

**SEBARAN SPASIAL HASIL PROSES EROSI PARIT
(GULLY EROSION) YANG BERKEMBANG DI DAS BOMPON
KABUPATEN MAGELANG PROVINSI JAWA TENGAH**

Oleh

Desy Arisandi

14/372239/PGE/01127

INTISARI

Intensitas perkembangan erosi parit mencerminkan degradasi lahan pada suatu DAS. Kajian detail terhadap sebaran spasial erosi parit yang berkembang di suatu DAS belum banyak dilakukan di Indonesia. DAS Bompon sebagai daerah kajian memiliki dinamika perkembangan erosi parit yang menarik untuk diteliti karena material tanah memiliki ketebalan lebih dari 2 meter (supertebal) dan mulai terusik oleh aktivitas manusia. Penelitian ini bertujuan untuk (1) mengidentifikasi persebaran dan konsentrasi perkembangan erosi parit (2) mendeskripsikan karakteristik morfometri erosi parit (3) menganalisis faktor-faktor yang berpengaruh terhadap proses erosi parit yang berkembang di lokasi penelitian (4) mengevaluasi laju intensitas kehilangan tanah dan kerapatan erosi parit.

Pengambilan data dilakukan secara sensus pada 19 lokasi pengamatan erosi parit. Teknik pengumpulan data meliputi pengukuran lapangan dan uji laboratorium. Analisis data dilakukan secara kuantitatif dan kualitatif. Analisis kuantitatif menggunakan perhitungan matematis dalam menentukan bentuk parit dan volume tanah yang hilang pada setiap segmen erosi parit. Analisis kualitatif digunakan untuk menghubungkan setiap faktor yang berpengaruh terhadap hasil proses erosi parit yang berkembang di DAS Bompon.

Hasil penelitian menunjukkan bahwa erosi parit cenderung berkembang di lereng tengah perbukitan hingga lereng bawah perbukitan. Ukuran erosi parit dapat mencapai kedalaman 4 m dan lebar 5 m dengan bentuk saluran yang berubah-ubah pada jarak tertentu. Karakteristik material permukaan dan aktivitas manusia menjadi faktor yang paling berpengaruh terhadap hasil proses erosi parit yang berkembang di lokasi penelitian. Material permukaan didominasi oleh kandungan lempung sensitif yang mudah hancur ketika diberi tekanan dan mudah terdispers oleh tenaga air. Kondisi kelembaban tanah >80% mempercepat terbentuknya aliran permukaan. Analisis data kemandapan agregat menunjukkan bahwa nilai stabilitas berkisar 10,40% (tidak mantap) – 68,72% (mantap). Semakin kecil nilai kemandapan agregat maka kedalaman erosi parit semakin meningkat. Erosi parit lebih berkembang pada kombinasi penggunaan lahan tegalan–kebun campuran. Bambu adalah jenis vegetasi yang paling mendominasi dan mempengaruhi pelebaran erosi parit. Total kehilangan tanah akibat erosi parit di DAS Bompon sebesar 2,48 ton/ha dan kerapatan erosi berkisar 7,78 m/ha.

Kata kunci: erosi parit, bentuklahan, aktivitas manusia

ABSTRACT

The intensity of gully erosion development reflects the process of land degradation in a watershed. Detailed study of spatial distribution of gully erosion development in watershed has not yet widely practiced in Indonesia. Bompon watershed as a study area has dynamics of gully erosion development interesting to observe because the thickness of soil materials is more than 2 meters and starting disturbed by human activity. The purpose of this study are (1) to identify the distribution and concentration of gully erosion development, (2) to describe the morphometry characteristics of gully erosion, (3) to analyze the factors which influenced onto the process of gully erosion development in study area, (4) to evaluate the intensity of soil losses and the density of gully erosion in Bompon watershed.

Data was collected by census at 19 station sites of gully erosion. Data collection techniques involve field measurement and laboratory testing. Data were analyzed by quantitative and qualitative. Quantitative analysis uses mathematical calculation to determine the shape of gully and soil loss on each gully erosion segment. Qualitative analysis is used to connect each factors influenced the development of gully erosion in Bompon Watershed.

The results show that gully erosion tend to grow from the middle slope to lower slope of hills. Gully erosion size can be in 4 m depth and 5 m width by channel shaped changing at a certain distance. The characteristic of surface materials and human activities became the most influential factors onto gully erosion development. Surface materials are dominated by sensitive clay content destroyed easily under pressure and easily dispersed by rainfall. Soil moisture conditions >80% accelerate the formation of runoff. Data analysis of aggregate stability shows that the stability values are in range 10,40% (unstable) to 68,72% (stable). The smaller value of aggregate stability, the higher depth of gully erosion. Gully erosion is more developed on dryland-mix garden combination. Bamboo is a type of vegetation which influences the widening process of gully erosion. The total of soil losses due to gully erosion in Bompon Watershed is 2,48 ton/ha and gully erosion density is about 7,78 m/ha.

Key words: gully erosion, landform, human activity