

**ISDR-ICL SENDAI PARTNERSHIPS 2015-2025
FOR GLOBAL PROMOTION OF UNDERSTANDING AND REDUCING
LANDSLIDE DISASTER RISK**

*Tools for Implementing and Monitoring the Post-2015 Framework for Disaster Risk
Reduction and the Sustainable Development Goals*

At the 2nd United Nations World Conference on Disaster Reduction, which was held in Kobe, Japan, on 18-22 January 2005, the International Consortium on Landslides (ICL) co-organized a session which resulted in a global partnership and platform taking a holistic approach to research and learning on 'Integrated Earth system risk analysis and sustainable disaster management'. This partnership was forged through a "Letter of Intent", that was signed by UNESCO, UNISDR, WMO, FAO, UNU, ICSU, and WFEO. It further led to the adoption and implementation of the 2006 Tokyo Action Plan, thus creating a global partnership on Landslides, i.e., the current International Programme on Landslides (IPL) of ICL.

At the 3rd World Conference on Disaster Risk Reduction (WCDRR), which was convened by the United Nations and hosted by Japan in Sendai from 14 to 18 March 2015, the ICL and its IPL contributed further to the UN International Strategy for Disaster Reduction (ISDR) and co-organized the Working Session "Underlying Risk Factors" together with UNESCO, the Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and other pertinent organizations.

At the Working Session, the causes that create risk and their cumulative effects, as well as the relevant achievements of the Hyogo Framework for Action 2005-2015, were reviewed. Steps to address the principal drivers of vulnerability and exposure and to support hazard and risk assessment were suggested. In addition, the participating scientific and academic institutions and governmental and non-governmental organizations proposed that the *Sendai Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk* be established. This sound global platform will be mobilized in the coming decade to pursue prevention, to provide practical solutions, education, communication, and public outreach to reduce landslide disaster risk. These Partnerships will engage all significant stakeholders concerned with the challenge of understanding and reducing disaster risk, including relevant international, national, local, governmental, and non-governmental institutions, programmes and initiatives. The Partnerships will focus on delivering tangible and practical results that are directly related to the implementation of the goals and targets of the post-2015 Framework for Disaster Risk Reduction.

The *Sendai Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk* are hereby established. They represent **Tools for Implementing and Monitoring** the Post-2015 Framework for Disaster Risk Reduction and the Sustainable Development Goals.

Partners in the "Partnerships" adopt the following Resolution:

We acknowledge that:

- ✓ Landslide disasters are caused by exposure to hazardous motions of soil and rock that threaten vulnerable human settlements in mountains, cities, coasts, and islands.

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- ✓ Climate change will intensify the risk of landslides in some landslide prone areas through an increase in the frequency and/or magnitude of heavy rainfall, and shifts in the location and periodicity of heavy rainfall.
- ✓ Developments in mountains and coastal areas, including construction of roads and railways and expansion of urban areas due to population shifts, increase exposure to hazards of landslides.
- ✓ Although they are not frequent, strong earthquakes have potential to trigger rapid and long runout landslides and liquefaction. Earthquake-induced coastal or submarine large-scale landslides or megaslides (with depths on the order of hundreds of meters to one thousand meters) in the ocean floor can trigger large tsunami waves. These hazardous motions of soil and water impacting on exposed and vulnerable population can result into very damaging effects.
- ✓ The combined effects of triggering factors, including rainfall, earthquakes, and volcanic eruptions, can lead to greater impacts through disastrous landslides such as lahars, debris flows, rock falls, and megaslides.
- ✓ Understanding landslide disaster risk requires a multi-hazard approach and a focus on social and institutional vulnerability. The study of social and institutional as well as physical vulnerability is needed to assess the extent and magnitude of landslide disasters and to guide formulation of effective policy responses.
- ✓ Human intervention can make a greater impact on exposure and vulnerability through, among other factors, land use and urban planning, building codes, risk assessments, early warning systems, legal and policy development, integrated research, insurance, and, above all, substantive educational and awareness-raising efforts by relevant stakeholders.
- ✓ The understanding of landslide disaster risk, including risk identification, vulnerability assessment, time prediction, and disaster assessment, using the most up-to-date and advanced knowledge, is a challenging task. The effectiveness of landslide disaster risk reduction measures depends on scientific and technological developments for understanding disaster risk (natural hazards or events and social vulnerability), political “buy-in”, and on increased public awareness and education.
- ✓ At a higher level, social and financial investment is vital for understanding and reducing landslide disaster risk, in particular social and institutional vulnerability through coordination of policies, planning, research, capacity development, and the production of publications and tools that are accessible, available free of charge and are easy to use for everyone in both developing and developed countries.

We agree on the following initial fields of cooperation in research and capacity building, coupled with social and financial investment:

- ✓ Development of people-centered early warning technology for landslides with increased precision and reliable prediction both in time and location, especially in a changing climate context.
- ✓ Development of hazard and vulnerability mapping, vulnerability and risk assessment with increased precision, and reliability as part of multi-hazard risk identification and management.
- ✓ Development of improved technologies for monitoring, testing, analyzing, simulating, and effective early warning for landslides.
- ✓ Development of international teaching tools that are always updated and may be used free of charge by national and local leaders and practitioners, in developed and developing countries through the Sendai Partnerships 2015-2025.
- ✓ Open communication with society through integrated research, capacity building, knowledge transfer, awareness-raising, training, and educational activities to enable societies to develop effective policies and strategies for reducing landslide disaster risk, to strengthen their capacities for preventing hazards to develop into major disasters,

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- and to enhance the effectiveness and efficiency of relief programs.
- ✓ Development of new initiatives to study research frontiers in understanding landslide disaster risk, such as the effect of climate change on large-scale landslides and debris flows, the effective prediction of localized rainfall to provide earlier warning and evacuation especially in developing countries, the mechanism and dynamics of submarine landslides during earthquakes that may cause or enhance tsunamis, and geotechnical studies of catastrophic megaslides for prediction and hazard assessment.

We further agree to advocate that activities should be balanced at regional, national, and community levels in order to empower and engage more professionals, practitioners and decision-makers in formulating policies and establishing programmes for the benefit of disaster risk reduction efforts.

We further agree that progress made in the contribution of the *Sendai Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk* toward the implementation of the Post-2015 Framework for Disaster Risk Reduction will be reported and emerging challenges will be discussed every two years at the Global Platform for Disaster Risk Reduction in Geneva.

A Call for joining the Partnerships

Competent global, regional, national, and local institutions participating in the 3rd WCDRR and in the implementation of the Post-2015 Framework for Disaster Risk Reduction are invited to support this initiative by joining and signing these Partnerships through participation in clearly defined projects related to the issues and objectives of these Partnerships. The potential partners are requested to be in contact with the secretariat of the host organization.

Host Organization and Secretariat

The International Consortium on Landslides (ICL) hosts the Sendai Partnerships 2015-2025 as a voluntary commitment to the United Nations World Conference on Disaster Risk Reduction, Sendai, Japan. The ICL Secretariat in Kyoto, Japan, serves as the Secretariat of the Sendai Partnerships.

Signatories:



Mr. Kyoji Sassa
Executive Director
International Consortium on Landslides
Host organization of the Partnerships



Date




Ms. Margareta Wahlström
Special Representative of the UN Secretary-
General for Disaster Risk Reduction
Chief of UNISDR



Date

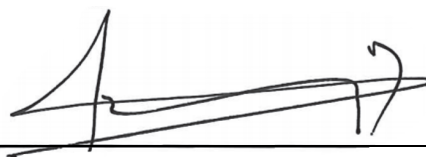
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Mr. Qunli Han
Director
Division of Ecological and Earth Sciences
United Nations Educational, Scientific
and Cultural Organization

16 March 2015

Date



Mr. Dominique Burgeon
Resilience Coordinator, Director
Emergency and Rehabilitation Division
Food and Agriculture Organization of
the United Nations

16 March 2015

Date



Mr. Kazuhiko Takeuchi
Senior Vice-Rector
United Nations University

16 March 2015

Date

Mr. Michel Jarraud (tbc)
Secretary-General
World Meteorological Organization

expected in June 2015

Date



Mr. Gordon McBean
President
International Council for Science

16/03/2015

Date



Mr. Toshimitsu Komatsu
Vice President
World Federation of Engineering
Organizations

March 16, 2015

Date



Mr. Roland Oberhänsli
President
International Union of Geological Sciences

16/03/2015

Date



Mr. Alik Ismail-Zadeh
Secretary-General
International Union of Geodesy and
Geophysics

16 MARCH 2015, SENDAI, JAPAN

Date

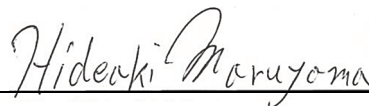
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Mr. Kaoru Saito
Director
Disaster Preparedness and
International Cooperation Division
Disaster Management Bureau
Cabinet Office, Government of Japan

16/03/2015

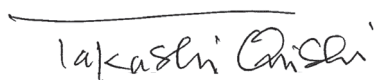
Date



Mr. Hideaki Maruyama
Director
Office for Disaster Reduction Research
Ministry of Education, Culture, Sports,
Science and Technology, Japan

16.03.2015

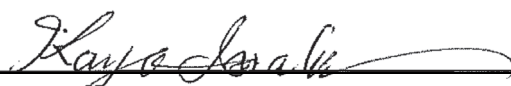
Date



Mr. Takashi Onishi
President
Science Council of Japan

March 16, 2015

Date



Ms. Kayo Inaba
Executive Vice President for Gender
Equality, International Affairs, and
Public Relations
Kyoto University

16.03.15

Date



Mr. Prefetto Franco Gabrielli
Head
National Civil Protection Department
Italian Presidency of the Council of
Ministers
Government of Italy

16.03.2015

Date



Mr. Jadran Perinic - a
Director General
National Protection and Rescue Directorate
Republic of Croatia

16.03.2015

Date



Mr. Walter Ammann
President/CEO
Global Risk Forum GRF Davos

16 March 2015

Date

ANNEX to the ISDR-ICL SENDAI PARTNERSHIPS 2015-2025

ICL member organizations (registered on 1 April 2015)

1. Albanian Geological Survey, ALBANIA
2. The Geotechnical Society of Bosnia and Herzegovina, BOSNIA AND HERZEGOVINA
3. CENACID – UFPR (Centro de Apoio Científico em Desastres | Center for Scientific Support in Disasters – Federal University of Parana), BRAZIL
4. Geological Survey of Canada, CANADA
5. China Geological Survey, CHINA P.R.
6. Institute of Cold Regions Science and Engineering, Northeast Forestry University, CHINA P.R.
7. Institute of Mountain Hazards and Environment, Chinese Academy of Sciences, CHINA P.R.
8. Bureau of Land and Resources of Xi'an, China P.R.
9. Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences, CHINA P.R.
10. Tongji University, College of Surveying and Geo-Informatics, CHINA P.R.
11. Universidad Nacional de Colombia, Colombia
12. Croatian Landslide Group from University of Rijeka and University of Zagreb, CROATIA
13. City of Zagreb, Emergency Management Office, CROATIA
14. Charles University, Faculty of Science, CZECH REPUBLIC
15. Institute of Rock Structure and Mechanics, Czech Academy of Sciences, Department of Engineering Geology, CZECH REPUBLIC
16. Joint Research Centre (JRC), EUROPEAN COMMISSION
17. Technische Universität Darmstadt, Institute and Laboratory of Geotechnics, GERMANY
18. Department of Geology of National Environmental Agency of Georgia, GEORGIA
19. Universidad Politécnica de Ingeniería, UPI, HONDURAS
20. National Institute of Disaster Management, New Delhi, INDIA
21. Gadjah Mada University, INDONESIA
22. Parahyangan Catholic University, INDONESIA
23. Research Center for Geotechnology-Indonesian Institute of Sciences, INDONESIA
24. Building & Housing Research Center, IRAN
25. Soil Conservation and Watershed Management Research Institute, IRAN
26. University of Firenze, Earth Sciences Department, ITALY
27. ISPRA-Italian Institute for Environmental Protection and Research, ITALY
28. University of Calabria, Laboratory of Environmental Cartography and Hydraulic and Geological Modeling, ITALY
29. Istituto di Ricerca per la Protezione Idrogeologica (IRPI), of the Italian National Research Council (CNR), ITALY
30. Kyoto University, Disaster Prevention Research Institute, JAPAN

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31. University of Tokyo, Geotechnical Engineering Group, JAPAN
32. Niigata University, Research Institute for Natural Hazards and Disaster Recovery, JAPAN
33. Forestry and Forest Product Research Institute, JAPAN
34. Japan Landslide Society, JAPAN
35. Korea Institute of Geoscience and Mineral Resources (KIGAM), REPUBLIC OF KOREA
36. Korea Forest Research Institute, REPUBLIC OF KOREA
37. Korea Infrastructure Safety & Technology Corporation, REPUBLIC OF KOREA
38. Korea Institute of Construction Technology, REPUBLIC OF KOREA
39. Korean Society of Forest Engineering, REPUBLIC OF KOREA
40. Slope Engineering Branch, Public Works Department of Malaysia, MALAYSIA
41. Institute of Geography, UNAM, MEXICO
42. International Centre for Integrated Mountain Development (ICIMOD), NEPAL
43. Department of Geology, University of Nigeria, Nsukka, NIGERIA
44. Norwegian Geotechnical Institute (NGI), Oslo, NORWAY
45. Grudec Ayar, PERU
46. Department of Engineering and Ecological Geology, Moscow State University, RUSSIA
47. JSC "Hydroproject Institute", RUSSIA
48. Russian Academy of Sciences, Sergeev Institute of Environmental Geoscience (IEG RAS), RUSSIA
49. University of Belgrade, Faculty of Mining and Geology, SERBIA
50. Comenius University, Faculty of Natural Sciences, Department of Engineering Geology, SLOVAKIA
51. University of Ljubljana, Faculty of Civil and Geodetic Engineering (ULFGG), SLOVENIA
52. Geological Survey of Slovenia, SLOVENIA
53. Central Engineering Consultancy Bureau (CECB), SRI LANKA
54. National Building Research Organization, SRI LANKA
55. Landslide group in National Central University from Graduate Institute of Applied Geology, Department of Civil Engineering, Center for Environmental Studies, CHINESE TAIPEI
56. National Taiwan University, Department of Civil Engineering, CHINESE TAIPEI
57. Ministry of Agriculture and Cooperatives, Land Development Department, THAILAND
58. Asian Disaster Preparedness Center, THAILAND
59. Institute of Telecommunication and Global Information Space, UKRAINE
60. California State University, Fullerton, USA & Tribhuvan University, Institute of Engineering, Nepal, USA/NEPAL
61. Institute of Transport Science and Technology, Ministry of Transport, VIET NAM
62. Vietnam Institute of Geosciences and Mineral Resources, Ministry of Natural Resources and Environment, VIET NAM