



## Characterization of Lahar and Black Sand Laden Soil Towards Improving Soil Productivity In Botolan, Zambales

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### Abstract

Years after the eruption of the Mt. Pinatubo and the 2005 flooding covered vast areas in Botolan, Zambales with ash, lahar, and black sand. This study characterized the soil in the marginal areas to serve as basis in identifying measures to regain land productivity. Moreover, there is a need to assess soil and farm resources characteristics, crop suitability, and current land utilization of the affected areas to generate appropriate crop production technologies.

The map of Botolan was derived from the Philippines' digital map using the Geographic Information System (GIS) program. Nine sites from two barangays were chosen and plotted using Global Positioning System (GPS). Soil morphological characterization, land capability classification and land productivity index were determined based on appropriate measurement techniques.

The disasters resulted in most soil covered with gravel and sand with low water content, and available phosphorous and organic nitrogen was low for plant growth. Crop suitability evaluation showed crop production to be marginal to not suitable because of limitations such as stoniness, drainage, water availability, soil texture, and soil nutrient.

**Key Words:** lahar, Mt. Pinatubo, productivity, soil characteristics, Zambales