

ABSTRACT

Land utilization that is not in accordance with land capability may lead to land degradation. Therefore, land capability evaluation is necessary as a basis for determining appropriate land use and soil conservation measures in Jagong Jeget District, Central Aceh Regency. This study aims to determine the land capability class in Jagong Jeget District, Central Aceh Regency. Land capability evaluation is essential to support sustainable land management and ensure that land utilization is carried out according to its biophysical characteristics. The study was conducted from January to April 2026 using a survey method. Primary data were obtained through field observations and laboratory analysis of soil samples, while secondary data consisted of soil type maps, slope maps, and land use maps. These maps were overlaid to produce Land Mapping Units (LMU) as observation units. The results showed that Jagong Jeget District has three land capability classes, namely Class III, Class IV, and Class VI. Class III was identified in LMU 3 with a limiting factor of moderately high erosion susceptibility (KE-4). Class IV was the dominant class and was found in LMU 1, LMU 2, LMU 9 a combination of mechanical and vegetative conservation measures is required in the form of terraced ridges, contour planting, the addition of organic matter, organic mulch, cover crops, and intensive strip cropping. Class VI was identified in LMU 7 and LMU 12, where the main limiting factor was moderately steep slopes (I-4).

Keywords : Erosion susceptibility, land capability class, slope gradient, soil erodibility