



Study of Disseminating Landslide Early Warning Information in Malaysia

Swee Peng Koay (1), Habibah LATEH (1), Lea Tien TAY (1), Jamilah AHAMD (1), Huah Yong CHAN (1), Naoki SAKAI (2), and Suhaimi JAMALUDIN (3)

(1) Universiti Sains Malaysia, Penang, Malaysia (spkoay@cs.usm.my), (2) National Research Institute for Earth Science and Disaster Prevention, Tsukuba, Japan(sakai@bosai.go.jp), (3) Public Works Department, Kuala Lumpur, Malaysia(suhaimij@jkr.gov.my)

In Malaysia, rain induced landslides are occurring more often than before. The Malaysian Government allocates millions of Malaysian Ringgit for slope monitoring and slope failure remedial measures in the budget every year. In rural areas, local authorities also play a major role in monitoring the slope to prevent casualty by giving information to the residents who are staying near to the slopes.

However, there are thousands of slopes which are classified as high risk slopes in Malaysia. Implementing site monitoring system in these slopes to monitor the movement of the soil in the slopes, predicting the occurrence of slopes failure and establishing early warning system are too costly and almost impossible.

In our study, we propose Accumulated Rainfall vs. Rainfall Intensity prediction method to predict the slope failure by referring to the predicted rainfall data from radar and the rain volume from rain gauges. The critical line which determines if the slope is in danger, is generated by simulator with well-surveyed the soil property in the slope and compared with historical data. By establishing such predicting system, the slope failure warning information can be obtained and disseminated to the surroundings via SMS, internet and siren.

However, establishing the early warning dissemination system is not enough in disaster prevention, educating school children and the community by giving knowledge on landslides, such as landslide's definition, how and why does the slope failure happen and when will it fail, to raise the risk awareness on landslides will reduce landslides casualty, especially in rural area. Moreover, showing video on the risk and symptom of landslides in school will also help the school children gaining the knowledge of landslides. Generating hazard map and landslides historical data provides further information on the occurrence of the slope failure.

In future, further study on fine tuning of landslides prediction method, applying IT technology to educate school children and disseminate warning information will assist the government authorities to reduce landslide casualty by disseminating prompt slope failure warning and improving the community's awareness of disaster prevention.