

Landslides
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ISDR-ICL Sendai Partnerships 2015–2025 for global promotion of understanding and reducing landslide disaster risk

Introduction

This article reviews the process and the background of the Sendai Partnerships 2015–2025 proposed by the International Consortium on Landslides, from its foundation to 2005 Letter of Intent proposed in the Second United Nations World Conference on Disaster Reduction (WCDR) in Kobe, Japan, in 2005, and the 2006 Tokyo Action Plan as the first stage of development to the Sendai Partnerships. It further reviews the 10th Anniversary Conference of International Consortium on Landslides (ICL) that was held in January 2012 where the ICL Strategic Plan 2012–2021 was developed. Following the Strategic Plan, ICL-IPL Conference was organized in Kyoto, Japan, in November 2013 when the concept and the initial draft of the ICL-IPL Sendai Partnerships to be linked to Third United Nations World Conference on Disaster Risk Reduction (WCDRR) were adopted. A process to establish the Sendai Partnerships in the Third WCDRR was examined in the International Forum “Urbanization and Landslide Disaster” held in Kyoto University, in October 2014. Thereafter, consultations over and the revision of the proposed partnerships were carried out to reach the final version of the Sendai Partnerships. The final version was approved in a formal “Working Session” of the Third WCDRR, agreed, and signed by the 16 intergovernmental, international, and national organizations. Those processes and the signing ceremony as well as the Sendai Partnerships are reported in this article. ICL invites all relevant organizations and individuals to support this voluntary contribution to the Third WCDRR, Sendai, Japan.

The initial stage from ICL foundation in 2002 to the 2006 Tokyo Action Plan

The ICL was founded on 21 January 2002 with support from 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 Risk Reduction (UNISDR), International Union of Geological Sciences (IUGS) and with participation of two Japanese Ministries (Ministry of Education, Culture, Sports, Science and Technology and the Ministry of Foreign Affairs) to promote landslide research for the benefit of society and the environment and capacity building, including education, notably in developing countries (Sassa 2004a). ICL has established the International Programme on Landslides (IPL) as an international initiative of ICL in 2002 (Sassa 2004b). IPL aims to conduct international cooperative research and capacity building.

ICL proposed a thematic session on landslides to take place at the Second United Nations World Congress on

Disaster Reduction (WCDR), Kobe, Japan, in 2005. ICL was advised to broaden the scope of that session to combine it with a thematic session on floods. Then, both groups jointly organized the thematic session 3.8 New International Initiative for Research and Risk Mitigation of Floods (IFI) and Landslides (IPL) at the Second WCDR, Kobe, Japan, in 2005. ICL proposed the Letter of Intent aiming to provide a platform for a holistic approach in research and learning on “Integrated Earth System Risk Analysis and Sustainable Disaster Management” in this session. It was adopted in the session and agreed with signature from seven global stakeholders (UNESCO, WMO, FAO, UNISDR, United Nations University (UNU), International Council for Science (ICSU), World Federation of Engineering Organizations (WFEO)) within 2005.

Based on this Letter of Intent, the 2006 Tokyo Action Plan—strengthening research and learning on landslide and related earth system disasters for global risk preparedness—was adopted by participants in the 2006 Tokyo Round Table Discussion “Strengthening Research and Learning on Earth System Risk Analysis and Sustainable Disaster Management within UN-ISDR as Regards to Landslides—towards a dynamic global network of the International Programme on Landslides (IPL), which was held at the United Nations University, Tokyo from 18 to 20 January 2006 (Sassa 2006). The Tokyo Action Plan proposed the World Landslide Forum (WLF) held every 3 years, the identification of World Centres of Excellence on Landslide Risk Reduction (WCoE) acting for 3 years at each World Landslide Forum, and the establishment of the IPL Global Promotion Committee (IPL-GPC) for the management of an upgraded IPL. IPL-GPC consists of all ICL member organizations and ICL supporting organizations exchanging MOU with ICL for the implementation of IPL or organizations providing financial supports to IPL. All signatory organizations of the Letter of Intent supported IPL, and each of UNESCO, WMO, FAO, UNISDR, UNU, ICSU, WFEO exchanged MOU for the implementation of IPL. This constitutes the current stage of IPL.

FAO, Food and Agriculture Organization of the United Nations; ICSU, International Council for Science; IPL, International Programme on Landslides; IUGS, International Union of Geological Sciences; MEXT, Ministry of Education, Culture, Sports, Science and Technology, Government of Japan; UNESCO, United Nations Educational, Scientific and Cultural Organization; UNISDR, United Nations International Strategy for Disaster Risk Reduction; UNU, United Nations University; WFEO, World Federation of Engineering Organizations; WMO, World Meteorological Organization

The second stage from the 10th Anniversary Conference in 2012 to the International Forum “Urbanization and Landslide Disaster” in 2014

ICL organized a 10th Anniversary Conference on 17–20 January 2012 in Kyoto with financial supports from the



Fig. 1 Signing ceremony of ISDR-ICL Sendai Partnerships 2015–2025. *Front (left to right)* Sorrenti Ambra (for Franco Gabrielli, Italian Civil Protection), Irasema Alcantara-Ayala (for Gordon Mcbean, ICSU), Srikantha Herath (for Kazuhiko Takeuchi, UNU), Roland Oberhansli (IUGS), Kaoru Saito (Cabinet Office, Japan), Giuseppe Arduino (for Qunli Han, UNESCO), Kyoji Sassa (ICL), Margareta Wahlström (UNISDR), Dominique Burgeon (FAO), Robert Mikac (for Croatia Civil Protection), Takashi Onishi (Science Council of Japan), Alik Ismail-Zede (IUGG), Kaoru Takara (for Kayo Inaba, Kyoto University). *Back (left to right)* Hiroshi Fukuoka (ICL), Nicola Casagli (ICL), Yuki Matsuoka (UNISDR), Alexandros Makarigakis (UNESCO), Toshimitsu Komatsu (WFEO), Satoru Nishikawa (Water Agency, Japan), Badaoui Rouhban (IPL-ICL), Paolo Canuti (ICL), Yueping Yin (ICL), Matjaz Mikos (ICL). *Left bottom* Qunli Han (UNESCO) and Franco Gabrielli (Italian Civil Protection)



Fig. 2 Speech and toast with sake cup designed for Sendai Partnerships. *Left-top* Speech by Ms. Margareta Wahlström celebrating the launch of the ISDR-ICL Sendai Partnerships 2015–2025. *Right-top* Originally designed sake cup for the celebration of the Sendai Partnerships. *Bottom* Thanks for all partners by Mr. Kyoji Sassa and toast for the success of the the ISDR-ICL Sendai Partnerships 2015

Japan Science and Technology Agency (JST). Participants reviewed the first decade of ICL and IPL activities and examined the second decade of ICL-IPL activities. As a result, ICL Strategic Plan 2012–2021—To create a safer geoenvironment was adopted (Sassa 2012). This conference approved the establishment of four regional networks and five thematic networks of ICL to expand the activities of ICL members and cooperation with non-ICL members in the specific region and themes. ICL organized the ICL-IPL Conference in Kyoto, Japan, in 2013 with financial supports from JST. At this conference, ICL discussed and made the 2004 Beijing Declaration to be adopted in the World Landslide Forum 3 in Beijing, China on 2–6 June 2014. Furthermore, ICL examined and made the draft of ICL-IPL Sendai Partnerships 2015–2025—Landslide disaster risk reduction for a safer geoenvironment to be examined in Sendai, Japan, in

March 2015. The 2004 Beijing Declaration-Landslide Mitigation Toward a Safer Geoenvironment was examined in the high-level panel discussion with the participation of the Director-General of UNESCO Ms. Irina Bokova and was adopted at the end of WLF3 in Beijing, China, that was held on 2–6 June 2014.

ICL organized the Steering Committee meeting in Kyoto on 7–9 October 2014 together with the International Forum “Urbanization and Landslide Disaster”—Hiroshima landslide disaster in August, 2014 and Japan’s contribution to Post-2015 Framework for Disaster Risk Reduction. This forum, together with ICL Steering Committee meeting, was planned as a preparatory meeting of the ICL-IPL Sendai Partnerships Conference on 11–15 March 2015. Key members of ICL, UNESCO, UNISDR, Ministry of Education, Culture, Sports, Science and Technology, Government of Japan (MEXT), and

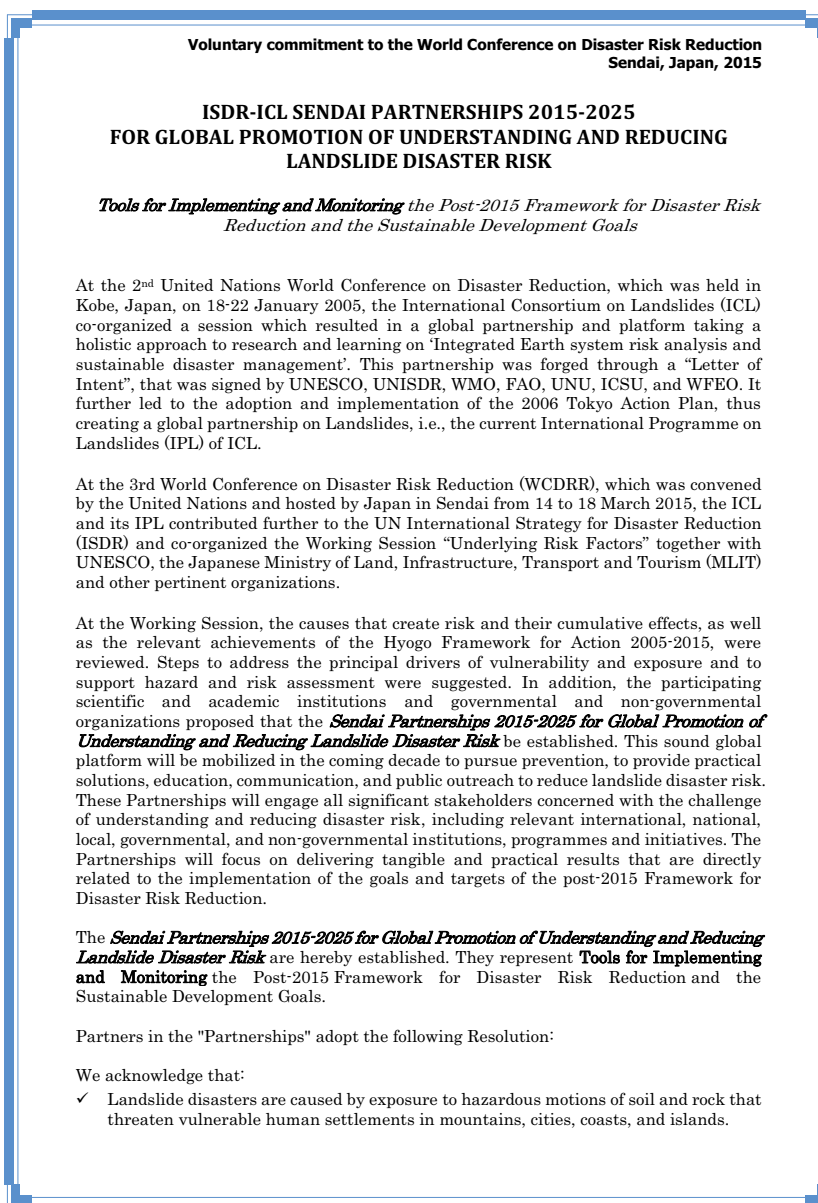


Fig. 3 ISDR-ICL SENDAI PARTNERSHIPS 2015–2025 for global promotion of understanding and reducing landslide disaster risk

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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,

Fig. 3 (continued)

the Cabinet Office and the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT), Government of Japan attended and discussed for the global collaborative framework contributing to the Third World Conference on Disaster Risk Reduction.

Establishment of the ISDR-ICL Sendai Partnerships 2015–2025

ICL initially proposed a thematic session “Urbanization and Geodisasters” to be considered as part of the Third WCDRR. This topic was not retained among the topics of the conference. Thereafter, ICL succeeded to be a co-organizer of the Working Session No. 4 (WS 4) “Underlying Risk Factors” (Priority No. 4 of the Hyogo Framework for Action) together with MLIT, UNESCO, and other organizations under the initiative of ISDR. ICL proposed a Sendai Partnership on

Landslides to the session. It was changed from the initial proposal of “ICL-IPL Sendai Partnerships 2015–2024—Landslide disaster risk reduction for a safer geoenvironment” to the Sendai Partnerships for the Global Promotion of Understanding Disaster Risk (Priority 1 of the Sendai Framework for Disaster Risk Reduction 2015–2030) so as to widen the scope beyond only landslides. However, an opinion came that it is too wide, the session should focus specific disasters within the interest of organizers of the Working Session No. 4. Then, it was changed to the ISDR-ICL: SENDAI PARTNERSHIPS 2015–2024 for Global Promotion of Understanding and Reducing Landslide, Flood, and Tsunami Disaster Risk—Tools for Implementing and Monitoring the Post-2015 Framework for Disaster Risk Reduction and the Sustainable Development Goals. This

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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

16 / 03 / 15
Date



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

16 March 2015 in Sendai
Date

Fig. 3 (continued)

version was circulated to the expected intergovernmental, international, and national organizations on 21 January 2015. However, an opinion suggested that because this partnerships is under the initiative of the International Consortium on Landslides, it is better to focus on landslides. As a result, it was finally returned to only landslides.

The revised title of the finally agreed Sendai Partnerships were

Header: Voluntary commitment to the World Conference on Disaster Risk Reduction, Sendai, Japan, 2015

Title: ISDR-ICL Sendai Partnerships 2015-2025 for global promotion of understanding and reducing landslide disaster risk

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

This version was sent to intergovernmental and international organizations on 14 February 2015. Based on the various input from those organizations, the main text was further revised. Then, the latest version of partnerships was reported, and its implementation plan was examined in the ICL-IPL Sendai Partnership Conference on 11-15 March 2015. Then, this Sendai Partnerships was proposed to the Working Session No. 4 “Underlying Risk Factors” held at 10:00-11:30 AM in Hagi Hall of the Sendai International Center on 16 March 2015. The chairperson of the session was Mr. Kamal Kishore and the moderator was Mr. Badaoui Rouhban. Dr. Kyoji Sassa proposed this Sendai Partnerships in the final part of the session which was devoted to make statements of commitments on addressing the Underlying Risk Factors in the post-2015

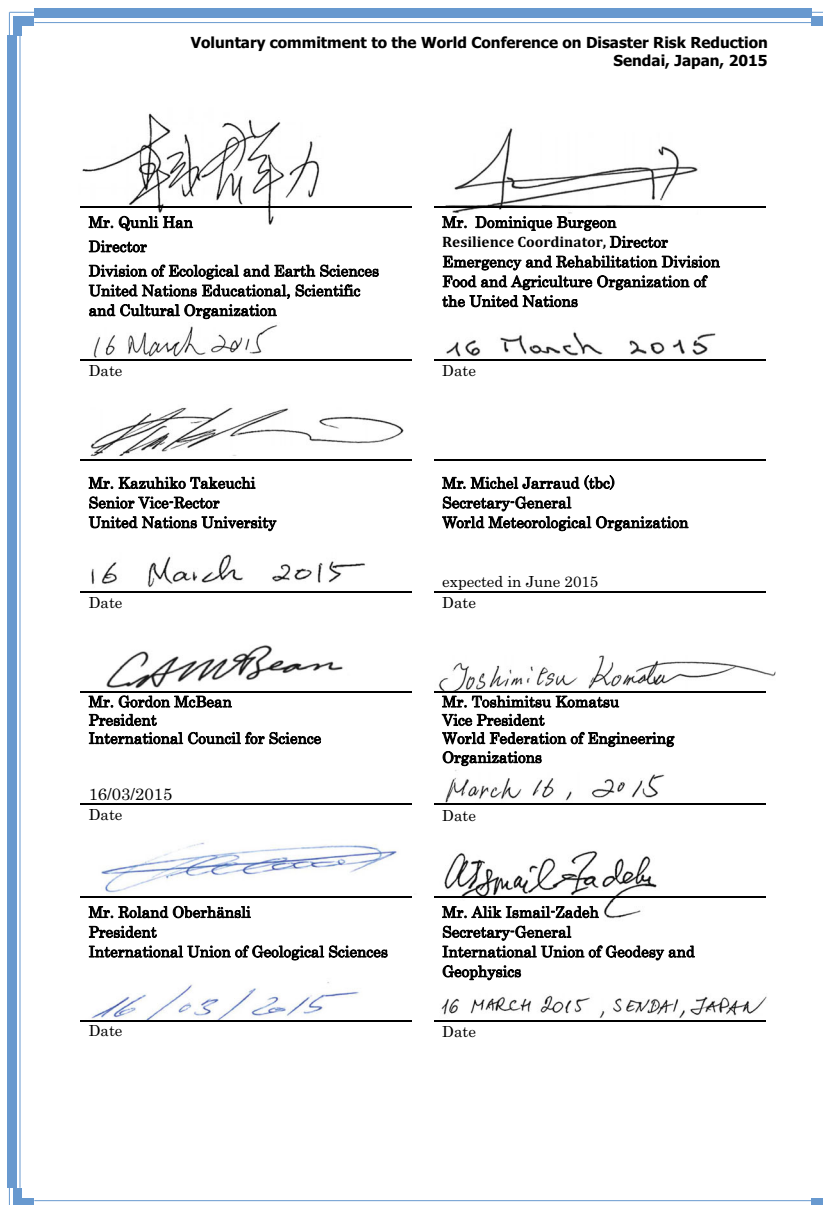


Fig. 3 (continued)

framework for disaster risk reduction. As a result, the launch of the Sendai Partnerships was announced in the session.

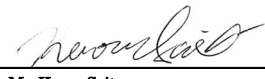
Signing ceremony and the Sendai Partnerships

The signing ceremony of the ISDR-ICL Sendai Partnerships was organized in a Japanese Restaurant “JUNSEN” in Sendai, Japan, from 12:00–13:30 on 16 March 2015. Sixteen intergovernmental, international, and national organizations signed the Sendai Partnerships. Heads of some organizations attended and signed there; some organizations nominated an officer in-charge of disaster reduction to sign the documents while some organizations signed it in advance and sent a representative to bring the signed partnerships to this signing ceremony. Following are the

organizations which agreed and signed the Sendai Partnerships on 16 March 2015.

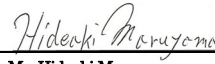
1. International Consortium on Landslides (ICL)
2. United Nations Office for Disaster Risk Reduction (UNISDR)
3. United Nations Educational, Scientific and Cultural Organization (UNESCO)
4. Food and Agriculture Organization of the United Nations (FAO)
5. United Nations University (UNU)
6. International Council for Science (ICSU)
7. World Federation of Engineering Organizations (WFEO)
8. International Union of Geological Sciences (IUGS)
9. International Union of Geodesy and Geophysics (IUGG)
10. Cabinet Office, Government of Japan (CAO)

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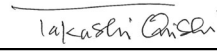
Mr. Kaoru Saito
Director
Disaster Preparedness and
International Cooperation Division
Disaster Management Bureau
Cabinet Office, Government of Japan

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
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

Fig. 3 (continued)

11. Ministry of Education, Culture, Sports, Science and Technology, Government of Japan (MEXT)
12. Kyoto University
13. Science Council of Japan
14. National Civil Protection Department, Italian Presidency of the Council of Ministers, Government of Italy
15. National Protection and Rescue Directorate, Republic of Croatia
16. Global Risk Forum (GRF) Davos

(The WMO is expected to sign after 17th WMO Congress in May/June 2015).

ICL expects that the ISDR-ICL Sendai Partnerships agreed by the above 16 organizations is a global platform to promote understanding and reducing landslide disaster risk. Social necessity for research and technological development of landslide disaster risk

reduction are increasing in the progress of urbanization and the mountain and coastal development especially in changing climate context. ICL wishes to cooperate with many of the involved organizations to reduce landslide disasters in the coming decade.

Figure 1 is a photo of Signing Ceremony; Fig. 2 shows Ms. Margareta Wahlström (left-top) speaking at the ceremony and the toast by Kyoji Sassa (left-bottom) and the SAKE cup designed for the toast in the celebration of the Sendai Partnerships. The cup was made by one of the best Japanese Lacquerware shop in Aizu of Fukushima Prefecture in Japan. The sake cup is made from a wooden cup, URUSHI lacquer, and real gold ICL logo. At first, the stamp of ICL logo was created. Stamp with liquid taken from the Japanese URUSHI tree (*Toxicodendron vernicifluum*, formerly *Rhus verniciflua*) was pressed on the sake cup. It has strong adhesive force. The cup was covered by full of real gold foils. When all excess foils were removed, the ICL logo and the gold

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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

Fig. 3 (continued)

edge appeared. The URUSHI is very strong and can stand for a long time. The logo was designed by Sassa at the time of ICL foundation. The ICL investigated the Inca's World Heritage Machu Picchu at landslide risk in those years. I on the top of slope symbolizes human assets at landslide risk (such as Machu Picchu). L symbolizes the landslide disaster risk reduction efforts by humans (such as a retaining wall or a structure to stop moving landslide debris. C symbolizes the consortium as well as landslide mass under rapid motion. Please notice that C is slightly inclined showing the motion. One opinion from ICL group was that the consortium seems to be not stable and may fall down in this case. It should stand straight. Two opinions are reflected from the background of sciences and technologies of ICL, and both supports were divided into half and half in this cross-disciplinary group. But finally, ICL chose mobility than stability in its logo.

Participants from 16 different types and disciplinary groups toasted for the further progress of landslide disaster risk reduction for the sustainable development in the changing climate context.

The full text of Sendai Partnerships is shown after Figs. 1 and 2. The partnerships include the list of ICL members as of 1 April 2015 as ANNEX. The ANNEX is periodically updated (Fig. 3).

Call for cooperation and acknowledgment

The Sendai Partnerships is not a declaration but a voluntary commitment to the Third WCDRR. ICL members will intensify its activities for understanding and reducing landslide disaster risk over the world. Four regional and five thematic networks of ICL (Sassa 2012) and 15 World Centres of Excellence on Landslide Risk Reduction (Sassa et al. 2015) as well as 62 member organizations from 33 countries, and 41 IPL project group will contribute to this

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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

Fig. 3 (continued)

Sendai Partnerships with supports from 15 intergovernmental, international, and national organizations in their countries or regions. ICL wishes to obtain supports from national and local governments, funding agencies, and also non-ICL scientists, engineers, and private sectors for this partnerships.

One of the core activities of this partnerships is to create ISDR-ICL Landslide Teaching Tools. We discussed this on 15 March 2015 in Sendai, Japan. We will make efforts to create the first version of this Teaching Tools and examine it in the next ICL-IPL meeting as the follow-up and implementing meeting of the Sendai Partnerships. The meeting will be organized in Kyoto, Japan, on 8–11 March 2016. Participations from the 16 partners, new partners, and experts on landslides are requested to attend and cooperate with this voluntary commitment to the Third WCDRR. No registration fee is required.

The JST and the UNESCO financially supported this series of meetings in 2012, 2013, and 2015. The IUGS is appreciated for providing financial support annually to the ICL activities. Many colleagues supported the establishment of this Sendai Partnerships. Those individuals can be seen in the photo of Fig. 1. The following individuals are especially appreciated for the establishment of Sendai Partnerships and signatures.

Ms. Margareta Wahlström, Ms. Feng Min Kan, and Ms. Yuki Matsuoka of the United Nations Office for International Strategy for Disaster Risk Reduction, Mr. Qunli Han and Mr. Giuseppe Arduino, Mr. Alexandros Makarigakis of UNESCO, Mr. Kaoru Saito of the Cabinet Office, Government of Japan, Mr. Satoru Nishikawa of the Water Agency of Japan, Mr. Badaoui Rouhban, IPL advisor, and

Mr. Hans van Ginkel and Mr. Salvano Briceno who advised the partnerships but could not come to Sendai. Mr. Franco Gabrielli and Mr. Robert Mikac from governments of Italy and Croatia, Mr. Dominique Burgeon (FAO), Mr. Roland Overhansli (IUGS), and Mr. Alik Ismail-Zedeh (IUGG), Mr. Takashi Onishi of Science Council of Japan, Mr. Toshimitsu Komatsu (WFEO) attended and signed the partnerships on the site. Mr. Srikantha Herath for Kazuhiko Takeuchi of UNU, Mr. Kaoru Takara (ICL Treasurer) for Ms. Kayo Inaba of Kyoto University, Ms. Irasema Alcantara-Ayala (ICL vice president) for Gordon Mcbean of ICSU attended together with signed partnerships of those organizations. ICL President Yueping Yin, the past ICL President Paolo Canuti, four Vice presidents, and representatives of 62 ICL member organizations are very much appreciated for their supports and further contribution to this partnerships.

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