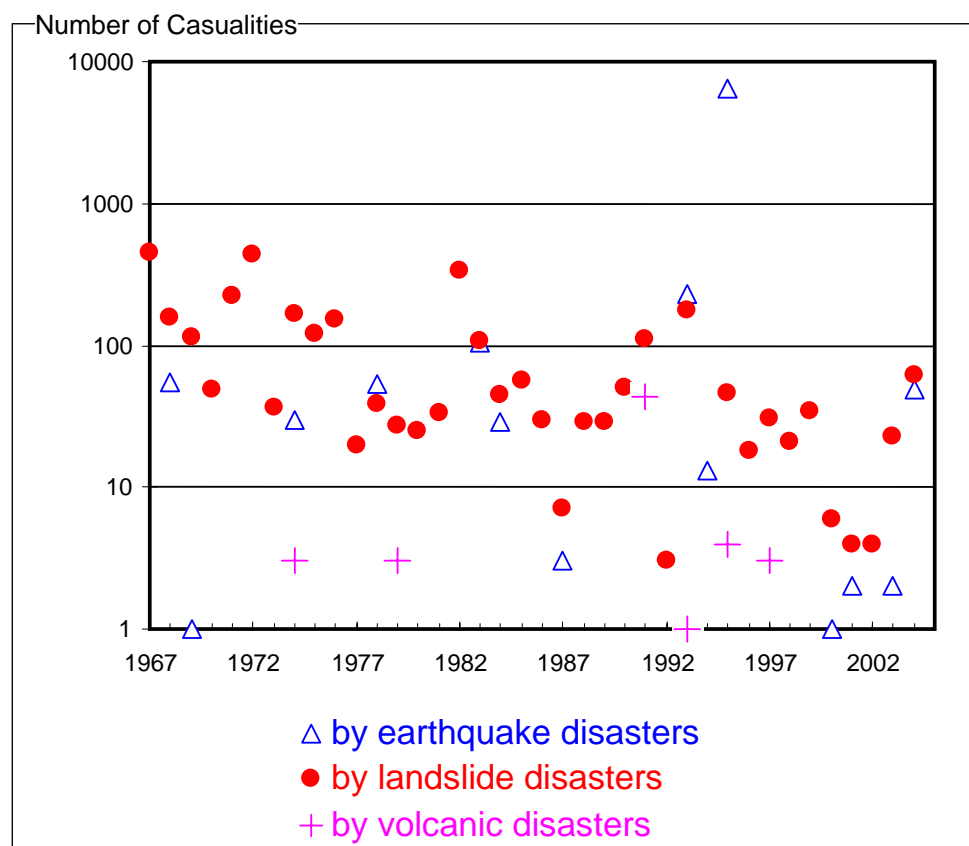
Appendix Data

Table 1: Landslides: 1903 – 2004

	Events	Killed	Injured	Homeless	Affected	Total Affected	Damage USD (000's)
Africa	22	721	56	7,936	11,748	19,740	0
Avg. per event		33	3	361	534	897	0
Americas	139	20,532	4,750	186,752	4,476,441	4,667,943	1,317,927
Avg. per event		148	34	1,344	32,205	33,582	9,482
Asia	220	15,754	3,464	3,742,596	1,309,796	5,055,856	534,229
Avg. per event		72	16	17,012	5,954	22,981	2,428
Europe	75	16,158	743	3,125	37,668	41,536	1,705,689
Avg. per event		215	10	42	502	554	22,743
Oceania	15	528	52	8,000	2,963	11,015	2,466
Avg. per event		35	4	533	198	734	164

Source: OFDA/CRED International Disaster Database, Université Catholique de Louvain, Belgium

Figure 1: Deaths from volcanoes, earthquakes and landslide disasters, Japan



Various sources / Kyoto University