

## **KYOTO 2020 COMMITMENT FOR GLOBAL PROMOTION OF UNDERSTANDING AND REDUCING LANDSLIDE DISASTER RISK**

*A Commitment to the Sendai Landslide Partnerships 2015-2025, the Sendai Framework for Disaster Risk Reduction 2015-2030, the 2030 Agenda Sustainable Development Goals, the New Urban Agenda and the Paris Climate Agreement*

### *Preamble*

Landslide disasters are the result of impacts of hazardous movement of soil and rocks that threaten vulnerable human settlements and infrastructure in mountains, cities, on coasts, and islands. An increase in the frequency and/or magnitude of heavy rainfall and shifts in the location, timing and periodicity of rainfall and permafrost/glacier degradation due to changing climate and global warming may significantly intensify the risk of landslides in many landslide prone areas.

Developments in mountains and coastal areas, including infrastructure construction such as roads, railways, energy and communication corridors, expansion of urban areas, including deforestation due to population growth and movement increase exposure to the hazards of landslides. Landslide disaster risk reduction is a globally important objective in all countries/regions where people living near mountains and on slopes are exposed to landslides.

The International Consortium on Landslides (ICL) proposed the 'ISDR-ICL Sendai Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk' in the Working Session "Underlying Risk Factors" during the 3rd World Conference on Disaster Risk Reduction (WCDRR) in Sendai, Japan, 2015. The Sendai Partnerships was adopted and signed by 17 United Nations, international and national stakeholders. Joint efforts thereafter have been made and resulted in significant outcomes and materials including the edition and publication of the open access full color book "ISDR-ICL Sendai Partnerships 2015-2025", Vol. 1 of the Fourth World Landslide Forum (Ljubljana, 2017), the edition of "Landslide Dynamics: ISDR-ICL Landslide Interactive Teaching Tools", as well as the enhanced publication of the monthly full-color journal Landslides: Journal of the International Consortium on Landslides.

The landslide risk to human settlements in mountainous and coastal areas in many countries will likely continue to rise including after the latter-half period of the Sendai Landslide Partnerships 2015-2025. In September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDG) including SDG 11 'Make cities and human settlements inclusive, safe, resilient and sustainable' and SDG 13 'Take urgent action to combat climate change and its impacts'. As a voluntary commitment to the 2030 Agenda, to the Sendai Framework for Disaster Risk Reduction 2015-2030 and to the Paris Agreement on Climate Change as well as to the Sendai Landslide Partnerships itself, participants in the Fourth World Landslide Forum considered and further endorsed the first outline of a commitment, the Kyoto Landslide Commitment 2020, as a stable framework to mobilize in the medium and long term a global alliance which will accelerate and incentivize action for landslide disaster risk reduction.

The High-Level panel discussion on "Strengthening Intergovernmental Network and the International Programme on Landslides (IPL) for ISDR-ICL Sendai Partnerships 2015-2025 for global promotion of understanding and reducing landslide disaster risk" was organized during the Fourth World Landslide Forum. The panelists were from the signatory organizations of Sendai Partnerships (ICL, UNESCO, WMO, FAO, UNU, ISC, WFEQ, IUGS, IUGG, Cabinet Office of Japan, Italian Civil Protection, Global Risk Forum, Davos) and new signatory organizations (the Indonesian National Agency for Disaster Management, the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief,

Ministry of Natural Resources and Environment, Vietnam, IRDR Science Committee, EuroGeoSurveys) as well as experts in this field.

The outcome of this High-Level panel discussion was reviewed by the Round Table Discussion to promote the Sendai Partnerships and the participants approved the 2017 Ljubljana Declaration on Landslide Risk Reduction. The Declaration endorsed the plan for the organization of the Fifth World Landslide Forum in Kyoto, Japan in November 2020 and the preparation of the Kyoto Landslide Commitment 2020 of a global alliance which aims, in the medium and long term, to accelerate and incentivize action for landslide disaster risk reduction to 2025, 2030 and beyond.

The Kyoto Landslide Commitment 2020 (KLC2020) is a framework aimed at providing key actors and stakeholders concerned with landslide risk at all levels and sectors with the tools, information, platforms, technical expertise and incentives to promote landslide risk reduction on a global scale. It supports the implementation, follow-up and review of the Sendai Framework, the 2030 Agenda for Sustainable Development, the New Urban Agenda and the Paris Climate Agreement as it addresses the adverse effects of climate change.

KLC2020 reaffirms the following resolution of the Sendai Landslide Partnerships, acknowledging that:

- ✓ *Landslide disasters are caused by exposure to hazardous motions of soil and rock that threaten vulnerable human settlements in mountains, cities, on coasts, and islands.*
- ✓ *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.*
- ✓ *Global warming will intensify the risk of landslides in permafrost area and glacial lake outburst floods through snow and ice melting.*
- ✓ *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 priority actions of Kyoto 2020 Commitment for Global Promotion of Understanding and Reducing Landslide Disaster Risk in research and capacity building, coupled with social and financial investment:***

- Action 1** Promote the 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.
- Action 2** Advance hazard and vulnerability mapping, including vulnerability and risk assessment with increased precision, as well as reliability as part of multi-hazard risk identification and management.
- Action 3** Improve the technologies for monitoring, testing, analyzing, simulating, and effective early warning for landslides suitable for specific regions considering natural, cultural and financial aspects.
- Action 4** Apply the ISDR-ICL Landslide Interactive Teaching Tools for landslide risk reduction in landslide prone areas and improve them with feedbacks from users in developed and less developed countries.
- Action 5** Promote open communication with local governments and society through integrated research, capacity building, knowledge transfer, awareness-raising, training, and educational activities, to enable societies and local communities to develop effective policies and strategies for reducing landslide disaster risk, to strengthen their capacities for preventing hazards from developing into major disasters, and to enhance the effectiveness and efficiency of relief programs.
- Action 6** Investigate the effect of climate change on rainfall-induced landslides and promote the development of effective rainfall forecasting models to provide earlier warning and evacuation especially in developing countries
- Action 7** Investigate the mechanism and dynamics of submarine landslides during earthquakes that may cause or enhance tsunamis, as well as develop and upgrade its hazard assessment and mitigation measures
- Action 8** Promote geotechnical studies of catastrophic megaslides and develop their prediction and hazard assessment.
- Action 9** Foster new initiatives to study research frontiers in understanding and reducing landslide disaster risk by promoting joint efforts by researchers, policy makers and funding agencies.
- Action 10** Facilitate and encourage monitoring, reporting on, and assessing progress made, through the organization of progress report meetings at the regional and national level, to take place in respective countries, in order to show delivery and performance on progress made towards achieving the Kyoto Landslide Commitment priority actions No.1-9. Participating parties and relevant stakeholders reporting on deliveries and achievements at these meetings are invited to report on this progress in the monthly full color journal “*Landslides*” so as to allow viewing progress in addressing landslide risk reduction. They are also encouraged to cooperate, as feasible and appropriate, with countries, the United Nations family, regional organizations, and all other partners and stakeholders concerned with landslide risk in their contribution to the Sendai Monitor System and the Voluntary National Reviews, and in their reporting on relevant key SDGs, notably on resilient and sustainable cities and climate action and on the Paris Agreement follow-up.

*We submit that the above priority actions contribute to the four priority areas of the Sendai Framework and to the achievement of its seven global targets, in line with the “Words into Action” guidelines for Sendai Framework implementation, as well as of the SDG related targets. These actions also support landslide risk actors involved in building urban resilience so as to achieve coherence with the New Urban Agenda. Furthermore, they contribute to the discussion within the Global Platforms for Disaster Risk Reduction. Finally, they support the implementation of the Strategic Framework 2016-2021 of the United Nations Office for Disaster Risk Reduction (UNDRR).*

*We consider KLC2020 as a framework to enhance cooperation in landslide risk reduction internationally, but also as a platform aimed at providing support to regional, national and local efforts, triggering exchanges on good practices and twinning and building the capacity of institutions and professionals at the national and local levels.*

**Commitments by all participating parties** are periodically reviewed and updated at the Triennial World Landslide Forum in which parties of KLC2020 are called upon to participate.

Fundamental Coordinating Commitments by the International Consortium on Landslides (ICL) and the Global Promotion Committee of the International Programme on Landslides (IPL) and others providing the common platform for the Kyoto Landslide Commitment 2020 include the following:

1. The Triennial Conference "World Landslide Forum" will be organized and the progress of Kyoto Landslide Commitment by all participating parties will be reported and examined for further development.
2. *Landslides*: Journal of International Consortium on Landslides will continue to be published monthly in full color and distributed to all participating parties.
3. Contribution fee and full color printing fee will continue to be waived to promote contribution from less developed countries and young researchers.
4. ICL provides that all parties of the Kyoto Landslide Commitment 2020 have the right to submit and publish news and reports of their activities in the “*Landslides*” journal. All parties will receive the digital access rights (tokens) to all issues of the journal (2002-present).
5. ICL will publish and update Landslide Dynamics: Landslide Interactive Teaching Tools (LITT) as a core activity for public education at each Forum. In *early 2018, the first LITT (Vol.1 Fundamentals, Mapping and Monitoring, Vol.2 Testing, Risk Management and Country Practices) have been edited and published including PPT for lessons and PDF for reference in digital format.*
6. ICL and the Global Promotion Committee of the International Programme on Landslides (GPC/IPL) will organize the annual IPL symposium and publish a series of books with ISBN numbers together with Research, Administrative and Strategic Review meetings at relevant venues such as UNESCO or elsewhere including the biennial Global Platform for Disaster Risk Reduction.
7. Other commitments by ICL and IPL groups will include:
  - ✓ Landslide experts are called upon to gain trust and confidence from the local authorities and the communities facing the risk of landslides in order to effectively communicate the risk and urge local actions to help reduce the risk. Thus, ICL and IPL groups will promote a good dialogue at local levels throughout the activities of the Kyoto Landslide Commitment 2020.
  - ✓ To promote cooperation between policy makers, national government authorities working on landslide risk reduction and landslide scientists and engineers, a joint round table discussion

between ICL members and high-level Ministerial members will be organized at each triennial Forum.

- ✓ Community safeguard policy for the countries/areas which are affected by rain-induced rapid and long-travel landslides, earthquake-induced megaslides as well as coastal and submarine landslides will be examined in specific sessions at each Forum.
- ✓ To identify, whenever possible and appropriate, focal points at the national/regional level in as many countries/regions as possible for engagement with the Kyoto Landslide Commitment 2020 and for ensuring contact and coordination with the Secretariat.

*We are conscious that KLC2020 will build and capitalize on the work and achievements of ICL and IPL notably the 2006 Tokyo Action Plan, the 2015 Sendai Partnerships and the outcomes of the World Landslide Fora.*

*We are committed to working together with Member States of the UN system, the UN family, regional organizations, and all other partners and stakeholders concerned with landslide risk, including civil society, academic, scientific and research entities, business, professional associates and private sector financial institutions, and the media.*

*We firmly believe that sustained cooperation and exchange between countries at a governmental level is needed if we are to promote in a sustainable way landslide risk reduction for resilience. Therefore, the timeliness and opportunity of having in place a platform or a mechanism at an intergovernmental level which would work to advise, strengthen and support decisions and initiatives on landslide risk reduction must be considered. This mechanism will enhance synergetic and concerted efforts not only among governmental entities but also between them and other sectors including the private sector and the civil society. We call upon KLC2020 partners and stakeholders concerned to consider developing an Intergovernmental Panel on Landslide Risk Reduction in the framework of KLC2020 within the International Programme on Landslides (IPL) so as to raise the level of interest in this area and maintain it through support to a long term global alliance that will continue to 2025, 2030 and beyond. The Panel will help mobilize strong political interest and commitment of the international community as well as further scientific knowledge and technological know-how. It will advise on translating the objectives of ICL into meaningful programmes at the country level. The functions, form, governance and operation of the Panel will hopefully be defined by relevant intergovernmental bodies.*

### **A Call for joining the Commitment**

Competent global, regional, national, local institutions and entities participating in the Fifth World Landslide Forum are invited to support this initiative by joining and signing this Commitment through participation in clearly defined commitments for understanding and reducing landslide disaster risk. The potential parties are requested to make contact with the Secretariat of the host organization. Furthermore, ICL and competent national, regional and international institutions are encouraged to enter into bilateral arrangements including through a dedicated Agreement of Cooperation which will provide a framework of cooperation and facilitate collaboration in areas of common interest and which enable both parties to mutually benefit and develop their cooperation, for the benefit of landslide hazard-prone communities in the country concerned and worldwide.

### **Host Organization and Secretariat**

The International Consortium on Landslides (ICL) hosts the Kyoto Landslide Commitment 2020 as a voluntary commitment to the Sendai Landslide Partnerships 2015-2025, the Sendai Framework for Disaster Risk Reduction 2015-2030 and the 2030 Agenda Sustainable Development Goals. The ICL Secretariat in Kyoto, Japan, serves as the Secretariat of the Kyoto Landslide Commitment 2020.

**Signatories:**

*Signature*

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Name

Position

Organization

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Date