IDDR Workshop Report-2016
International Day for Disaster Reduction IDDR-2016
"Live to Tell: Reducing Global Disaster Mortality"

In 2016, Nepal Geological Society organized one day symposium on the UN designated theme for IDDR-2016 "LIVE TO TELL: Reducing Global Disaster Mortality" on 28th October 2016. The program was organized at Nepal Tourism Board, Bhrikuti Mandap, Kathmandu in association with Nalsing Gad Hydropower Development Committee and Nepal Tourism Board, Government of Nepal. There were more than 130 participants including researchers, academia, policy makers and practitioner representing various organizations working in the disaster sectors. The program was inaugurated and addressed by Hon'ble Deputy Prime Minister and Minister of Home Affairs, Bimalendra Nidhi. The workshop was divided into Inaugural and Technical Sessions.

A moment of inauguration of the IDDR -2017 symposium.

Inaugural Session

Dr. Danda Pani Adhikari, President, NGS, chaired the inaugural session and Hon'ble Deputy Prime Minister and Minister of Home Affairs, Bimalendra Nidhi inaugurated the program by lightening a holy lamp. Mr. Moti Bahadur Kunwar, Coordinater of IDDR-2016 and ED, Nalsing Gad Hydropwer Development Committee delivered welcome speech on behalf of the NGS IDDR Organizing Committee. Welcoming the distinguished guests and participants to the inaugural session, Dr. Danda Pani Adhikari gave a presentation on 'Nepal Geological Society and Disaster Reduction Activities in Nepal', highlighting all the activities NGS has undertaken in disaster reduction, including disaster prevention, mitigation and awareness raising since early 1990s. Dr. Adhikari also shed light on existing disaster scenarios in Nepal and around the globe and underscored the likelihood of increased number

Dr. Danda Pani Adhikari, Chairman of the IDDR-2017 symposium inaugural session and President of NGS, delivering speech about NGS and its role on disaster risk reduction.

Distinguished Guests in the dais in the inaugural session of the IDDR-2017 symposium.

of disasters in future due to climate change which has already seen around the globe. He also talked on the 2015 Gorkha earthquake and its impacts on life and property and stressed the need of disaster preparedness in addition to the focus Nepal has given to the post-disaster response. Hon'ble Bimalendra Nidhi addressed the program and highlighted the role of government policies and programs in disaster risk reduction, and appreciated the contribution made by Nepal Geological Society in disaster risk reduction activities in Nepal. Dr. Danda Pani Adhikari, President of NGS and Chairman of the session gave a concluding remarks. At the end of the session, Mr. Mukunda Raj Poudel, Vice-President, NGS extended vote of thanks. The program was conducted by Dr. Ashok Sigdel, Acting General Secretary, NGS.

Chief Guest, Honorable Bimalendra Nidhi, Deputy-Prime Minister and Minister of Home Affairs, GoN delivering speech in the inaugural session.

NGS members and other participants attending the inaugural session of the IDDR-2017 symposium.

Technical Session

Following the end of the inaugural session, a technical session was held. Mr. Krishna Prasad Kaphle, Former President of Nepal Geological Society chaired the session, and Dr. Moti Lal Rijal and Mr. Narayan Gopal Ghimire served as rapporteurs. Five impressive technical papers were presented in this session.

The first paper entitled "Loss of lives due to water disaster in Nepal and projection for the future hazard condition" was presented by Dr. Dinesh Pathak, Central Department of Geology, Tribhuvan University. The speaker in his presentation stressed that natural disasters have been the major cause for loss of lives, properties and infrastructures in the Nepal Himalaya. He presented the CRED/EM-DAT database showing there had been 7056 disaster events in the world in the last 20 years (from 1996 to 2015) and about 1.35 million people lost their lives by such disaster and more than half died in earthquakes and many others from weather and climate related hazards. He has also mentioned that the active Himalayan belt in Nepal is one of the vulnerable locations to natural disaster. As a result during last 20 years (1996 – 2015) about 14,756 people were killed out of which 2015 earthquake alone had death toll of about 8976. He also mentioned that such loses is going to be much worse in the future. He highlighted on the summary results of the case studies on water induced disasters in Koshi and Marshyangdi River basins with the projection for the possible future hazard condition. The climate model – predicting the future precipitation along with the forth-coming hazards on different geo-ecological zones is the main theme of the paper.

It was followed by the presentation of second paper entitled "Monitoring of Co-seismic landslides and 2016 monsoon in the Nepal Himalaya: An initiative for sustainable development" by Dr. Basant Raj Adhikari from Center for Disaster Studies, Institute of Engineering/ TU. This was a very interesting paper on landslides triggered due to 2015 Gorkha earthquake and the effect of preceding 2016 monsoon in central Nepal. This 2015 earthquake (intensity 7.8) created widespread landslides and weaken the ground. Subsequent landslides were occurred in the Bhotekoshi catchment area in Sindhupalanchok where earthquake shaking was severe. During 2015 monsoon the rate of land sliding was about 10 times higher than expected based on rainfall – and landslide relations. Because the 2015 monsoon was relatively week as compared to 2016 monsoon season but land sliding are considerably higher than in the previous five years based on the extrapolation of the model. He has presented landslide scaling and rate to settlement by monitoring seismic stations and seismometer in different locations in the region. He informed that the monitoring will run for three more years. The method of monitoring was based on multi temporal secondary data and data generated by Drone survey.

Dr. Basanta Raj Adhikari presenting paper in the symposium on "Monitoring of Co-seismic landslides and 2016 monsoon in the Nepal Himalaya: An initiative for sustainable development".

The third paper entitled "Investigation of soil liquefaction in Kathmandu valley" was presented by Narayan P. Marasini with co-authors Mitsu Okamura, Netra P. Bhandari, Surya N. Shrestha, Sujan R. Adhikari from NSET Nepal. In his presentation Mr. Marasini mentioned that the 2015 Gorkha Earthquake of M7.8 had induced the soil liquefaction in Kathmandu valley. The observed peak ground acceleration of this earthquake in Kathmandu valley were approximately 180 gals and extensive soil liquefaction occurred at several

locations in the vicinity of rivers in Kathmandu valley. Because of variegated soil strata and their no uniform distribution the liquefaction property of the Kathmandu sediments varied considerably.

The area around Bungmati and Duwakot were taken for the field investigation. They conducted intensive field survey just after 2015 April 25 earthquake and identified five locations where liquefaction occurred. Extensive field investigation with Logging and SPT were carried out in the insitu field. To evaluate the soil seismic properties another insitu test SWV (seismic wave velocity) measurements was also carried out in the area. From the field investigations and laboratory tests it was found that the strong influence of mica contents on the liquefaction characteristics of Kathmandu valley fill soil/ sediments.

The fourth paper entitled " Disaster Inventory/ information management system in Nepal" was presented by Sujan Raj Adhikari, with co-authors Gopal Krishna Bashyal, Ishwor Thapa, Suresh Chaudhary and Hari Adhikari from NSET, Nepal. In the beginning of his presentation he mentioned that Nepal is a disaster-prone country because of its location in between two tectonic plates and high seismically very active zone in the Himalayas. He had also highlighted on the other hazards and related frequent loss of lives, properties and physical damages. The risk of various disasters is increasing due to lack of awareness in the people. Recently NSET Nepal started to collect data from different sources and tried to establish a systematic data/inventory of natural disaster events in Nepal. All available data were entered into the desInventar System. All the secondary data – disasters of 1971 – 2014, disasters impact on human life, region wise analysis in Nepal are formatted in IMS. The analysis of these data for 44 years (1971 – 2014) indicated that around 25,220 events were occurred and total estimate number of loss of lives, missing, injured, affected, evacuated and relocated people altogether will be around 7,450,252 and property loss is found to be about 42 billion NRs at present value. Disaster inventory/ IMS in Nepal, DesInventar System and its use in Nepal is the only contribution in this sector of NSET. It is expected to serve as a tool for disaster risk mitigation strategy for the country.

Mr. Sujan Raj Adhikari presenting paper on" Disaster Inventory/ information management system in Nepal".

Shanmukhesh Chandra Amatya, former Senior Geologist from DWIDP was the fifth speaker in the technical session of the Symposium. While presenting his paper entitled "Reduction efforts of landslide disaster mortality in Nepal", in the very beginning he mentioned that most of the mountainous regions are prone to sediment related water induced disasters. The sources of sediments are principally from slope failure, debris flow, landslide etc. which are triggered due to torrential rainfall during monsoon season. These are the main causes of loss of lives, properties, infrastructures and environmental degradation every year. Analysis of seven years various disasters data (from 2009/2010 to 2015/2016) from MOHA shows 22.7% of total casualty (737) is due to landslide which is more than that of flood (580 i.e. 17.8%). He mentioned that the natural disaster cannot be prevented completely but efforts can be made for mitigating the impact of disaster which can definitely reduce the casualties.

Mr. Amatya's paper can be taken as a guideline for landslide studies and mitigation approach in Nepal. He covered all the types of landslides – monsoon caused landslides, earthquake triggered landslides their nature, classification and characteristics. Landslide impacts like Jure, Baseri, and other many rainfall fed landslides, covered all the region of Nepal. The landslide policy 2072 in Nepal is the main outcome of his contribution. Along with the team also prepared landslide plan and policy based on the long term data of MOHA 2071. Landslide information system with preparedness plans for 5 years have been prepared.

Mr. Sanmukesh Amatya presenting paper on Landslide Disaster Mortality in Nepal at the IDDR-2017 symposium.

There were lively discussions and comments on each paper immediately after the presentation by the respective authors. The Technical Session was well managed and all the speakers presented their paper very well within the time frame so that there was enough time for the discussions, quarry and questions answers. At the end of the session the Chairperson congratulated all the speakers and extended thanks to all the participants in the session.

After each presentation, depending on the time two to five questions/comments raised from the floor were entertained in the discussions. Satisfactory answers of all the questions were given by the respective authors. Some of the participants were egger to get the data, information and contributed articles on disaster management in the nation.

At the end, Krishna P. Kaphle, Chairman of the session briefly commented on the papers presented and congratulated to all the speakers who have contributed their papers and also extended thanks to all the participants who have actively participated and helped to make the Symposium a grand success.

The IDDR-2017 Organizing Committee and the Executive Committee, including the IDDR-2017 Coordinator Mr. Moti Bahadur Kunwar and NGS President at the center.

A group photograph of the NGS Executive Committee and Organizing Committee .