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## Consultative Workshop

### Landslide Inventory, Risk Assessment, and Mitigation in Nepal

28-29<sup>th</sup> September 2015

Venue: ICIMOD, Kathmandu, Nepal

09:00 – Arrival & Registration

#### Inaugural Session

(09:20 – 10.30)

**Facilitator:** Deo Raj Gurung, Remote Sensing Specialist, ICIMOD.

**Session Chair:** Mr. Pem N. Kandel, Director General, Department of Soil Conservation and Watershed Management (DSCWM), Government of Nepal.

**Chief Guest:** Mr. Madhu Prasad Regmi, Hon'ble Secretary, Ministry of the Forests and Soil Conservation (MOFSC), Government of Nepal.

Safety briefing – Mr. Chandra B. Kansakar, Senior Officer, Staff Relations and Security, ICIMOD.

Welcome Remarks – Dr. David Molden, Director General, ICIMOD.

Opening Remarks:

- Dr. Henrik Slotte, Chief, Post Conflict and Disaster Management Branch, UNEP.
- Dr. Yam Malla, Country Director, IUCN, Nepal.
- Dr. Eklabya Sharma, Director, Program Operations, ICIMOD.
- Prof. Dr. C.J. van Westen, University of Twente.

Workshop objectives and Expected outputs - Dr. Jagannath Joshi, Under Secretary, DSCWM.

Key Note Speech – Prof. Dr. Tara Nidhi Bhattarai, Tribhuvan University.

Remarks by Chief Guest – Mr. Madhu Prasad Regmi, Hon'ble Secretary, MOFSC.

Vote of thanks and closing remarks – Mr. Pem N. Kandel, Director General, DSCWM.

End of inaugural session.

**10.30-11.00: Group photo and refreshment**



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## Technical Sessions – Day I

28 September 2015

### Technical Session I: Post-earthquake landslide Inventories and interventions.

**Session Objective:** To share the experiences and problems encountered by the institutions in post-earthquake landslide inventory in Nepal.

**Session Chair:** Mr. Pem N Kandel, DG, DSCWM

**Facilitator:** Dr. MSR Murthy, ICIMOD

11:00 Initiatives and requirement of Government agencies - Mr. Shanmukesh Amatya, DWIDP & Dr. Jagannath Joshi, DSCWM.

11:15 Post Nepal Earthquake landslide inventory - Deo Raj Gurung, ICIMOD

11:30 Pre-earthquake Landslide Inventory of Nepal 2015: An Academic Exercise - Dr. Dinesh R. Bhujju, Central Department of Environmental Sciences, Tribhuvan University.

11.45 Landslide Mapping in Nepal: the impacts of the Gorkha earthquakes and the monsoon – Prof. C. J. van Westen on behalf of Dr. Colm Jordan, British Geological Survey.

12.00 REA with Focus on Landslide and Green Recovery and Reconstruction - Judy Oglethorpe, WWF-Nepal.

12:15 A common approach to landslide inventory: Harmonization of the landslide inventory mapping for Nepal - Prof. C. J. van Westen, University of Twente.

12:30 Discussion.

### 13:00 Lunch Break

### Technical Session II: Landslide Hazard, Vulnerability & Risk Assessment and Mapping Methodologies.

**Session Objective:** To share the methodologies and results by the institutions in mapping Land slide hazard, vulnerability and risk assessment in Nepal.

**Session Chair:** DG, DWDIP

**Facilitator:** Prof. C. J. van Westen, University of Twente

14:00 Need for Landslide Hazard, Vulnerability & Risk Assessment and Mapping in Nepal- Dr. Jagannath Joshi, DSCWM.

14:15 Prof. Megh R. Dhital, Mountain Risk Engineering/CDG, TU (Title yet to be received).

14.30 Multi-variate statistical approach for landslide susceptibility mapping - Mr. Sudan Bikash Maharjan, ICIMOD.

14.45 Community Based Landslide Vulnerability and Risk Assessment: Method and Tools - Prof. Narendra Raj Khanal, Consultant, ICIMOD.



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## 15:00 Coffee break

15.15 Dr. Prem P. Paudel, President, Chure Tarai Madhesh Conservation Development Board  
(Title yet to be received).

15.30 Harmonization of Landslide Hazard, Vulnerability & Risk Assessment and Mapping Methodologies for Nepal - Prof. C. J. van Westen.

16.00 Discussion

16:30 Group formation for second day exercise on harmonization of (i) Landslide Inventory methodology and (ii) Landslide hazard, vulnerability and risk mapping methodology (iii) Landslide treatment and mitigation.

17:00 First day wrap-up

## Technical session – Day II 29 September 2015

### Technical Session III: Development of Common Platform.

**Session Objective:** To discuss and agree on a common methodology and platform for data collection and sharing on landslide in Nepal.

**Session Chair:** Mr. Pem N Kandel, DG, DSCWM

**Facilitator:** Dr. Jagannath Joshi, Under Secretary, DSCWM

09:00 Developing a common methodology and platform for data collection and sharing - Global landslide catalogue - Dr. Dalia B. Kirschbaum, NASA Goddard Space Flight Center.

### Technical Session IV: Landslide Treatment/ Rehabilitation Mitigation.

**Session Objective:** To share landslide treatment and rehabilitation approaches.

**Session Chair:** Mr. Keshab Kumar Sharma, DDG, DoR

**Facilitator:** Mr. Purna Chandra Lal Rajbhandari, Consultant, UNEP

09:20 Landslide treatment in Nepal – Dr. Jagannath Joshi, DSCWM & Mr. Shanmukhesh C. Amaty, DWIDP.

09:35 Department of Roads.

09.50 Developmental characteristics of landslide and debris flow in the seismic zone of southeastern Qinghai-Tibetan Plateau and hazard management approaches - Prof. Chen, IMHE, China.



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10:05 Landslides and rockslides studies, modelling and mitigation - Pierre Plotto, IMSRN, France.

10:20 Land slide prevention and stabilization strategies, with best practices from Pakistan - Dr Faizul Bari, FAO Pakistan.

10:35 Ecosystem based approaches and landslide treatment – Dr. Karen Sudmeier, University of Lausanne & UNEP, & Sanjaya Devkota.

### **10:50 Coffee/tea break**

### **Technical Session V: Group work**

**Session Objective:** To deliberate and discuss on each of the three aspects of landslide risk management, and arrive at action plans to improve landslide risk management in Nepal.

**Session Chair:** Prof. C. J. van Westen, ITC/ Twente University Netherlands

**Facilitators:** Mr. Samjwal Bajracharya, ICIMOD & Prof. M. R. Dhital, TU

11:10 Three groups will be formed and take up each of the following aspects of landslide risk management:

- Group 1: Landslide Inventory methodology and platforms.
- Group 2: Landslide hazard, vulnerability and risk mapping methodology.
- Group 3: Landslide treatment and mitigation.

### **13:00 Lunch break**

14:00 Prepare group presentation using power point.

14.30 Plenary - Group presentation (10min presentation and 10min Q&A).

### **15.30 Coffee/tea break.**



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## Closing Session

**Session Chair:** Prof. Dr. Govind Raj Pokharel, Vice Chairman, National Planning Commission, Government of Nepal

16.00 Resolution and way forward - Prof. C.J. Van Westen & Mr. Pem N Kandel, DG, DSCWM.

16.20 Closing remarks - Dr. David Molden, Director General, ICIMOD.

16.30 Closing remarks - Dr. Muralee Thummarukudy, Sr. Program Officer, DRR, UNEP.

16.40 Closing remarks - Mr. Pem N. Kandel, DG DSCWM.

16.50 Vote of thanks - Mr. Purna Chandra Lal Rajbhandari, Consultant, UNEP.

### Rapporteurs for the event:

- Mr. Dharendra Pradhan, Planning Officer, DSCWM
- Mr. Ajay Karki, Asst. Planning Officer, DSCWM
- Ms. Susan Sellers, Consultant, ICIMOD