

Implementing Triple Helix Concept into DRR: Geospatial Information for Landslide Susceptibility Assessment in Lombok

Yukni Arifianti^{1*}, Eko Agus Prasetyo², Jewgenij Torizin³, Michael Fuchs³

¹Geological Agency of Indonesia, ²School of Business & Management, Institute of Technology Bandung, ³BGR, German

The Triple Helix Concept (THC) is an innovation of relationships between 3 elements: Government, Academics, and Business. Disaster Risk Reduction is the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNISDR). DRR is a multifaceted issue requiring involvement from several sectors. Government and universities (academic) took part by establishing the policies, plans and programs, providing expertise in the tools and methodology. Private sector (business) is taking the lead in the term of investments and planning ahead to protect industry and society from disasters, economic disruptions while ensuring business continuity.

Most of the disaster related data are spatial in nature involve some geographic component. For planning, monitoring and decision making; there is typically a need for geospatial data. Therefore, geospatial information could play an important role in susceptibility assessment. The development in Lombok grows rapidly so that human activity will trigger more geological hazards. One of these hazards is landslide. To cope with these hazards impact, study about more detailed geological hazard map, information on the landslide prone areas, and identification of area susceptible to landslide is recommended. There have been many progress made in landslide susceptibility assessment (LSA) studies, whereby much of this progress is based on the extensive use of geospatial information by using GIS (geographical information system) and Remote Sensing technique. It can ease LSA and provides information for DRR missions. It also provides a high efficiency and optimizes time resources. The resulting landslide susceptibility map will be the base for DRR activities on Lombok Island.

Keywords: triple helix, disaster risk reduction, geospatial information, landslide susceptibility assessment, Lombok