

# **Influence of large dam on seismic hazard in low seismic region of Ulu Padas Area, Northern Borneo**

## **Abstract**

The seismic hazard assessment of a site that lies in the low seismic region affected by the future existence of a large dam has been given less attention in many studies. Moreover, this condition is not addressed directly in the current seismic codes. This paper explains the importance of such information in mitigating the seismic hazard properly. Ulu Padas Area in Northern Borneo is used as an example for a case study of a site classified as a low seismic region. It is located close to the border of Malaysia, Brunei Darussalam, and Indonesia and may have a large dam in the future as the region lies in hilly geography with river flow. This study conducts probabilistic and deterministic seismic hazard analyses, and reservoir-triggered seismicity of a site affected by the future existence of a large dam. The result shows that the spectrum acceleration of the maximum design earthquake for the investigated site in the Ulu Padas Area in Northern Borneo is taken from the reservoir-triggered seismicity earthquake at short periods and from the current condition at longer periods. © 2011 Springer Science+Business Media B.V.