

INTISARI

Kapanewon Tepus berdasarkan Peraturan daerah (Perda) DIY No. 5 tahun 2019 dan Perda Kabupaten Gunungkidul No. 6 tahun 2011 diproyeksikan menjadi kawasan peruntukan pariwisata, khususnya di pesisir Pantai Sembung hingga Pantai Siung, karena daya tarik bentang alam yang indah. Namun, mayoritas pembangunan fasilitas kepariwisataan di Kapanewon Tepus, kurang memperhatikan daya dukung geologi lingkungan. Padahal, Kapanewon Tepus termasuk kawasan rawan bahaya geologi gempa bumi, tsunami, dan amblesan yang dapat membahayakan wisatawan. Oleh karena itu, penelitian ini bertujuan menentukan zonasi kesesuaian lahan untuk pengembangan fasilitas kepariwisataan berdasarkan daya dukung geologi lingkungan sesuai Perda Kabupaten Gunungkidul Nomor 11 tahun 2012. Kriteria yang dipertimbangkan meliputi kriteria geologi lingkungan (kemiringan lereng, pelarutan batuan, sumber air, kelurusan, dan bahaya geologi meliputi amblesan, tsunami, dan gempa bumi) dan kriteria non-geologi (kawasan permukiman, jaringan jalan, dan kawasan perlindungan setempat). Data penelitian diperoleh melalui survei lapangan sebagai data primer serta studi pustaka dan pengunduhan data dari situs terpercaya sebagai data sekunder. Data tersebut diolah menjadi delapan peta tiap kriteria, kemudian dianalisis menggunakan metode multikriteria spasial *Analytical Hierarchy Process* (AHP) untuk menghasilkan peta kesesuaian lahan sebelum eliminasi. Bobot kepentingan kriteria secara berurutan adalah kemiringan lereng (0,333); bahaya geologi (0,232); jaringan jalan (0,140); sumber air (0,104); pelarutan batuan (0,082); kawasan permukiman (0,056); dan kelurusan (0,052). Peta akhir kesesuaian lahan daerah penelitian diperoleh dengan mengeliminasi kriteria kawasan perlindungan setempat dari peta kesesuaian lahan sebelumnya menggunakan metode *Boolean Logic*. Hasil dari penelitian berupa peta kesesuaian lahan untuk pengembangan fasilitas kepariwisataan seperti resor, villa, maupun *homestay* terbagi menjadi lima zona, yaitu zona sangat sesuai sebesar 5%; zona sesuai sebesar 53,6%; zona cukup sesuai sebesar 30,3%; zona kurang sesuai sebesar 0,4%; dan zona tidak sesuai merupakan seluruh area kawasan lindung sebesar 10,7%. Semakin landai kemiringan lereng, semakin ringan pelarutan batuan, semakin dekat sumber air, semakin jauh kelurusan, semakin rendah bahaya geologi, semakin dekat jaringan jalan, semakin dekat kawasan permukiman, dan tidak berada di kawasan perlindungan setempat, maka semakin sesuai zona untuk pengembangan fasilitas kepariwisataan.

Kata kunci: Geologi pengembangan wilayah, *analytical hierarchy process*, *boolean logic*, zona kesesuaian lahan, fasilitas kepariwisataan

ABSTRACT

Tepus Subdistrict based on DIY Regulation No. 5 of 2019 and Gunungkidul Regency Regulation No. 6 of 2011 is projected to become a designated tourism area, particularly from Sembung Beach to Siung Beach, due to its scenic natural attractions. However, most tourism facility developments in Tepus Subdistrict have inadequately considered environmental carrying capacity. In fact, this area is classified as geologically hazardous, being prone to earthquakes, tsunamis, and land subsidence, which could pose significant risks to tourists. Therefore, this study aims to determine land suitability zoning for tourism facility development based on environmental geological carrying capacity, in accordance with Gunungkidul Regency Regional Regulation No. 11 of 2012. The assessment criteria include environmental geological factors (slope inclination, rock dissolution, water sources, lineaments, and geological hazards such as collapse, tsunamis, and earthquakes) and non-geological factors (residential areas, road networks, and local protection zones). Research data were obtained through field surveys as primary data, and literature studies and downloads from reliable sources as secondary data. These data were processed into eight thematic maps, each representing one criterion, and then analyzed using the spatial multi-criteria Analytical Hierarchy Process (AHP) method to generate an initial land suitability map. The priority weights for each criterion are as follows: slope inclination (0.333); geological hazards (0.232); road network (0.140); water sources (0.104); rock dissolution (0.082); residential areas (0.056); and lineaments (0.052). The final land suitability map was produced by eliminating protected zone areas from the initial map using the Boolean Logic method. The result is a land suitability map for the development of tourism facilities such as resorts, villas, and homestays, classified into five zones: highly suitable (5%), suitable (53.6%), moderately suitable (30.3%), less suitable (0.4%), and not suitable, which includes the entire protected zone area (10.7%). The gentler the slope, the lower the rock dissolution, the closer to a water source, the farther from geological lineaments, the lower the geological hazard level, the closer to road networks and settlements, and the absence of protected zones all contribute to higher land suitability for tourism facility development.

Keywords: Regional development geology, analytical hierarchy process, boolean logic, land suitability zones, tourism facilities