

Landslides (2018) 15:1705–1712
 DOI 10.1007/s10346-018-1047-4
 Received: 21 July 2018
 Accepted: 23 July 2018
 Published online: 2 August 2018
 © Springer-Verlag GmbH Germany
 part of Springer Nature 2018

Kyoji Sassa

ICL journal “*Landslides*” and the Kyoto 2020 Commitment

Landslides: Journal of International Consortium on Landslides was established by the International Consortium on Landslides (ICL) to develop an integrated field of landslide science in April 2004. Landslides had been studied within many fields of sciences; however, study aspects and methodology as well as technical terms were varying. In order to develop “landslide science” integrating many fields of sciences and engineering, a new international journal dealing landslides was needed which can provide common information sources. To do so, full color photos of landslides are indispensable, which are the only common information understandable for all scientists and engineers working in different fields related to landslides. The ICL consulted with several international publishers to create full color scientific journal without advertisement.

The Japan Landslide Society printed 5000 copies of three-color printing international newsletter “Landslide News” and distributed 2000 copies to scientists and engineers working in different fields pertinent to landslides abroad, free of charge for 15 years since 1987. The ICL and Springer Verlag agreed to develop full color academic journal in 2003 based on “Landslide News” with no full color printing fee and no advertisement. It was the initial project of the International Programme on Landslides (IPL-C100) which is a program of the ICL for landslide disaster risk reduction.

The journal was supported by global stakeholders, governmental organizations, and nongovernmental organizations as well as ICL member organizations (full members, supporters, and associates). It has continued to develop since its foundation. Figure 1 presents the progress of impact of ICL Journal Landslides in recent 8 years. The total number of printed pages per year increased from 534 to 2502, while the number of articles per year increased from 49 to 196. Likewise, the number of issues per year tripled from 4 to 12. In the past 8 years, the impact factor calculated by Clarivate Analytics has increased from 2.216 to 3.811. Furthermore, the ranking of the journal has improved from 1/30 to 1/36 in the field of “Engineering, Geological”. Likewise, CiteScores of the journal by SCOPUS have increased from 2.15 to 4.03 in the past 8 years, improving the ranking of the journal from 10/133 to 1/175 in the field of “Geotechnical Engineering and Engineering Geology”. The total number of published articles and published pages has constantly increased. The total number of printed pages in 2018 (2502 pages) was estimated to be two times of those during the first 6 months. Likewise, the number of articles in 2018 was estimated to reach 196. With this popularity and standard, the journal can certainly be a platform for cooperation and information exchange within the world landslide community.

Progress of the Kyoto 2020 Commitment

The International Consortium on Landslides proposed the “ISDR-ICL Sendai Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk” during the 3rd World Conference on Disaster Risk Reduction organized in March 2015 in Sendai, Japan. The partnerships were signed by 22 global stakeholders including five United Nations, international organizations, national governmental organizations, and nongovernmental organizations (Sassa 2015 and Sassa 2017b). The Sendai Partnerships and their background were reported in Vol.1 ISDR-ICL Sendai Partnerships 2015–2025 of the Fourth World Landslide Forum books, among its five volumes. It is an open access book which can be accessed and downloaded free of charge from <https://link.springer.com/book/10.1007%2F978-3-319-59469-9>.

The ISDR-ICL Sendai Partnerships 2015–2025 should be effective to foster global cooperation for landslide risk reduction. However, landslide disaster risk will not obviously be solved by 2025. For example, during 5–7 July 2018, 219 people were killed in Hiroshima, Okayama, Ehime, Kyoto, and other prefectures in Japan mostly by rapid and long-travelling landslides induced by heavy rainfalls. A total of 294 people were killed in Nagasaki Prefecture in July 1982. In Sri Lanka, 262 people were killed by rain-induced rapid and long-travelling landslides in May 2017.

We need to establish a long-term stable cooperation framework for landslide disaster risk reduction. The 2017 Ljubljana Declaration on landslide risk reduction-contributing to the Sendai Framework for Disaster Risk Reduction (Sassa 2017c) proposed to establish the Kyoto 2020 Commitment (KC2020) for global promotion of understanding and reducing landslide disaster risk at the Fifth World Landslide Forum (WLF5) in Kyoto, Japan, 2020 as the development of the Sendai Partnerships 2015–2025 (Sassa 2017a, 2018c). The Zero draft of the KC2020 was created at the 2017 ICL-IPL Conference at UNESCO organized from 29 November to 1 December 2017 (Sassa 2018b).

The ICL created a new category of ICL members “ICL associates” in 2017 in addition to ICL full members and ICL supporters with the aim to join KC2020. The ICL distributes the journal “*Landslides*” to all ICL members. Associates as well as ICL full members and ICL supporters are encouraged to contribute their news/reports and any activities that contribute to one of the priority actions of KC2020 to a new category of the journal articles “News/Kyoto Commitment” which was created in March 2018. After the 2017 Ljubljana Declaration that proposed the concept of KC2020, 8 new full members, 9 new associates, and 2 new supporters have joined the ICL in 2018.

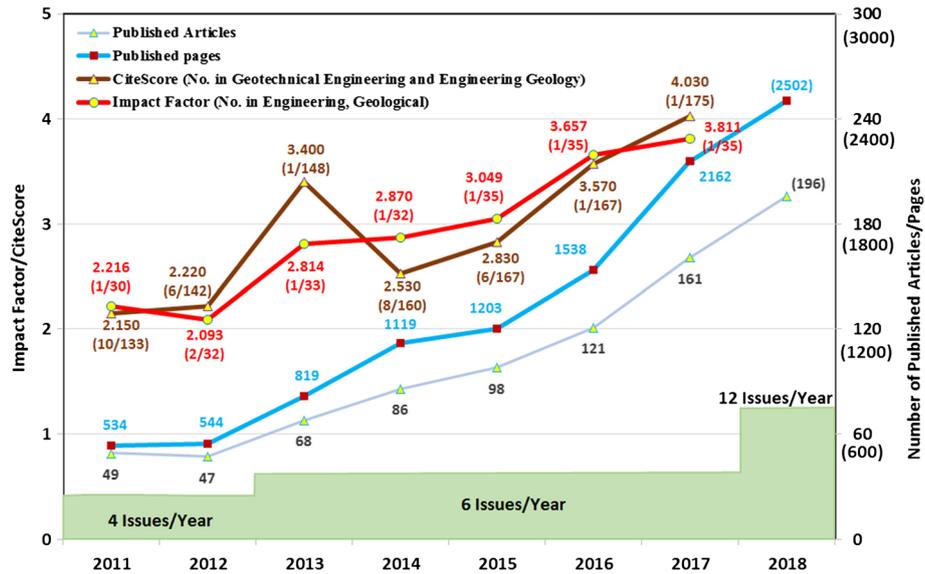


Fig. 1 Progress of the impact of ICL journal “Landslides” for the world landslide community

The secretariat of the ICL sent a letter on 26 May 2018 to ICL members asking their willingness to join KC2020 and possible contribution to 10 priority actions proposed in the Zero draft of KC2020. Until 20 July 2018, the secretariat received 22 replies. These first responses for Zero draft of KC2020 will be informative for other members and organizations who are considering to join KC2020 and on the discussion to develop the Zero draft on 1–4

December 2018 in Kyoto, Japan. The priority actions (Table 1), the first responses (Table 2) and the graph of the number priority actions raised by the initial members (Fig. 2), are attached below.

Figure 2 presents that most of the members are willing to contribute priority action 2 “Advance hazard and vulnerability mapping”, priority action 3 “Improve the technologies for monitoring, testing, analyzing, simulating, and effective early warning”,

Table 1 Priority actions of the Zero draft of KC2020

Priority action	Activities
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 to landslide prone areas and improve these with responses from users in developed and less developed countries.
Action 5	Promote 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, and to enhance the effectiveness and efficiency of relief programs.
Action 6	Investigate the effect of climate change on large-scale landslides and debris flows and promote the development of effective prediction of localized rainfall 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 2020 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”.

Table 2 List of organizations willing to join KC2020 and their selected priority actions (as of 20 July 2018)

No.	Name of ICL full member organizations	Board member	Alternative member
1	Institute of Mountain Hazards and Environment, Chinese Academy of Sciences, China	Peng Cui	Lijun Su
	<p>The Institute of Mountain Hazards and Environment, Chinese Academy of Sciences (IMHE-CAS) is an important academic center for mountain science research, especially mountain hazards mitigation in China. The IMHE-CAS is a founding member of ICL since 2002. Since 2006, the IMHE-CAS has been appointed as the secretariat office of Chinese committee of International Center for Integrated Mountain Development. At the national level, the IMHE-CAS is the official center of the mountain branch of the Geography Society of China and the Geography Society of Sichuan, and the debris flow and landslide subcommittee of Chinese Society of Water and Soil Conservation. The IMHE-CAS focuses on the formation and prevention of debris flow, landslide, and mountain torrent, especially the stability and transfer process of rock and soil. The scientific object is to reveal the slope and valley processes and their transition to hazards by combining field surveys, simulation experiments, and theoretical analysis, and to develop the principles and techniques of geotechnical and ecological countermeasures. The IMHE-CAS has made a series of achievements in the study of mountain hazards and earth surface process, and outstanding contribution to mainline railway and road disaster mitigation, oil and gas pipeline disaster prevention, and Wenchuan earthquake relief and postearthquake reconstruction. The achievements of systematic techniques for disaster mitigation along traffic lines in the mountainous areas in Western China won the national second-class award for science and technology progress in 2009.</p>		
	Contribution to KC2020: Actions 2, 3, 5, 6, and 8		
2	Faculty of Engineering, China University of Geosciences, China	Huiming Tang	Yuyong Jiao
	<p>The Faculty of Engineering of China University of Geosciences (FOE-CUG) is a comprehensive institution for higher education, scientific research, and industrial application. FOE-CUG has the engineering research center of the ministry of education for geotechnical drilling and protection, and the geological disaster research center of the ministry of education for the Three Gorges Reservoir (TGR) region of the Yangtze river. FOE-CUG has a national level teaching team of engineering geology. FOE-CUG has also been undertaking a National Basic Research Program (973 program) and a National Key Technologies R&D Program of China about mitigation and risk assessment of landslides from 2013 to 2021. With the TGR region as a representative research area, FOE-CUG has established several landslide geohazard research bases including the Badong field test site and the Majiagou landslide field test site since 2003. Various in situ experiments and monitoring projects, such as large-scale geotechnical tests, underground hydrological tests, and surface and subsurface monitoring, can be operated with the help of these research bases. The expertise of the organization includes multi-field monitoring techniques, evolution mechanism, forecast, prevention, and mitigation of landslides.</p>		
	Contribution to KC2020: Actions 1, 2, 3, 5, 6, 8, and 9		
3	Northeast Forestry University, The Cold Region Science and Engineering Research Institute, China	Wei Shan	Ying Guo
	<p>The Cold Region Science and Engineering Research Institute combines the research strengths and advantages of the relevant disciplines of Northeast Forestry University of China and focuses on the environmental and engineering geological problems caused by the degradation of permafrost in the permafrost regions of Northeast China under the background of climate change. It aims to solve the major natural resources and environmental issues related with national sustainable development to provide advice for major project construction decisions in permafrost regions, as well as to improve their innovate ability. The institute has a "postdoctoral scientific research station" approved by the Chinese government and recruits postdoctoral research fellows. It has Ph.D. authorization discipline of traffic disaster prevention and reduction discipline in cold area and recruits doctoral students independently. The institute relies on the Engineering Consulting and Design Institute of Northeast Forestry University to provide consulting services for local engineering construction, and has achieved a good reputation and has been rewarded by the government and project construction units. The institute has a temperature control laboratory and related indoor experimental equipment and has a Sun Wu field observation station with equipment and vehicles supporting field monitoring and exploration.</p>		
	Contribution to KC2020: Actions 1, 2, 3, 6, and 9		
4	Charles University, Faculty of Science, Department of Physical Geography and Geocology, Czech Republic	Vít Vilímek	
	<p>The Department of Physical Geography and Geocology of the Faculty of Science of Charles University has been one of the founding members of ICL since the early beginning in 2002. Key research and education themes include natural hazards and risks (including landslides). The department provides training in bachelor's, master's, and doctoral studies, with an emphasis on international cooperation in doctoral studies. Since 2008, Charles University has been considered a World Centre of Excellence on Landslide Risk Reduction in four consecutive periods (in cooperation with the Czech Academy of Sciences since 2014). In addition to classic themes like mapping and monitoring, research themes focus on subjects such as rainfall thresholds, dating by tree rings analysis, or the use of remote sensing data (in cooperation with the Department of Applied Geoinformatics and Cartography). From a regional point of view, research is concentrated to central Europe as well as Latin America (e.g., Peru, Colombia) and Africa (Ethiopia).</p>		
	Contribution to KC2020: Actions 2, 4, 5, 6, and 9		
5	National University of Colombia, Colombia	Guillermo Ávila	Álvaro González
	<p>The geotechnical group of the Department of Civil and Agricultural Engineering of the National University of Colombia has developed multiple works of geohazard evaluations and natural risks assessment, as well as methodological guides to improve and standardize the studies of this nature. At the university, slope stability and geotechnical risk courses are held periodically both at undergraduate and postgraduate levels. The professors and students of the doctorate and the master's degree in geotechnical engineering develop research projects that have contributed in a significant way to the knowledge of the processes of slope instability in the local environment and to the processes of land planning. The department has a very modern geotechnical laboratory equipped with static and dynamic soil and rock tests facilities, equipment for testing large samples as gravels under triaxial conditions, and a laboratory for large-scale models. Research has also been carried out on numerical models of slope and rock stability and travel distance post failure, land subsidence and soil cracking processes, characterization and improvement of materials, and studies on partially saturated soils.</p>		

Table 2 (continued)

No.	Name of ICL full member organizations	Board member	Alternative member
	Many professors and students are currently working on comprehensive risk assessment, integrating the technical components with social and environmental aspects, and in these knowledge areas, the National University is widely recognized in Colombia and Latin America. Contribution to KC2020: Actions 1, 2, 5, and 8		
6	Institute of Rock Structure and Mechanics of the Czech Academy of Sciences (IRSM CAS) The Department of Engineering Geology of the Institute of Rock Structure and Mechanics of the Czech Academy of Sciences (IRSM CAS) is an important center of research focusing on landslides and near-surface fault deformations. It is an ICL member since 2013, and since 2014, the IRSM CAS had been entitled as a World Centre of Excellence (WCoE) on Landslide Risk Reduction by the Global Promotion Committee of International Programme on Landslides of UN-ISDR. At the national level, the IRSM CAS serves as scientific advisory body for various governmental offices formulating sustainable landslide risk reduction strategies and leads multi-disciplinary research of natural hazards performed by group of institutes of the Czech Academy of Sciences focusing on landslide-related knowledge dissemination to public. IRSM CAS has technical equipment and research infrastructure allowing application of a wide range of landslide investigation methods and maintains several international monitoring networks. The used instruments describe 3D, in situ fault deformations on sites mostly located in underground places (caves, galleries) or observe movements of deep-seated landslides in different geological settings. The main research interests of the IRSM CAS team include assessment of landslide susceptibility, hazard as well as risk and its application to disaster risk reduction in different natural and social environments, multi-disciplinary studies of evolution and dynamics of various types of slope deformations, and development of methods for precise long-term monitoring of the geological environment. Contribution to KC2020: Actions 2, 3, 5, 9, and 10	Josef Stemberk	Jan Klimeš
7	National Institute of Disaster Management, New Delhi, INDIA National Institute of Disaster Management (NIDM) was constituted under an Act of Parliament. It has been assigned nodal responsibilities for human resource development, capacity development, training, research, documentation, and policy advocacy in the field of disaster management. It works through strategic partnerships with various ministries and departments of the central, state and local governments, academic, research, and technical organizations in India and abroad and other bi-lateral and multi-lateral international agencies. NIDM was designated as a World Centre of Excellence (WCoE) on Landslide Risk Reduction for the period 2011–2014 by the Global Promotion Committee of International Programme on Landslides (IPL) of UN-ISDR. NIDM has completed an IPL project (IPL-172) on Documentation, Training and Capacity Development for Landslides Risk Management. NIDM has published a training module on comprehensive landslides risk management and launched a web-based self-study course on landslides management (www.nidmssp.in). NIDM contributed towards preparation of National Guidelines on Management of Landslides and Avalanches. The institute represents in the various task forces, working groups, and committees related to landslide studies and management in India. Contribution to KC2020: Actions 1, 2, 3, 4, 5, 6, 7, and 9	B. H. Anil Kumar	Surya Parkash
8	Vellore Institute of Technology, Vellore, Tamil Nadu, India Vellore Institute of Technology (VIT) is a leading international research university with over 35,000 students from 60 countries as well as from every state in India. VIT offers 36 undergraduate, 31 postgraduate, and research programs. The Department of Structural and Geotechnical Engineering, School of Civil Engineering conducts research on rainfall-induced landslides by field investigations with instrumentations, laboratory testing, and numerical modeling. The department has well-equipped geotechnical laboratory with advanced soil testing facilities and latest finite element, finite difference, limit equilibrium, and landslide simulation numerical programs for landslide research. The department has undertaken sponsored (by DST, Govt. of India) research project entitled Geotechnical Investigation on Landslides in Nilgiris District of Tamil Nadu, India focusing on geotechnical characterization and identification of causal factors and failure mechanism of rainfall-induced long-runout landslides. The Indian Geotechnical Society (IGS), Vellore Chapter and Indian Society of Earthquake Technology (ISET), Vellore Chapter established by School of Civil Engineering promote closer interaction among scientists and engineers about landslide and earthquake theory and practices. The Center for Disaster Mitigation and Management (CDMM) at VIT involves in research on landslide hazard assessment, early warning systems, and mitigation measures. Contribution to KC2020: Actions 5, 6, and 8	S S Chandrasekaran	
9	University of Firenze, Earth Sciences Department, Italy The Department of Earth Sciences of the University of Florence (DST-UNIFI) is an important center for research and higher training in Italy. DST-UNIFI is a founding member of ICL since 2002. Since 2016, the DST-UNIFI has been appointed as UNESCO chair on prevention and sustainable management of geo-hydrological hazards. The mission of the chair is to promote research and development (R&D) for the prevention and management of geo-hydrological hazards in order to support policies and actions of risk reduction. At the national level, since 2005, the DST-UNIFI is the official Centre of Competence of the Italian Civil Protection for Remote Sensing and Geo-hydrological hazards. In 2008, the DST-UNIFI was entitled as a World Centre of Excellence (WCoE) on Landslide Risk Reduction 2008–2011 by the Global Promotion Committee of International Programme on Landslides of UN-ISDR. This recognition was confirmed for 2011–2014 and for 2014–2017 for third consecutive time. DST-UNIFI has research infrastructure, field instrumentation, technical equipment, and a wide range of dedicated laboratory facilities for the research in the field of landslides. The expertise of the research team includes remote-sensing techniques and application of space-borne and ground-based SAR interferometry, monitoring ground instabilities, and development of early warning systems and GIS-based quantitative models for hazard and risk prediction. Contribution to KC2020: Actions 1, 2, 3, 6, and 9	Nicola Casagli	Veronica Tofani
10	CERI Research Centre – Sapienza University of Rome, Italy The Research Centre on Geological Risks (CERI) of the University of Rome “Sapienza” was established in 2003 as an inter-departmental center to put together researchers with different backgrounds, the wider frame of natural and anthropogenic hazards. CERI promotes and carries out	Francesca Bozzano	Carlo Esposito

Table 2 (continued)

No.	Name of ICL full member organizations	Board member	Alternative member
	<p>research, dissemination, and postgraduate training activities. In 2008, CERI was entitled as a World Centre of Excellence (WCoE) on Landslide Risk Reduction 2008–2011 by the Global Promotion Committee of International Programme on Landslides of UN-ISDR. Since its establishment, CERI has been entrusted by public authorities and private companies for consulting activities, especially for landslide-related issues. As regards landslides, the researchers of CERI have expertise in numerical modeling of unstable slopes, monitoring of ground displacements—for both cognitive and forecasting purposes—by means of remote sensing techniques (ground-based, space-borne), and micro/nano seismometric approaches, susceptibility, and hazard assessment. CERI has a wide range of facilities, such as laboratory of soil mechanics, instrumentations for ground-based (TRS, TLS, GB-InSAR) and air-borne (UAVs) monitoring, and micro- and nano-seismometers. Experimental “field laboratories” have been set up and are still managed by the CERI to refine multi-platform monitoring techniques and methodologies.</p> <p>Contribution to KC2020: Actions 2, 3, 8, and 9</p>		
11	<p>JSC “Hydroproject Institute,” Moscow, Russia</p> <p>The Joint Stock Company “Designing, Surveying and Research Institute “Hydroproject” named after S.Y. Zhuk” (JSC “Hydroproject Institute”; JSC “HPI”) is a leading company in the field of hydraulic engineering in Russia. JSC “HPI” is a member of ICL since 2003. In 2008 JSC “HPI” together with Institute of Seismology of the National Academy of Science of Kyrgyz Republic was entitled as a World Centre of Excellence (WCoE) on Landslide Risk Reduction 2008–2011 by the Global Promotion Committee of International Programme on Landslides of UN-ISDR. This recognition was confirmed for 2011–2014, 2014–2017, and 2017–2020. One of the core activities of the JSC “HPI” WCoE is organization of the annual International Summer School on Rockslides and Related Phenomena in Kokomeran River valley (Kyrgyzstan) that has been carried out since 2006 being attended by more than 100 participants from more than 20 countries. JSC “HPI” performs complex study of landslides and slopes’ stability, with special emphasis on seismically induced landslides both in the context of the assessment of slopes’ stability during strong earthquakes and of the use of large bedrock landslides as indicators of the prehistoric earthquakes at numerous hydraulic schemes in Russia and abroad to ensure their safety.</p> <p>Contribution to KC2020: Actions 2, 5, 8, and 9</p>	Alexander Strom	Alexander Piotrovskiy
12	<p>Russian State Geological Prospecting University n.a. Sergo Ordzhonikidze (MGRI-RSGPU)</p> <p>Engineering and geological faculty of MGRI-RSGPU is an important center of investigations and higher education in Russia. MGRI-RSGPU is an ICL full member since 2018. The mission of the faculty is promoting the researches and development (R&D) for warning and liquidation geological and hydrogeological hazards. It is important for reasons of support and development of measures to reduce the risk. Engineering and geological faculty took part in Russian sets of rules for landslide investigation development on national rate. MGRI-RSGPU has research center, field equipment, technical equipment, and wide range of specific laboratory devices for researches in landslide field. Specialists of research group (especially Fomenko I.K., Pendin V.V., Gorobtsov D.N.) are familiar with remote sensing, geological environment variability monitoring, and quantity models creations on the base of GIS systems for hazards and risk forecasting. Engineering and geological faculty of MGRI-RSGPU is a participant of Rocscience education program and has significant experience in stability estimation of landslides. The estimation bases on limit equilibrium and finite element methods in 2D and 3D task definition</p> <p>Contribution to KC2020: Actions 2, 3, 5, and 8</p>	Igor Fomenko	Denis Gorobtsov
13	<p>University of Ljubljana, Faculty of Natural Sciences and Engineering</p> <p>The Faculty of Natural Sciences and Engineering at the University of Ljubljana hosts four departments, among which the Department of Geology is responsible for education and research in all fields of geology, including the applied science (engineering geology, hydrogeology, GIS, natural hazards, etc.). Faculty is an active member of ICL since 2016 and also a member of the Adriatic-Balkan network (ICL-ABN). In the frame of ICL, researchers from the faculty have co-organized the 4th World Landslide Forum in Ljubljana in 2017. Member activities comprise landslide mapping, mass movement sediment research, influence of groundwater on mass movements, field measurements and monitoring, GIS modeling and morphological analyses, and knowledge transfer to students and broader public. There is an active cooperation with several municipalities and local authorities plus other major institutions in the country, responsible for landslide mitigation and public awareness.</p> <p>Contribution to KC2020: Action 3, 4, 5, and 9</p>	Timotej Verbovšek	Tomislav Popit
14	<p>University of Ljubljana, Faculty of Civil and Geodetic Engineering, Slovenia</p> <p>The Faculty of Civil and Geodetic Engineering, University of Ljubljana (UL FGG) is an internationally recognized center for research and higher education in Slovenia in these two disciplines. At the national level, since 2000, the UL FGG staff was contributing to remediation of several large landslides and debris flows in Slovenia and established a good collaboration with the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief (URSZR). UL FGG joined ICL community in 2008. In 2008, UL FGG was entitled the World Centre of Excellence (WCoE) on Landslide Risk Reduction for the period 2008–2011 by the Global Promotion Committee of International Programme on Landslides of UN-ISDR. This recognition was confirmed triennially for the periods 2011–2014, 2014–2017, and 2017–2020. In 2017, UL FGG organized the 4th World Landslide Forum (WLF4) in Ljubljana. Since 2016, UL FGG is hosting the UNESCO Chair on Water-related Disaster Risk Reduction (WRDRR) that was established at University of Ljubljana. The mission of the chair is to promote research in experimental river basins (ERB) to understand water-related hazards and to mitigate them, including flash floods and landslides, and thus contributing to the International Hydrological Programme as well as to international efforts for landslide risk reduction led by the International Consortium on Landslides. UL FGG has human resources and research infrastructure (field and laboratory instrumentation and technical equipment) to contribute effectively to landslide research and landslide risk reduction—specifically in the field of rainfall-induced landslides, flash floods and debris flows, landslides in flysch, modeling mass movements, laboratory tests on suction in soils, early warning systems (EWS), and decision support systems for landslide risk reduction.</p>	Matjaž Mikoš	Ana Petkovšek

Table 2 (continued)

No.	Name of ICL full member organizations	Board member	Alternative member
	Contribution to KC2020: Actions 1, 2, 3, 5, 6, and 10		
15	Institute of Telecommunications and Global Information Space of the National Academy of Sciences of Ukraine	Oleksandr Trofymchuk	Iurii Kaliukh
	The Institute of Telecommunications and Global Information Space of the National Academy of Sciences of Ukraine (ITGIS NASU) is an important center for research and higher training in Ukraine. At the national level, since 2010, the ITGIS NASU is the official Centre of Competence of the Ukrainian Civil Protection for Remote Sensing and Geo-hydrological hazards. In 2017, the ITGIS NASU was entitled as a World Centre of Excellence (WCoE) on Landslide Risk Reduction 2017–2020 by the Global Promotion Committee of International Programme on Landslides of UN-ISDR. ITGIS NASU has research infrastructure, field instrumentation, technical equipment, and a wide range of dedicated laboratory facilities for the research in the field of landslides. The expertise of the research team includes remote-sensing techniques and monitoring ground instabilities and development of early warning systems and GIS-based quantitative models for hazard and risk prediction.		
	Contribution to KC2020: Actions 1, 2, and 3		
16	Civil and Environmental Engineering Department, California State University, Fullerton, USA	Binod Tiwari	
	California State University is the largest university system in USA among the universities providing undergraduate or graduate degrees. Among its 23 campuses, California State University, Fullerton is one among the largest with over 40,000 student enrollments. The university currently has over 4000 full time and part time faculty and staffs. The university offers 57 undergraduate and 52 graduate degrees including two doctoral degrees and has been ranked by U.S. News & World Report as one among the top national universities and among 25 most innovative schools. Its online graduate program in engineering has been ranked among the top 15th nationally. The civil and environmental engineering department currently has over 600 undergraduate and about 300 graduate students. The department houses state-of-the-art laboratory facilities for research pertinent to geotechnical engineering, water resources engineering, environmental engineering, structural engineering, and geospatial engineering. The department faculty members are leaders in the nation pertinent to landslide-related research and publication. The state-of-the-art geotechnical engineering research facilities such as cyclic and monotonic simple shear as well as triaxial devices, direct and ring shear devices, devices measuring unsaturated soil properties, specific surface area device, seepage tank for dam-related research, slope containers and rain simulators for physical modeling of slopes, large-scale shake table, four different geotechnical software used for slope stability and deformation analysis.		
	Contribution to KC2020: Actions 2, 3, 4, 5, 6, and 8		
17	Vietnam Institute of Geosciences and Mineral Resources (VIGMR), Hanoi, Vietnam	Tran Tan Van	Trinh Xuan Hoa
	VIGMR is a research and development (R&D) institution under the Ministry of Natural Resources and Environment (MONRE). Founded in 1965, the main functions of VIGMR are scientific research, technological development, and postgraduate training on geology, mineral resources, underground water resources, marine geology, environmental geology, karst geology, geopark and geoheritage, urban geology, medical geology, and geotechnical engineering. There are currently 250 staffs working for 16 professional units under VIGMR. Since the early 1990s, VIGMR has conducted various R&D projects on geohazards at different scales in Vietnam. At present, VIGMR is coordinating a State-Funded Landslide Project (SFLP), namely "Investigation, assessment and warning zonation of landslides in the mountainous regions of Vietnam". This nationwide project aims to systematically assess landslide susceptibility, hazard, and risk for 37 mountainous provinces of Vietnam. Being recognized as a top R&D organization in Vietnam that has most experiences in the fields of geology, mineral resources, and geohazard studies, VIGMR has become a member of ICL since 2015.		
	Contribution to KC2020: Actions 1, 2, 3, 5, 6, 9, and 10		
	Name of ICL associates	Representative	
18	Geotechnical Engineering Group (GEG), University of Salerno, Italy	Michele Calvello	
	GEG-UNISA is a leading research group in Europe working on a number of boundary value problems involving geomaterials, from natural soils to rocks, with special attention devoted to landslides. The expertise of GEG-UNISA is relevant on laboratory testing and mechanical characterization of saturated and unsaturated soils; analysis and interpretation of soil/structures displacement measurements acquired through processing of innovative space-borne sensor images; assimilation of soil displacement measurements in advanced geotechnical models; selection and use of advanced analytical and numerical methods for landslide modeling; definition of criteria and zoning of landslide susceptibility, hazard, and vulnerability at different scales; qualitative and quantitative landslide risk assessment; local and territorial early warning systems for the mitigation of the risk to life-related to weather-induced landslides; and soil reinforcement and control works against landslides. GEG-UNISA founded, in 2005, the International School on "Landslide Risk Assessment and Mitigation"--LARAM (www.laram.unisa.it) to offer a permanent venue for PhD students, young researchers, and renowned experts to interact and exchange ideas in the field of landslide risk. The main yearly initiative of LARAM is the 2-week long doctoral school; 14 editions of the LARAM School have been held from 2006 to 2018.		
	Contribution to KC2020: Actions 1, 2, 3, 5, and 6		
19	University of Sannio, Department of Sciences and Technology, Italy	Francesco Maria Guadagno	
	The Department of Sciences and Technologies of the University of Sannio (DST-Unisannio) has acquired a strong expertise in the field of natural hazards in the last 15 years, especially in the study of landslide hazard and risk. This expertise has been obtained through both collaborations and agreements with local and national research centers and institutions and coordination of several international and EU projects. At the national level, the DST-Unisannio is Centres of Competence on Hydrogeological Risk on behalf of the Italian Civil Protection Department. The EU research projects in collaboration with other national and foreign universities and research centers are focused at providing innovative teaching methods for the dissemination of fundamental aspects of geological hazards and associated risks, on the one hand, or specifically		

Table 2 (continued)

No.	Name of ICL full member organizations	Board member	Alternative member
	<p>designed to support civil protection actions, on the other hand. DST-Unisannio has recently completed new research infrastructures; part of that are devoted to landslide characterization and monitoring with a wide range of field and laboratory equipment for landslide detection and monitoring. Further expertise of the research team includes advanced hydrogeological and seismic response modeling and self-development of low-cost sensors and equipments for landslide monitoring.</p> <p>Contribution to KC2020: Actions 1, 2, 3, 5, and 6</p>		
20	<p>Sergeev Institute of Environmental Geoscience, Russian Academy of Sciences (IEG RAS)</p> <p>Sergeev Institute of Environmental Geoscience RAS is the staff of skilled specialists, including one academician, one corresponding member of the RAS, 10 DSc, and 40 PhD. The institute carries out the basic and applied researches in the fields of environmental geology, engineering geology, hydrogeology, seismology, landslides, natural risk as well as coordinates these studies within the scope of state, academic, and municipal programs. IEG RAS participates in the state programs: safety, global changes, and the development of the system of seismic observations and prediction of earthquakes; branch program environmental safety of Russia; and municipal program safety of Moscow, and Science for Moscow. IEG RAS participates in the state examination of projects for construction of environmentally hazardous and responsible constructions by the section assessment of the effect on the environment. IEG RAS participates in the composing of the state (national) report on the state and use of lands of Russian Federation and the state report on the state of protection of Russian Federation population and area from emergencies of natural and technological origin.</p> <p>IEG RAS is the co-founder of a scientific journal <i>Environmental Geoscience</i> (Geoekologiya). Engineering geology. Hydrogeology. Geocryology.</p> <p>Contribution to KC2020: Actions 1, 2, 3, 4, 5, and 9</p>	Valentina Svalova	
21	<p>TEMPOS environmental civil engineering, Ltd, Ljubljana, Slovenia</p> <p>TEMPOS, environmental civil engineering Ltd, is a private consulting company working in the field of water management, torrent control, slope stability and landslides, floods, and erosion. TEMPOS Ltd. expertise is relevant on numerical modeling of floods and debris flows, hydrological modeling, slope stability analysis, geotechnical research and survey, geological mapping, hazard assessment, design of control works, river training, and hydrotechnical and geotechnical structures. Our clients are state institutions, municipalities, and other consulting companies that need specialists from our field of expertise. We provide complete services from numerical modeling and analysis phase to final execution design phase. Our strategy is to combine new methodologies and approaches with practical solutions. In this way, we can provide the best solutions for our clients. We are present in Slovenia and abroad.</p> <p>Contribution to KC2020: Actions 1, 2, 3, 5, and 9</p>	Jošt Sodnik	
	Name of ICL supporter	Representative	
22	<p>IDS GeoRadar s.r.l., Pisa, Italy</p> <p>IDS GeoRadar, part of Hexagon, is a leading provider of multi-frequency, multi-channel Ground Penetrating Radar (GPR) and Interferometric Technology solutions for environmental/geological risk management. It is the world's first producer of a next generation radar system: a full 3D SAR Radar based on the ArcSAR technology that offer maximum flexibility to any monitoring scenario, (also for super-wide coverage scenario) with a high resolution and accuracy in a very fast scan time.</p> <p>"IBIS" and "HYDRA" solutions have revolutionized the traditional approach to measuring the movements and deformations of large areas (landslides, slopes, volcanoes, glaciers, etc.) and of structures (dams, bridges, towers, buildings, etc.) with an accuracy up to 0.1 mm in all weather conditions, thanks to an automatic advanced atmospheric corrections.</p> <p>Interferometric radars are supplied along with a dedicated software suite that provides automatic real-time processing of radar data, visualization of displacement maps with multiple analysis options, and the possibility to create multiple hazard-maps with user-defined alarm criteria for active monitoring. The software allows a very easy interpretation, thanks to a user friendly interface and a 3D representation and visual imaging. Long datasets for geotechnical back analysis, data import and export, and the full process does not need any human intervention, thanks to completely automated operations.</p> <p>Contribution to KC2020: Actions 1, 2, 3, 8, and 10</p>	Sergio Padovani	

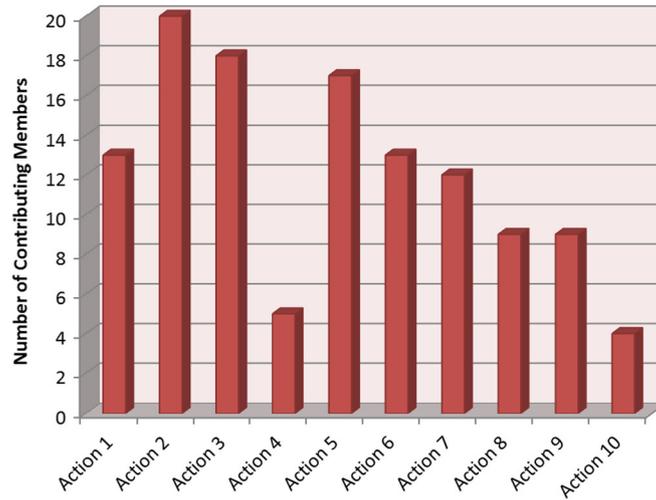


Fig. 2 Priority actions selected by the initial organizations

and priority action 5 “Promote open communication with society through integrated research, capacity building, knowledge transfer, awareness-raising, training, and educational activities”. These priority actions are in the stage of Zero draft. It can be modified, added, or removed by potential participants of KC2020 until the final version of KC2020, which will be decided in 2019 ICL-IPL Conference. All signatory and potential signatory organizations are invited to WLF5 to launch and discuss the management of the KC2020.

Call for participation to KC2020

The ICL calls for the participation in KC2020 to create long-term global cooperation frame. ICL journal “*Landslides*” publishes the most advanced research and technologies as “Original Papers”, the report of recent landslides as “Recent Landslides”, technical development and case studies as “Technical Notes”, the progress of the projects of International Programme on Landslide (IPL) and the World Centres of Excellence (WCoEs) as “IPL/WCoE Activities”, and recent news/reports and activities related to KC2020 as “News/Kyoto Commitment” (Sassa 2018a). This monthly journal shall serve as the common platform for the KC2020 for global cooperation. The ICL will distribute monthly journal “*Landslides*” to all KC2020 signatory organizations as the information sources and newsletter.

Host organization and secretariat of KC2020

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

The ICL secretariat

138-1 Tanaka-Asukai-cho, Sakyo-ku, Kyoto 606-8226, Japan

Tel: +81 (75) 723 0640, Fax: +81(75) 950 0910

E-mail: secretariat@iclhq.org

IPL WEB: <<http://iplhq.org/>>, ICL WEB: <<http://icl.iplhq.org/>>,

WLF5 WEB: <<http://wlf5.iplhq.org/>>

References

- Sassa K (2015) ISDR-ICL Sendai Partnerships 2015–2025 for global promotion of understanding and reducing landslide disaster risk. *Landslides* 12(4):631–640
- Sassa K (2017a) The Fifth World Landslide Forum—implementing and monitoring the ISDR-ICL Sendai Partnerships 2015–2025- timeline of the WLF5 organization process and call for session proposal. *Landslides* 14(5):1857–1859
- Sassa K (2017b) The ISDR-ICL Sendai Partnerships 2015–2025: background and content. In: Sassa K, Mikoš M, Yin Y (eds) . Springer, Advancing Culture of Living with Landslides, pp 3–21
- Sassa K (2017c) The 2017 Ljubljana Declaration on landslide risk reduction and the Kyoto 2020 Commitment for global promotion of understanding and reducing landslide disaster risk. *Landslides* 14(4):1289–1296
- Sassa K (2018a) Monthly publication of landslides: journal of International Consortium on Landslides (ICL). *Landslides* 15(1):1–3
- Sassa K (2018b) Zero draft of the Kyoto 2020 Commitment for global promotion of understanding and reducing landslide disaster risk. *Landslides* 15(3):389–392
- Sassa K (2018c) The Fifth World Landslide Forum—implementing and monitoring the ISDR-ICL Sendai Partnerships 2015–2025 - organization plan, themes and sessions. *Landslides* 15(3):617–620

K. Sassa (✉)

International Consortium on Landslides (ICL),

Kyoto, Japan

Email: secretariat@iclhq.org