

# **Site Characterization Of Taytay, Palawan, Philippines Rainfall Triggered Shallow Landslide**

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## **ABSTRACT**

Throughout Palawan, almost all areas near hillsides or mountain slopes are threatened by landslides caused by heavy rainfall during rainy and typhoon season , and soil physical properties . Rainfall – triggered landslides are part of a natural process of hill slope erosion that can result in catastrophic loss of life and extensive property damage in mountainous, densely populated areas. This paper presents the tragic loss of 6 lives in the Ibangli, Taytay, Palawan, Philippine landslide attracted a lot of Philippine local and national media attention and with it a lot of speculations and rumors as to what caused the slide after 3 days heavy rain and typhoon Ondoy and Pepeng in 2009. This study revealed the hydrological – triggering mechanisms and rainfall thresholds of landslides in adjoining hills with permeable organic clay soil and mudstone. Site investigation and characterization were conducted to inspect the surface structures and to obtain geotechnical properties of slope materials. In the hill slope with the impermeable mudstone, the hydraulic discontinuity beneath mudstone thin clay soil layer causes a transient positive pressure head that generates a saturated storm flow. An analysis of the relationship between the magnitude of rainfall and hill slope instability provides a rainfall threshold for land sliding. The site – specific combination of rainfall intensity and duration incorporates geotechnical properties of hill slope materials and slope hydrological processes.

**Keywords:** Shallow Landslide, Slope Stability, Rainfall Triggered, Site Characterization.