

Impatience Imperils Landslide Probes, Says UKM Don

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BANGI, 30 Jan. 2012 - The insistence of the authorities for the findings to be arrived at "within weeks" is hampering proper investigations into landslides in Malaysia, according to the Director of the Southeast Asia Disaster Prevention Research Institute at UKM (SEADPRI-UKM), Prof Dato' Dr Ibrahim Komoo.

"This often results in decisions being based on past experience, even though detailed investigations are crucial," he remarked at a technical talk on landslide investigation and prevention measures in Japan by two officials of Kyoto University's Disaster Prevention Research Institute (DPRI) here today.

SEADPRI-UKM's Deputy Director, Prof Dr Joy Jacqueline Pereira, meanwhile raised the issue of difficulty in accessing relevant information in Malaysia when she learnt that in Japan all information on landslides is readily available.

The Coordinator of the Geological Disasters Programme at SEADPRI-UKM, Associate Prof Dr Tajul Anuar Jamaluddin, lamented that in coming up with landslide alleviation measures in Malaysia, it is the engineers who have the final say and not geologists.

Prof. Sumio Matsuura, who heads the Geohazards Division at DPRI, and Associate Prof Yuki Matsushi from the same division, spoke of the advanced measures in place in Japan to predict landslides.

These include LIDAR (Light Detection and Ranging) technology for geological studies and contour mapping; using cosmogenic nuclides, which measure isotopic concentrations, to calculate catchment erosion rates; and the creation of geological information systems (GIS).

In March 2011 SEADPRI-UKM signed an academic exchange programme with DPRI, which was designated as the Centre of Excellence in the field of natural disasters in 1997.

DPRI's Geohazards Division includes the Research Centre on Landslides and the focus is on landslide monitoring and dynamics, slope conservation, mountain hazards and geotechnics.

Associate Prof Matsushi said DPRI has three approaches in coping with landslides – field observations, GIS and cosmogenic nuclides.

He highlighted the importance of mapping soil depth in hilly terrain as this could develop into evaluating the potential for landslides over the long term.

Equally, terrestrial cosmogenic nuclides usage plays a vital role in assessing the long-term potential for landslides, he added.

Prof Ibrahim remarked that these were costly measures for Malaysia to consider but felt that relying on rain gauges alone are not enough.


Prof Matsuura explained that Japan's unique characteristics had led it to develop expertise in natural disasters. These include the fact that Japan has 83, or about 10 percent of the world's, active volcanoes; more than 67 percent of its territory is of steep terrain; and it has an unusually large amount of rainfall.

"Japan is extremely densely populated, is limited in flat land, and has been threatened by natural disasters such as severe rain, typhoon, volcanic activity, landslide and debris avalanche due to its topographical and geological features," he said.

"To cope with these natural hazards, we have been developing planned forest, soil and water conservation projects which are playing an ever increasing role in the socioeconomic changes of modern Japan."

Saying that the modification of landforms may cause mass movement, Prof Matsuura related how expanding human activities such as roads, housing development and dams had increased the frequency of slope failures and landslides.

He pointed out that while physical structures are systematically placed in Japan, not many software systems have been developed.

He gave two reasons for this: it is difficult to predict sediment-related disasters, and it is unpopular, as the designation of hazard areas reduces property  values.