

International Conference on Silk-roads Disaster

Risk Reduction and Sustainable Development

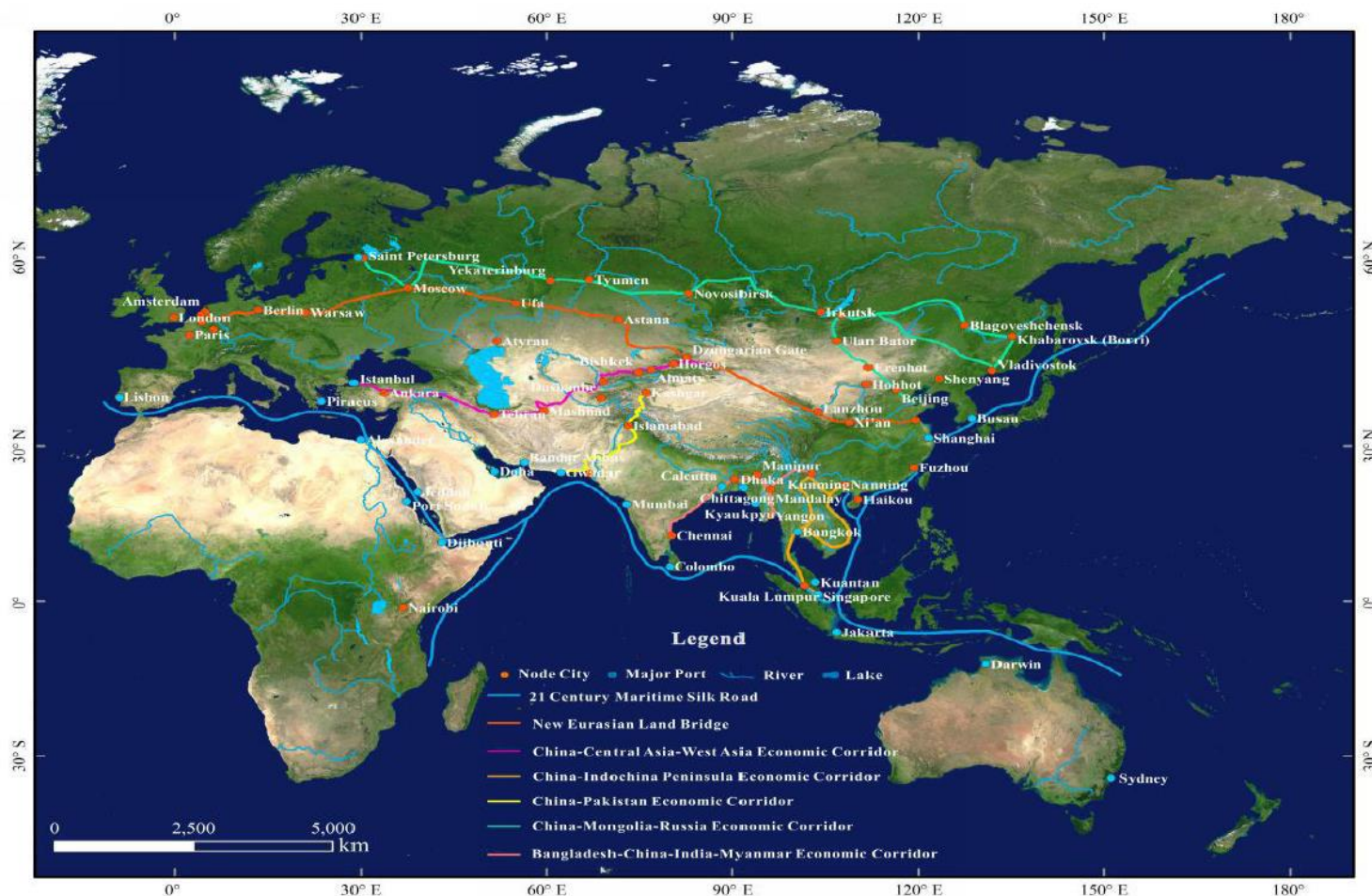
(SiDRR)

09th - 16th May
2019

Dr. Gamini Jayathissa (*Acting Director*)
Hansamali Jayasundara (*Scientist*)



What is SiDRR?



- Silk Road - Connecting the East and the West, through the exchange of trade, science technology and civilization.
- Crosses more than 70 countries
- Affects some 4.4 billion people (63% of the world).
- Natural processes place threats on both social development and livelihoods along the Silk Road
- Numerous challenges related to disaster risk reduction exist in this area,
 - lack of background information and data sharing mechanism
 - absence of scientific risk assessment methods
 - absence of adequate mitigation countermeasures, etc.
- **Sendai Framework for Disaster Risk Reduction** - urgent need to promote international cooperation in disaster risk reduction and sustainable development along the Silk Road.

- Implementation of this program ; ***International Conference on Silk-roads Disaster Risk Reduction and Sustainable Development*** Beijing, on May 11th -12th , 2019
- jointly hosted by
 - Chinese Academy of Sciences (CAS),
 - China Association for Science and Technology,
 - United Nations Environment Programme (UNEP)
 - International Scientific Partners
- Through the contacts established with the officials from South China Sea Institute of Oceanology, we were able to obtain the opportunity to participate and deliver oral presentations at the conference.

The SiDRR Conference

- Held at Beijing International Convention Center



- Inauguration Ceremony of the conference



- Keynote speakers



Conference Theme:

Towards Safe, Green, and Resilient Silk Roads

Conference Topics:

Hazard information detection and data sharing

Mechanisms and physical process

Risk analysis and management

Monitoring and early warning

Hazard prevention and mitigation

Emergency management and post-disaster reconstruction

Cross-border disasters

Sustainable development



The conference comprised of :

- 19 keynote speeches
- 347 oral presentations in 24 parallel sessions
- 88 posters

Parallel sessions were held throughout the two days

Session 1: The Formation Process, Mechanism, and Treating Countermeasures of Landslides

Session 2: Monitoring and Early Warning, Cross Border Disaster, Mountain Hazards

Session 3: Health-Emergency Disaster Risk Management

Session 4: Engineering Geology and Geological Engineering

Session 5: Mobilization of International Science and Technology Collaboration on Disaster Risk Reduction (DRR)

Session 6: Improving Policy and Science & Technology Interface in Disaster Risk Reduction (DRR)

Session 7: Risk and Management of Water Disaster under Changing Environment

Session 8: Advances in Landslide Risk Reduction

Session 9: Sediment Transportation and Geo-hazard Mitigation

Session 10: Mountain Hazards

Session 12: Models for Higher Education Collaboration on Natural Disaster Risk Reduction, Response, and Reconstruction

Session 13: The Sustainable Development along Silk Roads

Session 14: Marine Observations and Hazards

Session 15: Climate Change and Disaster Prevention Technology in Eurasia Arid Zone (DPTUA)

Session 16: Paleoenvironmental Change and Disaster along the Silk Roads

Session 19: Societal Impacts of Geohazards

Session 20: Disaster Monitoring and Risk Assessment

Session 21: Engineering and Environmental Geological Disasters in Permafrost Area

Session 22: Disaster Risk Reduction Knowledge Service

Session 23: Railway Engineering on “the Belt and Road”

Session 24: Academician Session: Science and Technology Development for a Sustainable World

Dr. Gamini Jayathissa Delivering his presentation



Presentation Topic : **“Efforts and Challenges in Landslide Disaster Risk Reduction in Sri Lanka”**

Session 8 : Advances in Landslide Risk Reduction

Organizer : International Consortium on Landslides (ICL)

Conveners : Peter Bobrowsky; Kyoji Sassa; Alexander Strom; Lijun Su

Hansamali Jayasundara - delivering presentation and with other participants of session



Presentation Topic : **“Effects of natural hazards and disaster risk reduction in Sri Lanka”**

Session 14 : Marine Observations and Hazards

Organizer : South China Sea Institute of Oceanology

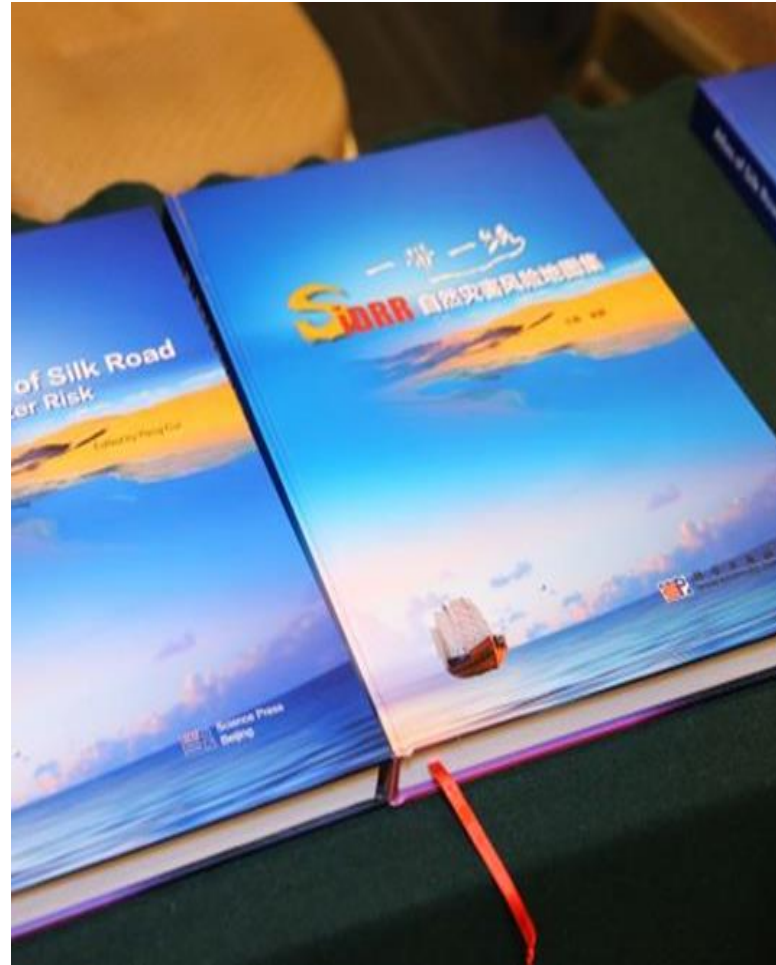
Conveners : Dongxiao Wang; Toshio Yamagata

Achievement



“Best oral presentation award for young scientist” by the organizing committee of SiDRR conference.

Abstracts published



ges in Landslide Disaster Risk Reduction in Sri Lanka

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nse and cumulative rain fall during monsoon and inter-monsoon natural hazard in the Central Highland of Sri Lanka. More than (area of the country) within thirteen administrative districts are slides and almost 38% of the total population of the country is ing to the available records, major landslides occurred during past sed loss of more than 1,500 human lives making over 200,000 nan 100 deaths in 2014 mainly in Badulla district, more than 150 rict and more than 230 deaths in Kegalle, Rathnapura, Kalutara, 17 were recorded recently.

duction efforts taken by Sri Lankan government through its Building Research Organisation (NBRO) in the recent past such ard/risk zonation (scale 1:10,000 and 1: 50,000), site specific ring of identified landslides, stabilization of identified landslides measures, training, education and awareness creation, guideline of resilient features, enforcement of landuse planning regulations, tures through site specific landslide risk assessment prior to new onitoring, forecasting and real time early warnings (rainfall based emetered rain gauge network and site specific early warnings via mmunity based approach), policy development, planning and titutional capacity building, resettlement of communities to safe mic and human losses are still recorded and damages are on the

lide risk has arisen mainly as a result of change of environmental settlement and landuse pattern into a haphazard pattern of proper mechanism to identify the safe lands and to implement a r to development activities, people live everywhere and hence, d even the marginal lands have been already occupied by a high

density of population despite the danger associated with the locations they live in. For instance, NBRO reports more than 18,000 investigations of which majority belongs to potential landslide areas where communities living under the risk of landslides, ground subsidence, slope failures and cutting failures.

Learning from several previous events, it is understood that the landslides in Sri Lanka are mainly triggered by the effect of either cumulative rainfall or intensity of rainfall or both. Only some of these events are associated with early landslide symptoms where safe evacuation with early warning is possible while, majority of the catastrophic events like 2003 incident and recent

f Natural Hazards and Disaster Risk Management in Sri Lanka

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anka which is the home to a total population of 21 million people is affected azards such as floods, cyclones, high winds, lightning, droughts, landslides, al erosion, soil erosion, salinity, forest fires and sea level rise. In addition, calized events like epidemics as well as irregular and occasional high impact 004 tsunami.

re recent Sri Lankan history, the most tragic disasters due to natural hazards y floods, landslides, droughts and tsunami. Floods and landslides in May oximately 717,622 people in 15 administrative districts and caused 212 y, over 2,313 houses were fully destroyed and an estimated 12,529 number of lly damaged. In May 2016, severe tropical cyclone induced floods and tricts of the country, causing over 200 mortalities and affecting almost half a rthermore, in late 2016 country experienced a severe drought which is he worst drought in 40 years. 20 districts were affected by the drought nately 1.8 million people and making reservoirs country-wide reach alarming lso, in September 2015 and December 2014, heavy rains resulted in floods affected approximately 1.2 million people. In June 2014, the southern region ved heavy rainfall and high winds in a relatively short period of time, and the es affected 11 districts causing 27 deaths, affecting approximately 104,500 ng and destroying 1,588 houses. Sri Lanka received, below-average rainfall 13 to March 2014, leading to a prolonged drought which affected over 1.8 6 districts. Sri Lanka was also one of the worst hit countries by the 2004 ni which devastated about 80% of the entire coastline of the country claiming s of Sri Lankans and causing an economic loss of around 2.2 billion US

mi event in 2004, which emphasized the need for a national level policy on t plans, the Sri Lanka Disaster Management Act No.13 of 2005 was enacted is for instituting a disaster risk management system in the country. In January inistry for Disaster Management was established coming under the National er Management, which is a high-level inter-ministerial body led by the g direction for overall disaster risk management in the country. Disaster f, which is the lead agency playing a prime role on disaster risk management

and Disaster Relief Services Centre serve as coordinating bodies while Department of Meteorology, National Building Research Organization and Department of Irrigation serve as technical bodies under the Ministry for Disaster Management. In accordance with the Hyogo and Sendai frameworks, comprehensive disaster risk management plans have been formulated and are enacted within Sri Lanka. These plans attempt to address pre-disaster, during-disaster and

Alliance of International Science Organizations on Disaster Risk Reduction



First Discussion Meeting of the Alliance

- Strong interests in DRR and strong geographic focus on the Silk-road regions
- 30 institutions and universities from countries including China, Italy, Belgium, Nepal, Pakistan and Sri Lanka.
- Some aims :
 - regularly organizing international research forums
 - promoting joint scientific research and cooperation projects in areas of DRR
 - facilitating enhanced collaboration among higher education institutions in Silk-Road countries.
- will serve as a new platform for international coordination and provide scientific support for disaster relief and sustainable development.

Youth Network for “Belt and Road”



International platform for young scientists along the B&R regions

- Increase awareness among young scientists
 - link to the universities and institutions of the network
 - joint /interdisciplinary research in the field of geoscience
 - Professional experiences
 - academic exchange
 - Trainings
- Utilize CAS institutions in the field of geoscience to scientific research advantage
- solve key eco-environmental issues and promote effective disaster response of the B&R countries.

Closing Ceremony



Delivering Closing Remarks

- Launch of “Alliance of International Science Organizations on Disaster Risk Reduction”
- Participants’ consensus on DRR and SD through “Beijing Statement”
 - scientific, technical and political dialogue for the better implementation of Sendai Framework for Disaster Risk Reduction 2015-2030

Benefits and Way Forward

Meetings with officials from institutes of Chinese Academy of Sciences (CAS)

Meetings with officials from Institute of Mountain Hazard and Environment (IMHE)



- IMHE is a similar institution to ours which specializes in studies of mountain hazards and one of the leading institutions of its kind in the world

Prospective MOU between NBRO and IMHE

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE INSTITUTE OF MOUNTAIN HAZARDS AND
ENVIRONMENT
OF
THE CHINESE ACADEMY OF SCIENCES
OF
THE PEOPLE'S REPUBLIC OF CHINA

AND

THE NATIONAL BUILDING RESEARCH ORGANISATION
OF
THE MINISTRY OF PUBLIC ADMINISTRATION AND
DISASTER MANAGEMENT
OF
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

CONCERNING

JOINT RESEARCH AND DEVELOPMENT
IN THE FIELD OF
LANDSLIDE DISASTER RISK MANAGEMENT

- 1 -

- Series of discussions with IMHE has lead to an MOU to formalize the partnership with NBRO with the aims
 - To enhance information exchange
 - To establish joint research and developments
 - To explore the viability of pursuing joint international research partnerships
 - To respond potential operations in other countries where landslides pose a threat to life
- Current status:
 - IMC approved, to be processed through ERD
 - IMHE currently seeking international projects to support joint academic cooperation

OTHER OPPORTUNITIES

Promising avenues opened up through of our alliance with IMHE...

- Invitation for very first SiDRR training course at IMHE.
- Opportunities for more SiDRR trainings for NBRO Scientists in the future
- Provision of higher studies opportunities for interested Sri Lankans for Master's and Doctoral Degrees in IMHE

Overview

- The path to our partnership with CAS started from South China Sea Institute of Oceanology and has now moved onto to Institute of Mountain Hazard and Environment.
- Our participation in the SiDRR conference and establishment of links with the IMHE during the visit has opened up several pathways for future developments of our institution.
- We wish to utilize these opened up opportunities to the best interest of NBRO as well as our country.

Acknowledgement

Our participations in the SiDRR conference and followed events have been made possible by generous contributions from a number of people.

First of all, we express our gratitude to our sponsor for the visit, the South China Sea Institute of Oceanology with special mention to Prof. Donxiao Wang, Prof. Gang Pan, and their group for the support extended towards us at all times.

We also express our deep sense of appreciation to our hosts from the South China Sea Institute of Oceanology, Ms. Yuan Shen, Ms. Rong Hu, Mr. Zhengqiu Zhang and Prof. Yao Luo.

Our special thanks also go to Prof. Peng Cui, Vice-President, Prof. Xiaoqing Chen, Vice-Director General, Prof. Su Lijun and Prof. Gordon Zhou from the Institute of Mountain Hazards and Environment.

We are most grateful to Dr. (Eng.) Asiri Karunawardena, Director General, National Building Research Organisation and the Ministry of Public Administration & Disaster Management for authorization of our participation in the conference.

Finally, I wish to thank all those who were not mentioned by name, but supported us in numerous ways.



THANK YOU
for your
ATTENTION!