

## A Resource Survey of Lateritic Soils and Impact Evaluation toward Community Members Living Nearby the Excavation Pits

**Authors :** Ratchasak Suvannatsiri

**Abstract :** The objectives of the research are to find the basic engineering properties of lateritic soil and to predict the impact on community members who live nearby the excavation pits in the area of Amphur Pak Thor, Ratchaburi Province in the western area of Thailand. The research was conducted by collecting soil samples from four excavation pits for basic engineering properties, testing and collecting questionnaire data from 120 community members who live nearby the excavation pits, and applying statistical analysis. The results found that the basic engineering properties of lateritic soil can be classified into silt soil type which is cohesionless as the loess or collapsible soil which is not suitable to be used for a pavement structure for commuting highway because it could lead to structural and functional failure in the long run. In terms of opinion from community members toward the impact, the highest impact was on the dust from excavation activities. The prediction from the logistic regression in terms of impact on community members was at 84.32 which can be adapted and applied onto other areas with the same context as a guideline for risk prevention and risk communication since it could impact the infrastructures and also impact the health of community members.

**Keywords :** lateritic soil, excavation pits, engineering properties, impact on community members

**Conference Title :** ICSMGE 2018 : International Conference on Soil Mechanics and Geotechnical Engineering

**Conference Location :** Osaka, Japan

**Conference Dates :** March 29-30, 2018