2006 ECI Conference on Geohazards
Lillehammer, Norway
Editors: Farrokh Nadim, Rudolf Pöttler, Herbert Einstein, Herbert Klapperich, and Steven Kramer

Year 2006 *Paper* 27

Dealing with Tsunami Risk - A Case Study for Thailand

Kjell Karlsrud* Farrokh Nadim†
Hilmar Bungum‡ Carl B. Harbitz**

*Norwegian Geotechnical Institute
†International Center of Geohazards
‡NORSAR/ICG
**NGI/ICG

http://services.bepress.com/eci/geohazards/27

Dealing with Tsunami Risk - A Case Study for Thailand

Abstract

The December 26 2004 tsunami event devastated large areas along the coastlines of Indonesia, Thailand, Myanmar, Sri Lanka and India, and even some parts of the east African coastline. It is a great challenge to the authorities in the countries affected by the tsunami to deal with the future risk of tsunami events and how to rehabilitate the devastated areas under consideration of that risk. On initiative from the Norwegian Geotechnical Institute (NGI), a project has been initiated to help develop a rehabilitation strategy in Thailand, but it is also intended as serve as an example project for other countries in the region. The project is undertaken for the Department of Mineral Resources (DMR) under the Ministry of Natural Resources and the Environment in Thailand, and is undertaken by NGI in cooperation with CCOP. The project is fully financed by the Royal Norwegian Ministry of Foreign Affairs. The paper describes the various components of the project, including: 1. Identification of possible future seismic and tsunami-triggering dislocation scenarios, and their associated risk level. This will involve a detailed study of the plate tectonics in the region and earthquake statistics, including correlations between earthquake magnitude and possible dislocations causing tsunamis. 2. Analyses of possible tsunami inundation levels for the various seismic scenarios and their possible consequences. A first step will be to verify that available tsunami and inundation models can predict the observations in connection with the December 2004 event on both global and local levels. 3. Assessment of possible measures to reduce or eliminate the potential consequences of future tsunamis. That may include physical

barriers, vertical land reclamation, strengthening of buildings/new building codes, and development of new urban and city plans with focus on establishing safe “islands” and escape routes and placement of critical functions in safe areas. 4. Propose overall and specific reconstruction and rehabilitation plans for three typical selected areas along the coast in Thailand. Such plans will have both a short term and long term perspective.

No manuscript submitted by the authors.