

## **ANALISIS KARAKTERISTIK DAN DAMPAK LINGKUNGAN EROSI TEBING SUNGAI PADA PENGAL SUNGAI OYO, KABUPATEN BANTUL, PROVINSI DIY**

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### **Intisari**

Di Indonesia, erosi tebing sungai menjadi salah satu dinamika lingkungan yang memerlukan analisis secara lebih mendalam. Berdasarkan keragaman konfigurasi geomorfologi dan bukti kejadian erosi tebing sungai, alur Sungai Oyo menjadi salah satu alur sungai yang perlu untuk dikaji secara khusus. Tujuan dari penelitian ini adalah: (1) mengidentifikasi karakteristik erosi tebing sungai; (2) mengestimasi besaran kehilangan tanah akibat erosi tebing sungai; (3) menganalisis dampak lingkungan akibat erosi tebing sungai di area penelitian; dan (4) mengetahui upaya pengendalian erosi tebing sungai yang telah diterapkan di area penelitian. Metode yang digunakan dalam penelitian adalah kombinasi metode kualitatif dan kuantitatif. Pengamatan karakteristik erosi tebing sungai dilakukan dengan survei pemetaan geomorfologi. Berdasarkan hasil pemetaan geomorfologi diperoleh 3 segmen pengamatan. Untuk estimasi besaran kehilangan tanah akibat erosi tebing sungai dilakukan dengan metode *Structure from Motion* (SfM) dengan mengambil satu titik pengamatan erosi tebing sungai yang terjadi secara intensif. Analisis dampak lingkungan erosi tebing sungai dilakukan dengan observasi dan wawancara mendalam kepada masyarakat yang terdampak erosi tebing sungai. Sampel informan untuk wawancara terkait dampak erosi tebing sungai ditentukan dengan teknik *purposive sampling*. Berdasarkan hasil pengamatan di lapangan diperoleh beberapa tipe mekanisme erosi tebing sungai, yaitu *failure of composite bank* dan gabungan *rotational failure* dan *failure of composite bank*. Hasil pengukuran estimasi volume kehilangan tanah pada salah satu zona erosi tebing sungai adalah 150,365 m<sup>3</sup>. Erosi tebing sungai telah memberikan dampak berupa kerusakan infrastruktur, menyebabkan kerugian ekonomi bagi petani, serta mengganggu kegiatan sosial masyarakat.

**Kata kunci:** Erosi tebing sungai, *Structure from Motion* (SfM), dampak erosi tebing sungai

## **CHARACTERISTICS AND ENVIRONMENTAL IMPACT ANALYSIS OF STREAMBANK EROSION IN PART OF THE OYO RIVER, BANTUL DISTRICT, DIY PROVINCE**

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### **Abstract**

In Indonesia, streambank erosion is one of the environmental dynamics that requires a more in-depth analysis. Based on the diversity of geomorphological configurations and evidence of streambank erosion, the Oyo River channel is one of the river channels that needs to be studied specifically. The aims of this study were: (1) to identify the characteristics of streambank erosion; (2) to estimate the amount of soil loss due to streambank erosion; (3) to analyze the environmental impact due to the erosion of streambank on the research area; and (4) To find out the effort of controlling streambank erosion that have been implemented on the research area. The method used in this study was a combination of qualitative and quantitative methods. Observation of the erosion mechanism of streambank was carried out by geomorphological mapping surveys. Based on the results of geomorphological mapping, 3 observation segments were obtained. Estimation of the amount of soil loss due to streambank erosion was carried out using the Structure from Motion (SfM) method by taking one observation point for streambank erosion that occurs intensively. Analysis of the impact of streambank erosion was carried out by observing and in-depth interviews to communities affected by streambank erosion. The informants sample for the interview related to the impact of the streambank erosion is using determined by a purposive sampling technique. Based on the results of field observations, several types of streambank erosion mechanisms were obtained, namely; failure of composite bank and a combination of rotational failure and failure of composite bank. The measurement results of the estimated volume of soil loss in a part of the streambank erosion zones was 150.365 m<sup>3</sup>. Streambank erosion has had an impact on infrastructure damage, causing economic losses to farmers, and disrupting community social activities.

**Keywords:** Streambank erosion, Structure from Motion (SfM), Streambank erosion impact