

Second Workshop on Landslide and related Disaster Management successfully held at Gangtok, SIKKIM in India

Second workshop on landslide and related Disaster Management with National Institute of Disaster Management (hereinafter "NIDM"), Central Gov.of India was successfully held from 8 March to 10, 2011 at Gangtok, State Capital City of SIKKIM, India. Many researchers and officers from State Gov.of SIKKIM attended as well as Institutes of Central Gov of India. And Public Work Research Institute (PWRI), Japan also sent a landslide team of researchers to this event.

A series of cooperation has been conducted in accordance with the Memorandum of Cooperation between NILIM and NIDM signed in 2010, which is also identified as one of the mechanisms referred to the Action Plan to advance security cooperation based on the Joint Declaration on Security Cooperation between India and Japan.

After making presentations, discussions and technical tours, as a conclusion of the Workshop, both sides decided to take related actions as you can see briefly here.



1. Technical Recommendation

Concerning the Landslide site on NH31A (National Highway), Japan side strongly recommended 1),2),3),4) as below, and concerning the Manjing site 1) is recommended;

- 1) Survey and Analysis to make up the appropriate works, especially plotting ground surface features related to landslide on a map.
- 2) Then setting main analysis line on the map and making a cross section along the line.
- 3) And finding out the length, wideness and depth of landslide to categorize which type of the landslide is.
- 4) Considering the application of warning system showed in the WS from Japan side because of the heavy traffic on the strategic road NH31A, as well as daily use by students and commuters.



(Fig.1: Disaster site on NH31A
used daily for students)



(Fig.2 Disaster viewed
from upper position)

2. Possible Topics for Joint Research

- 1) Test investigation by state of the art technology now under development
- 2) Basic Approach to be established against the landslide including temporary countermeasure and permanent one, which is essential to make the road networks stable etc.

3. Next workshop

- 1) For deepening the mutual understanding on the detailed conditions of possible joint-research project site, a next workshop will be jointly held here in the near future in Sikkim or other place in India with the participation of Border Road Organization (BRO) having a strong needs to prevent and mitigate landslide problems as an actual road administration and related government members.
- 2) Japan side would like to share knowledge and technology to cope with landslides through joint-research project and also seek the possibility of considering tunneling option which is effective and efficient to the huge landslide, in the scope of making a best route selection for trunk road networks in safety and stableness.

This is not the international agreement but both institutes will make their best efforts within respective budgets, and especially from the long-term thinking, both sides agreed to make middle/young researchers involved into this cooperation for mutual benefits.

(International Research and Promotion Division)