

**LAND SUITABILITY EVALUATION FOR THE DEVELOPMENT OF TEA
(*Camellia sinensis*) COMMODITY IN KEMUNING VILLAGE,
NGARGOYOSO SUB-DISTRICT, KARANGANYAR REGENCY.**

By: Asa G Melasurey
Supervised by: M. Kundarto

ABSTRACT

Kemuning Village is one of the villages located in Ngargoyoso District, Karanganyar Regency, Central Java, Indonesia, where tea plantations are the primary agricultural commodity. The objective of this research is to present data and information on land suitability evaluation for tea crops using a spatial analysis model. The land suitability analysis was conducted using a matching method by comparing land characteristics with established land suitability criteria. Samples were collected using a purposive sampling technique, determined through the overlay analysis of slope gradient and elevation maps. The required data include spatial data such as contour maps and elevation maps at a scale of 1:40,000, as well as attribute data consisting of climatological data and field observations of physical, morphological, and chemical soil properties. The parameters used in the analysis include temperature, rainfall, drainage condition, soil texture, pH, relative humidity, organic carbon, CEC, slope, altitude, and erosion condition. Land suitability classes are categorized into four levels: "highly suitable," "moderately suitable," "marginally suitable," and "not suitable". The results of the potential land suitability evaluation from a total area of 669.207 hectares showed the following classifications: Nrc class, which is not suitable due to the limiting factor of rooting media, covering 267.1 hectares (39.9%); S2wanr class, which is moderately suitable with limiting factors of water availability and nutrient retention, covering 128.0 hectares (19.1%); S2waeh class, which is moderately suitable with limiting factors of water availability and erosion hazard, covering 147.3 hectares (22.1%); and S3eh class, which is marginally suitable with the limiting factor of erosion hazard, covering 126.0 hectares (18.9%).

Keywords: Evaluation, Land Suitability, Matching, Tea