

RANCANGAN TEKNIK KONSERVASI TANAH DAN AIR UNTUK PENANGANAN LAHAN KRITIS DI SUB DAS PROGO HULU

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INTISARI

Sub-DAS Progo Hulu termasuk salah satu DAS dengan kategori buruk karena memiliki lahan kritis yang termasuk sangat tinggi. Sementara itu, Sub-DAS Progo Hulu merupakan wilayah penting yang dapat mempengaruhi ekosistem di bagian tengah dan hilirnya. Dengan demikian, perlu adanya rancangan konservasi tanah dan air pada Sub-DAS Progo Hulu. Penelitian ini bertujuan untuk menganalisis lahan kritis di Sub-DAS Progo Hulu dan merancang teknik KTA yang sesuai.

Pengumpulan data dilakukan pada 24 titik sampel dari 61 unit lahan yang tersebar pada bagian *upland*, *middle land*, dan *lowland* dengan memilih unit lahan yang luasnya ≥ 2 ha. Analisis meliputi 4 tahap, yaitu analisis erosi dengan USLE, analisis lahan kritis menurut Perdirjen PDASHL Nomor P.3/PDASHL/SET/KUM.1/7/2018, analisis kluster dengan *hierarchical clustering*, dan analisis kecocokan untuk perancangan teknik KTA.

Hasil penelitian menunjukkan bahwa pada Sub-DAS Progo Hulu terdapat 4 kelas lahan kritis yang letaknya tersebar di bagian *upland*, *middle land*, dan *lowland*. Rancangan teknik KTA disusun berdasarkan karakteristik lahan kelompok jarak tandan kecil di setiap bagian *upland*, *middle land*, dan *lowland*. Rancangan KTA bagian *upland* cenderung bersifat vegetatif seperti *cover crops*, *strip cropping*, *multiple cropping*, mulsa, dan agroforestri. Sementara itu, pada *middle land* dan *lowland* lebih banyak opsi KTA secara mekanis seperti *water channel*, terjunan air, bendungan pengendali, teras kridit, dan teras bangku.

Kata Kunci: *erosi, lahan kritis, konservasi tanah dan air, DAS, USLE*

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SOIL AND WATER CONSERVATION PLANNING TECHNIQUE FOR CRITICAL LAND MANAGEMENT IN THE PROGO HULU SUB WATERSHED

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ABSTRACT

Progo Hulu Sub-watershed is categorized as a poor watershed since it has very high levels of critical land. Meanwhile, this sub-watershed is an important area that strongly influences the middle and downstream ecosystems. Therefore, there is a need for soil and water conservation plans at the Progo Hulu Sub-watershed. This research aims to analyze critical land of the Progo Hulu Sub-watershed and design appropriate soil and water conservation techniques.

Data collection was carried out at 24 sample points from 61 land units spread across the upland, middle land, and lowland by selecting land units with an area of ≥ 2 ha. The analysis included 4 stages, such as erosion analysis with USLE, critical land analysis under Perdirjen PDASHL No.P.3/PDASHL/SET/KUM.1/7/2018, cluster analysis with hierarchical clustering, and matching analysis for soil and water conservation design.

The results showed that there are four classes of critical land at Progo Hulu Sub-watershed, located at the upland, middle land, and lowland areas. The proper designs for the upland areas tend to be vegetative, some of them are cover crops, strip cropping, multiple cropping, mulch, and agroforestry. The mechanical soil and water conservation namely water channel, water drop structure, check dam, ridge terrace, and bench terrace is more appropriate to be applied for the middle land and lowland areas.

Keyword: erosion, critical land, land and water conservation, watershed,

USLE

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