

LAND SUITABILITY CLASS EVALUATION FOR TEAK (*Tectona grandis*) AND AVOCADO (*Persea americana* Mill) ON POST-EXCAVATION LAND OF PT. BMW, BOJONEGORO REGENCY, EAST JAVA

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ABSTRACT

Sumberejo Village, Margomulyo District, Bojonegoro Regency, East Java Province, is one of the areas used for soil mining. The purpose of this study is to determine land characteristics, evaluate, and map the land suitability levels for teak and avocado plants as technical references for mining reclamation. The research used a survey method to assess the region's conditions and purposive sampling to select sample points based on the Land System Map created by overlaying soil type maps, land use maps, and slope maps. The land suitability analysis was conducted using a matching method between land characteristics and land suitability criteria according to BSDLP 2011. Research parameters included average temperature, rainfall, dry season duration, drainage, texture, coarse material, soil depth, soil CEC, base saturation, pH, organic C, total N, P₂O₅, K₂O, slope, erosion risk, flooding, surface rocks, and rock outcrops. The land characteristics showed an average temperature of 29.41°C, rainfall of 1,270 mm/year, with a dry season lasting 4.7 months. Soil drainage was moderate to slightly obstructed, soil texture was moderately fine, coarse material was minimal, soil CEC was low to moderate, base saturation was moderate to high, soil pH ranged from 6.5 to 7.6, organic C was low, total N was low to moderate, P₂O₅ was moderate to high, and K₂O content was low to moderate, erosion risk was very low, flood risk was light, with a considerable amount of surface rocks and rock outcrops. The land suitability results for teak showed unsuitability (N) covering 11.138 Ha (91.22% of the study area) and marginal suitability (S₃) covering 1.083 Ha (8.86% of the study area). The land suitability results for avocado showed unsuitability (N) covering 9.855 Ha (80.62% of the study area) and marginal suitability (S₃) covering 2.366 Ha (19.35% of the study area). The main limiting factors were overall soil effective depth and rock outcrops. The recommended reclamation techniques include land leveling, terrace construction, drainage system development, pot system implementation, and revegetation.

Keywords: Avocado, Teak, Land Suitability, Matching, Reclamation