

Preface

Kyoji Sassa

Progress of ISDR-ICI Sendai Partnerships 2015-2025 for global promotion of understanding and reducing landslide disaster risk

Introduction

The International Consortium on Landslides (ICL) and the International Programme on Landslides (IPL: a programme of ICL for ISDR) contributed to the UN International Strategy for Disaster Reduction (ISDR) and co-organized the Working Session “Underlying Risk Factors” together with UNESCO at the 3rd World Conference on Disaster Risk Reduction (WCDRR), which was convened by the United Nations and hosted by Japan from 14 to 18 March 2015 in Sendai. At the Working Session held in the morning of 16 March 2015, the participating scientific and academic institutions including governmental and non-governmental organizations proposed that the *Sendai Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk* (LSP2015), and it was adopted. The sixteen participating United Nations, International and national organizations signed this partnership document in the afternoon of 16 March 2015 in Sendai, Japan (Wahlström 2015 and Sassa 2015). This article reports the major progress made on the LSP2015 from March 2015 to March 2017, the initial two year period.

Progress of the ISDR-ICL Sendai Partnerships from March 2015 to March 2017

1. Edition and Publication of Open Access Full color book “ISDR-ICL Sendai Partnerships 2015-2025”

The LSP2015 group planned to organize the high-level panel discussion 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*” on 30 May 2017 during the Fourth World Landslide Forum in Ljubljana, Slovenia (Mikos 2016). 17 Signatory organizations of LSP2015 were invited to contribute papers introducing their activities and possible contribution to LSP2015 to the First Volume: ISDR-ICL Sendai Partnerships 2015-2025. This is one of five full color books to be published and distributed at WLF4 and includes the basic information to the high-level panel discussion. It will be distributed to all partners and individuals over the world to promote the LSP2015. ICL decided to publish the book as an open access book which can be read and downloaded free of charge. The full content of this book is shown in Table 1 Contents of Vol. 1 ISDR-ICL Sendai Partnerships of “Advancing Culture of Living with Landslides” in the appendix of this article. The book will start with two forewords by Ms. Irina Bokova, Director-General of UNESCO and Mr. Robert Glasser, Special Representative of the Secretary-General for Disaster Risk Reduction and head of UNISDR, followed by a Preface for Vol. 1 ISDR-ICL Sendai Partnerships 2015-2025, and Part 1 ISDR-ICL Sendai Partnerships 2015-2025 (3 forum lectures and 15 Papers from signatory organizations). The book contains Part 2 - International Programme on Landslides (IPL) contributing to LSP2015. Part 2 starts from IPL objectives, history and List of both IPL

projects and the World Centres of Excellence on Landslide Risk Reduction (WCoEs), followed by UNESCO-KU-ICL UNITWIN Network and Landslides: Journal of International Consortium on Landslides. At the end of this part, 20 papers reporting achievement and progress of IPL (IPL projects and WCoEs) for 2014-2017 will be included. Part 3 - Landslides and Society is one of the sessions of WLF4, which includes selected papers pertinent to the societal aspect of landslide research.

2. Edition/Publication of “Landslide Dynamics: ISDR-ICL Landslide Interactive Teaching Tools” (LITT)

The promotion of *ISDR-ICL SENDAI PARTNERSHIPS 2015-2025 for global promotion of understanding and reducing landslide disaster risk*” needs both aspects of the progress of Science and Technology on landslides and the promotion of capacity development for the practice of progressed science and technology. ICL as the host organization of LSP2015 aims to develop the full color bimonthly journal (2015 impact factor: 3.049) to a monthly journal by 2020 for the promotion of science and technology. ICL also plans to create tools for the capacity development for the practice of updated science and technology without delay. It is the Edition/Publication of “Landslide Dynamics: ISDR-ICL Landslide Interactive Teaching Tools (LITT)” which will be published in parallel to the progress of Science and Technology. LITT will be continually updated through interaction between the contributing organizations and users in WEB and periodically published, such as at each triannual World Landslide Forum.

Why Landslide Dynamics?

A landslide is a downslope movement of rock, soil or both. Landslide disasters are caused by exposure to hazardous motions of soil and rock that threaten vulnerable human settlement in mountains, cities, coasts, and islands, as stated in the Sendai Partnerships. Understanding “Landslide dynamics” that is mechanics to cause hazardous movement of rock, soil or both is the basis of landslide disaster risk reduction.

Outline of the ISDR-ICL Landslide Interactive Teaching Tools

The teaching tools (the first version to be published before WLF4 2017) are classified in five major parts and are included in two volumes which contain 97 tools and some 1700 page texts).

0. Fundamentals

- 1) Landslide Types: Description, illustrations and photos
- 2) Landslide Dynamics for risk assessment

1. Mapping and Site Prediction

- 1) Basic Mapping
- 2) Site Prediction Using GIS
- 3) Field Guidelines

2. Monitoring and Early Warning

- 1) Remote Sensing Techniques for Landslide Monitoring

- 2) Monitoring System Instrumentation
 - 3) Rainfall Threshold for Landslide Prediction
 - 4) Landslide Time Prediction from Pre-failure Movement Monitoring
 - 5) Guidelines for Landslide Monitoring and Early Warning Systems
3. Risk Assessment
- 1) Numerical Modeling and Simulation
 - 2) Physical and Mathematical Modeling
 - 3) Laboratory Soil Testing for Landslide Analysis
 - 4) Analysis and Assessment of Landslides
4. Risk Management and Country Practices
- 1) Landslide Risk Management
 - 2) Community Risk Management
 - 3) Country Practices

The teaching tools consist of three types of tools.

- 1) The first type includes text-tools consisting of original texts with figures. The first edition includes two volumes of books.
- 2) The second type includes PPT-tools consisting of PowerPoint files and video tools made for visual lectures.
- 3) The third type includes PDF-tools consisting of already published reference papers/reports, guidelines, laws and others.

The second and third types of tools will be contained as supplementary documents in the books.

3. ICL World Report on Landslides

The ICL World Reports on Landslides (WRL) database was created as a cooperation platform for sharing landslide case studies and the best practice in the global landslide community. ICL and IPL wish to promote and publish global landslide information using the ICL/IPL network for the ISDR-ICL Sendai Partnerships 2015-2025 and the Sendai Framework for Disaster Risk Reduction 2015-2030 through WRL activities that were assigned as one priority action. The World Report on Landslides database contains 40 submitted reports on landslide cases covering the world. The best rating reports are accessible to the world-wide landslide community as open access data, as well as all the basic reports. The report contains the location and outline of reported landslides including computer simulation videos linked to YouTube and linked to the publishing company web of reference papers. Reporters of each report will get ICL points and access to reports with higher categories. This feature aims to create a common cooperation platform within reporters/users. This latter aspect is still in the initial and trial stage. We wish to create a useful cooperation network within active landslide researchers who are willing to provide their studying landslide cases in WRL. Fig. 1 shows the screen shot of the WRL. The details are introduced in Part 1 of Vol.1 ISDR-ICL Sendai Partnerships 2015-2025 of “Advancing Culture of Living with Landslides” to be published as open access book before WLF4 in 2017.

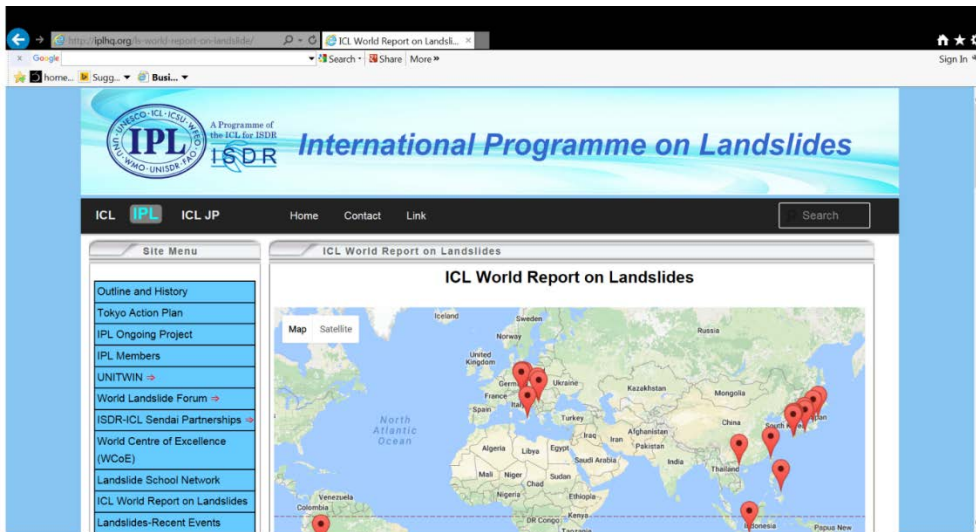


Fig. 1 Screenshot of World Report on Landslides web page <http://www.iplhq.org/>.

Further development plan of ISDR-ICL Sendai Partnerships toward WLF5 2020

The ICL-IPL and LSP2015 groups will organize the Fourth World Landslide Forum from 29 May to 2 June, 2017 in Ljubljana, Slovenia. (<https://www.wlf4.org/>). A total of 372 papers were accepted and 425 attendees registered to WLF4 as of 31 March 2017. We will publish five volumes of full color books and organize a high-level panel discussion: 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*” on 30 May 2017 during the Fourth World Landslide Forum, Ljubljana, Slovenia. The high-level panel discussion organized by inviting 17 signatory organizations and also additional possible signatory organizations will adopt the 2017 Ljubljana Declaration on Landslide Risk Contributing to the Sendai Framework for Disaster Risk Reduction. It will endorse the organization plan of the Fifth World Landslide Forum in Kyoto, Japan in 2020 and also the concept of the Kyoto 2020 Commitment of the World Landslide Community.

Year 2020 will be the midterm of ISDR-ICL Sendai Partnerships 2015-2025 and also the milestone for the Sendai Framework for Disaster Risk Reduction 2015-2030. ICL-IPL and LSP2015 groups will then organize the Fifth World Landslide Forum in a prestigious conference center, Kyoto International Conference Center: KICC. The venue served the Kyoto Protocol as adopted at COP3, December 1997, the First International Symposium on Landslide Control organized by the Japan Landslide Society in October 1972 and the Third World Water Forum organized in March 2003. The outline of WLF5 was decided at the ICL Steering Committee meeting and the meeting to launch the organizing Committee of WLF5, on 5-6 March 2017. It was submitted to Landslides (Sassa 2017) and uploaded to the draft webpage of WLF5 <<http://wlf5.iplhq.org/>>.

One of the targets to be achieved in WLF5 is a possible adoption and signing of the Kyoto 2020 Commitment of the World Landslide Community. It aims to establish a stable global framework to further implement the ISDR-ICL Sendai Partnerships 2015-2025 and pursue and enhance thereafter efforts towards landslide risk reduction. We wish to invite all landslide related global, international, national and regional entities to the parties joining and signing the Kyoto 2020 Commitment. We plan to shift the bimonthly full color journal “Landslides: Journal of International Consortium on Landslides” (2015 impact factor of 3.049, and 2016 published pages of 1597) to a monthly journal before 2020. The journal Landslides has 4 categories: Original papers, Recent landslides, Technical notes and ICL/IPL activities. The journal “Landslides” will attract articles on progress of research and capacity development and landslide risk reduction practices contributed from the parties of the Kyoto 2020 Commitment. We will distribute the print copy and also the digital copy of Landslides containing this information monthly to all parties of the Kyoto 2020 Commitment. It will serve as the global platform and the tools to promote the cooperative activities for understanding and reducing landslide disaster risk within the World Landslide Community.

Those who are willing to support the organization of WLF5 and the establishment of Kyoto 2020 Commitment are requested to contact the ICL Secretariat.

Secretariat for WLF5 and the planned Kyoto 2020 Commitment

Secretariat of the International Consortium on Landslides (ICL)

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Webpages for ICL, IPL and WLF5 : IPL WEB <<http://iplhq.org/>>, ICL <<http://icl.iplhq.org/>>,

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

References

Mikos M (2016) The Fourth World Landslide Forum 2017. Landslides 13 (4):833-838.

Sassa K (2015) ISDR-ICL Sendai Partnerships 2015-2025 for global promotion of understanding and reducing disaster risk. Landslides 12(4): 631–640.

Sassa K (2017) The Fifth World Landslide Forum-Call for session proposals, sponsors and exhibition. Landslides 14 (in this issue)

Wahlström M (2015) Preface for ISDR-ICL Sendai Partnerships. Landslides 12 (4): 629.

Appendix:

Table 1 Contents of Vol.1 ISDR-ICL Sendai Partnerships (Open Access Book) of “Advancing Culture of Living with Landslides”.

Front Matters

Foreword by *Irina Bokova, Director-General of UNESCO*

Foreword by *Robert Glasser, Special Representative of the Secretary-General for Disaster Risk Reduction and head of UNISDR*

Preface for Vol.1 ISDR-ICL Sendai Partnerships 2015-2025 by *Kyoji Sassa, Yin Yueping and Matjaz Mikos*

Part 1 ISDR-ICL Sendai Partnerships 2015-2025

1.1 The Sendai Partnerships 2015-2025: Background and Content

Kyoji Sassa, Executive Director of ICL

1.2 Forum lectures

Rupestrian world heritage sites: Instability investigation and sustainable mitigation
Claudio Margottini, Peter Bobrowsky, Giovanni Gigli, Heinz Ruther, Daniele Spizzichino and Jan Vlcko

Subaerial landslide-generated waves: Numerical and laboratory simulations
Saeedeh Yavari-Ramshe and Behzad Ataie-Ashtiani

Rock fall occurrence and fragmentation
Jordi Corominas, Olga Mavrouli and Roger Ruiz-Carulla

1.3 Contribution from signatory organizations of the Sendai Partnerships

International Consortium on Landslides (ICL) - The proposing organization of the ISDR-ICL Sendai partnerships 2015-2025

Kyoji Sassa, Yueping Yin, Paolo Canuti

United Nations Office for Disaster Risk Reduction (UNISDR)

UNISDR's Contribution to Science and Technology for Disaster Risk Reduction and the Role of the International Consortium on Landslides (ICL)

Chadia Wannous and German Velasquez

United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO's contribution to the implementation of UNISDR's global initiative and ICL

Giuseppe Arduino, Rouhban Badaoui, Soichiro Yasukawa, Alexandros Makarigakis, Irina Pavlova, Hiroaki Shirai, Qunli Han

United Nations University (UNU)

United Nations University - Research and Policy Support for Environmental Risk Reduction”

Jakob Rhyner

World Meteorological Organization (WMO)

Concerted International Efforts for Advancing Multi-Hazard Early Warning Systems

Jochen Luther, Alasdair Hainsworth, Xu Tang, John Harding, Jair Torres, Margherita Fanchiotti

International Council for Science (ICSU)

On the future challenges for the integration of science into international policy development for
Landslide Disaster Risk Reduction

Irasema Alcantara-Ayala

World Federation of Engineering Organizations (WFEO)

Land use and landslides – From simple recovery to “Build Back Better

Kenichi Tsukahara

International Union of Geological Sciences (IUGS)

Sendai – foreseeable but unpredictable geologic events – IUGS reactions

Roland Oberhänsli

International Union of Geodesy and Geophysics (IUGG)

Integrating Natural Hazard Science with Disaster Risk Reduction Policy

Alik Ismail-Zadeh

Cabinet Office, Government of Japan (CAO)

Japan’s International Cooperation on DRR: Mainstreaming DRR in International Societies

Setsuko Saya

Disaster Prevention Research Institute (DPRI), Kyoto University

Disaster Prevention Research Institute, Kyoto University and its contribution to ISDR-ICL

Sendai partnerships 2015-2025

Kaoru Takara

National Civil Protection Department, Italian Presidency of the Council of Ministers,
Government of Italy

Understanding and reducing Landslide Disaster Risk: challenges and opportunities for Italian
Civil Protection

Pagliara Paola, Onori Roberta and Ambra Sorrenti

1.4 Landslide Dynamics-ISDR-ICL Landslide Interactive Teaching Tools (LITT)

*Kyoji Sassa, Fausto Guzetti, Hiromitsu Yamagishi, Zeljko Arbanas, Nicola Casagli, Binod
Tiwari, Kefei Liu, Alexander Strom, Mauri McSaveny, Khang Dang, Hendy Setiawan*

1.5 Progress of the World Report on Landslides

Biljana Abolmasov, Teuku Faisal Fathani, KoFei Liu, Kyoji Sassa

Part 2 International Programme on Landslides (IPL)

2.1 Objectives, History and List of IPL

Qunli Han, Kyoji Sassa, Feng Min Kan, Claudio Margottini

2.2 UNESCO-KU-ICL UNITWIN Network supporting IPL

Kaoru Takara, Kyoji Sassa

2.3 Landslides: Journal of International Consortium on Landslides

Kyoji Sassa and Željko Arbanas

2.4 IPL Activities

Advanced Technologies for Landslides (WCoE 2014-2017, IPL-196, IPL-198)

*Nicola Casagli, Veronica Tofani, Filippo Catani, Sandro Moretti, Riccardo Fanti, Giovanni
Gigli*

Mechanisms of Landslides and Creep in Over Consolidated Clays and Flysch (WCoE
2014-2017)

Matjaž Mikoš, Janko Logar, Matej Maček, Jošt Sodnik, Ana Petkovšek

Researches on Heavy-Rainfall-Induced and Hydraulic-Driven Geological Hazards in China
(WCoE 2014-2017)

Yueping Yin, Yongqiang Xu and Wenpei Wang

Landslide Risk Reduction in Croatia: Scientific research in the framework of the WCoE 2014-2017, IPL-173, IPL-184, ICL ABN

Snježana Mihalić Arbanas, Željko Arbanas, Martin Krkač, Sanja Bernat Gazibara, Martina Vivoda Prodan, Petra Đomlija, Vedran Jagodnik, Sanja Dugonjić Jovančević, Marin Sečanj, Josip Peranić

Shape and mechanism of large-scale landslides in Japan: forecasting analysis from an inventory (WCoE 2014-2017)

Ogita, S. , Sagara, W., Higaki, D. and Research Committee on Elucidating Mechanisms of Large-Scale Landslides

Retrospect and Prospect of Cold Regions Landslide Research (2012-2016) (WCoE 2014-2017, IPL-132, IPL-167, IPL-203, CRLN)

Wei Shan, Ying Guo

Large-scale rockslide inventories - from Kokomeren River Basin to the entire Central Asia region (WCoE 2014-2017, IPL-106-2)

Alexander Strom, Kanatbek Abdrakhmatov

Interventions for Promoting Knowledge, Innovations and landslide risk management practices within South and Southeast Asia (WCoE 2014-2017)

Peeranan Towashiraporn, N.M.S.I. Arambepola

Promoting a Global Standard for Community-based Landslide Early Warning System (WCoE 2014-2017, IPL-158, IPL-165)

Teuku Faisal Fathani, Dwikorita Karnawati, Wahyu Wilopo

Model Policy Frameworks, Standards and Guidelines on Landslide Disaster Reduction (WCoE 2014-2017)

A A Virajh Dias, Nimesha Katuwala, K L S Sahabandu, Nihal Rupasinghe

Landslide hazard and risk management (WCoE 2014-2017)

Josef Stemberk, Vít Vilímek, Jan Klimeš, Jan Blahůt, Filip Hartvich, Jan Balek

Mitigation of landslide hazards in Ukraine under the guidance of ICL: 2009–2016 (IPL-153, IPL-191)

Oleksander Trofymchuk, Iurii Kaliukh, Silchenko Konstantin, Viktoriia Berchun, Taras Kaliukh, Iaroslav Berchun

Development of a Hazard Evaluation Technique for Earthquake-Induced Landslides Based on an Analytic Hierarchy Process (AHP) (IPL-154)

Daisuke Higaki, Eisaku Hamasaki, Kazunori Hayashi

Croatia-Japan SATREPS project "*Risk identification and land-use planning for disaster mitigation of landslides and floods in Croatia*" (IPL-161)

Željko Arbanas et al.

Technical Cooperation Project to Develop Landslide Risk Assessment Technology along Transport Arteries in Vietnam (IPL-175)

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Study of slow moving landslide Umka near Belgrade, Serbia (IPL-181)

Biljana Abolmasov, Miloš Marjanović, Svetozar Milenković, Uroš Đurić, Branko Jelisavac, Marko Pejić

Influence of Post-Earthquake Rainfall on the Stability of Clay Slopes (IPL-192)

Binod Tiwari, Beena Ajmera, Duc Tran

Public Awareness And Education Programme For Landslides Management and Evaluation On Social Research Approach In Determining “Acceptable Risk” and “Tolerable Risk” In Landslide Risk Areas In Malaysia (IPL-194, IPL-207)

*Ab. Rashid Ahmad, Ir. Zainal Arsad Md Amin, Ir. Dr. Che Hassandi Abdullah,
Siti Zarina Ngajam*

Geotechnical Site Characterization of Mud Eruption Disaster Area using CPTu for Risk Assessment and Mitigation Program (IPL-195)

Paulus P. Rahardjo, Adityaputera Wirawan, Andy Sugianto

Massive landsliding in Serbia following Cyclone Tamara in May 2014 (IPL-210)

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Part 3 Session 3: Landslides and Society

Landslides and Society-a foreword

Irasema Alcantara Ayala

Landslide societal risk in Portugal in the last 155 years

Susana da Silva Pereira, José Luís Zêzere and Ivânia Quaresma

Landslide inventory mapping in the fourteen Northern provinces of Vietnam: achievements and difficulties

Le Quoc Hung, Nguyen Thi Hai Van, Pham Van Son, Nguyen Hoang Ninh, Nguyen Tam and Nguyen Thi Huyen

Geological Conservation through Risk Mitigation and Public Awareness at the Siq of Petra, Jordan

Giorgia Cesaro, Giuseppe Delmonaco, Bilal Khrisat and Sabrina Salis

Case histories to study repair and mitigation measures due to landslides in German Uplands

Annika Wohlers, Thomas Kreuzer and Bodo Damm

Surveying perception of landslide risk management performance, a case study in Norway

Jessica Chiu, Unni Eidsvig

Landslide hazards and climate change adaptation of transport infrastructures in Germany

Martin Klose, Markus Auerbach, Carina Herrmann, Christine Kumerics, Annegret Gratzki

Integration of landslide susceptibility maps for land use planning and civil protection emergency management

Sérgio C. Oliveira, José L. Zêzere, Clémence Guillard-Gonçalves, Ricardo A.C. Garcia and Susana Pereira

Participatory approach to Natural Hazard Education for hydrological risk reduction

Giovanna Lucia Piangiamore and Gemma Musacchio

More Room for landslide

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Back Matters Landslide Technology and Engineering in support of Landslide Science