

**STUDY OF SOIL DEVELOPMENT AND CLASSIFICATION ON
TOPOSEQUENCE OF MERAPI VOLCANO SOUTHERN SLOPE IN
BALERANTE VILLAGE, KEMALANG SUBDISTRICT, KLATEN
REGENCY.**

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ABSTRACT

Topography (difference in height or shape of an area) is one factor that influences the pedogenic process. Balerante Village, Kemalang Subdistrict located on The Southern Slope of Merapi Volcano at an altitude between 680-2760 meters above sea level (masl) and frequently experiences topographical changes due to lava flows or eruptions. This research aims to study the level of soil development and to classify the soil based on classification systems of Soil Taxonomy, World Reference Base, and National Soil Classification. The method used in this research is a field survey by determining the location of the soil profile using a purposive sampling method based on the difference in altitude and overlaying Soil Type Maps, Contour Maps, and Slope Maps. Observations in the field include soil morphology and landscape, and analysis of the physical and chemical properties of the soil in the laboratory. The results showed that the three profiles 1129, 881, and 778 masl had diagnostic horizons are umbric epipedons and cambic endopedons. The soil development is at an intermediate stage. Soil classification at 1129 masl according to the USDA Soil Taxonomy is Andic Humudepts; according to WRB is Cambisols Andic; according to the National Soil Classification is the District Cambisol. Soil classification at 881 masl according to the USDA Soil Taxonomy is Acrudoxic Hapludands; according to WRB is Andosols Cambic; according to the National Soil Classification is Umbric Andosol. Soil classification at 778 masl according to the USDA Soil Taxonomy is Andic Humudepts; according to WRB is Cambisols Andic; according to the National Soil Classification is District Kambisols.

Keywords: Merapi Volcano, Morphology and Soil Classification, Toposequence