

CSIR-Central Building Research Institute, Roorkee (UK)

Training programme

on

‘Control Measures for Landslides’ held during July 18-22, 2016

Introduction:

Landslides problem in hilly terrains are one of the major concern in India which gets triggered by natural causes including substantial rainfalls, cloud bursts, earthquakes, etc. However, the occurrence of landslides has increased in magnitude due to human activities terms of developmental actions over unstable slopes, landslides pose increasing risk to human life, buildings, structures, infra-structures and environment. As individual landslides usually affect limited local areas and residents, damage resulting from landslide hazards has not generally been recognized as a problem of national importance and has not been addressed on a national basis. The absence of coordinated national approach to mitigate the detrimental effects of landslides has resulted in a reduced ability of the states and local government agencies to apply the important lessons learnt, often at considerable expense, in other parts of the country.

Recently national disaster policy and guidelines have been prepared by National Disaster Management Authority to tackle the national landslides problem that arise from both the regional considerations and of the considerable variations in the institutional capability and responsibility at regional and local levels, inputs from a wide variety of stakeholders are essential. Strengthening the process of landslide assessment, investigation, mapping and management will have far reaching effects in reducing landslide losses. In this direction, several institutions like NIDM, CBRI, CRRI, WIHG, IITs and other organizations in the country have been conducting landslides studies for stabilization of landslide prone areas. NIDM has extensively organizing training and capacity building activities on landslide risk management in association with various institutions in the country. CSIR-CBRI has also conducted considerable studies on landslide risk mitigation since last two decades. With this background NIDM and CSIR-CBRI has jointly organized a five days national training programme on *‘Control Measures for Landslides’* has been jointly organized at CSIR-CBRI, Roorkee during July 18-22, 2016. This training programme is particularly aimed at enhancing knowledge and skills of the implementing agencies to incorporate control measures techniques for stabilization of landslides areas and mitigation of associated risks through lectures, demonstrations and hands-on exercises. The programme was attended by thirty one officers from different states of the country; they are from Tamil Nadu, Karnataka, Madhya Pradesh, Nagaland, Uttar Pradesh, Uttarakhand, Himachal Pradesh, Jammu & Kashmir, Chandigarh & Delhi.



Group of Participants

The programme was formally inaugurated by the chief guest of the function Dr. R.K. Bhandari, Geo-hazards Expert & Former Director, CSIR-CBRI through lighting up the lamp. Dr. N. Gopalakrishnan, Director and Er. Y. Pandey, Chief Scientist, Dr. Surya Prakash, NIDM and other staff of the institute were present in the ceremony. The chief guest *Dr. R.K. Bhandari* shared his vast experience on geo-hazards with the participants and suggested them to focus more on prevention of hazards instead of managing the hazards. According to him state of Uttarakhand is a live laboratory of nature, which must be utilised to its full potential for exploration of more and more possibilities towards solution of Geo-Hazards. *Dr. N. Gopalakrishnan* insisted on the necessity of structural health monitoring using sensors & other latest technologies, and also requested everyone to learn from past experiences and work towards a better tomorrow. *Er. Y. Pandey* who has worked extensively on landslides placed some light on the necessity of such trainings. Later, *Dr. R. Dharmaraju*, Programme Director & Sr Principal Scientist, CSIR-CBRI proposed vote of thanks at the end of the programme.



Inaugural Speech by Dr. R.K. Bhandari, Geo-hazards Expert



Speech by Dr. N. Gopalakrishanan, Director CSIR-CBRI during Inaugural Function



Participants & CBRI Staff during the Inaugural Function

During the five days of training, 24 technical sessions have been conducted on different aspects of landslides mainly on global and national scenario, losses to life and property, causes, hazard mapping and risk assessment, investigation methods (geological, geomorphological and geotechnical features and parameters), instrumentation and monitoring for predication of slope failures, and different methods of control measures for stabilization problematic landslides with case studies. The technical sessions have been delivered by the external resource persons and in-house faculty (Scientists) of CBRI, Roorkee. And also, the participants were taken to Narendra Nagar landslide site to understand the ground reality of the landslide problems.



Interaction with Participants by Dr. R. K. Bhandari

The concluding session of training programme was held on 22, July 22 2016 and the session was chaired by Prof. P.K. Garg, Vice Chancellor, Uttarakhand Technical University as chief guest, and Prof. Bhanvani Singh, Rtd professor, IIT Roorkee as guest of honour, Er. Y. Pandey, Chief Scientist and other scientific staff of the institute were present. During the concluding session participants shared their experience about the programme. Chief Guest of the session *Prof. P.K. Garg* in his address suggested that mass movements have increased tremendously in hills and, this is one of the biggest causes of many problems related to landslides. Thus, it has become very necessary in current scenario to stay updated on better options for prevention and management of such hazards; and these training sessions can work as an effective tool for the betterment of skills of people working on the grass root level. Guest of honour *Prof. Bhavani Singh* also requested participants to monitor the landslides, so that their root cause can be assured and more realistic control measures can be designed and applied. *Er. Y. Pandey* also enlightened the participants with his experience and guidance. The session was concluded with the distribution of certificates to the participants. Later, the dignitaries have distributed the certificates among the participants. At the end, Dr. R. Dharmaraju thanked the dignitaries, NIDM and participants for the successful completion of training programme.



Concluding Speech by Prof. P.K Garg



Experience Sharing by the Participant



View of Participants & Technical Staff



Distribution of Certificate by Prof. Bhavani Singh