

## INTISARI

Embung Tambakboyo yang berlokasi di Kabupaten Sleman, Yogyakarta memiliki tiga fungsi utama, yaitu konservasi, wisata lingkungan dan penyediaan air baku. Embung Tambakboyo mendapatkan air dari air hujan dan air dari sungai sub DAS Tambakbayan. Penelitian ini mengkaji potensi pencemaran Embung Tambakboyo dari air limbah domestik. Embung Tambakboyo berada di Kecamatan Depok yang padat penduduk dengan aktivitas domestik seperti MCK dan memasak, hal tersebut berpotensi menurunkan kualitas perairan serta mempengaruhi biota air. Tujuan penelitian ini yaitu (1) mengkaji air Embung Tambakboyo yang berpotensi tercemar air limbah domestik; (2) menganalisis tingkat pencemaran lingkungan perairan Embung Tambakboyo ditinjau dari *nutrition value coefficient* (NVC) bioindikator Ikan Nila; (3) merumuskan upaya konservasi lingkungan perairan Embung Tambakboyo.

Penelitian ini menggunakan metode *purposive sampling* untuk pencuplikan sampel abiotik (uji kualitas air). Metode *eksploratif* untuk pencuplikan sampel biotik (NVC Ikan Nila). Metode *indepth interview* untuk mendapatkan data pendukung dari sosial-budaya masyarakat setempat. Metode analisis data secara komparatif, kualitatif dan deskriptif.

Hasil kajian kualitas air sungai DAS Tambakbayan hingga Embung Tambakboyo ditinjau dari komponen abiotik (uji fisika-kimia) sebagai berikut, kualitas air hulu DAS Tambakbayan tidak mengalami pencemaran. Sungai *inlet* 1 berpotensi tercemar air limbah aktivitas domestik berupa senyawa minyak-lemak dan sungai *inlet* 2 tidak tercemar. Sedangkan, uji kualitas air Embung Tambakboyo secara keseluruhan tidak tercemar, hanya kadar DO mendekati baku Mutu Air (BMA) berdasarkan PerGub DIY Nomor 20 Tahun 2008 tentang Baku Mutu Kelas Air. Kondisi komponen kultural sebagai penyebab kerusakan lingkungan yaitu perilaku penduduk yang belum memiliki kepedulian terhadap kelestarian sungai, penduduk belum efektif mengelola air limbah sebelum dialirkan ke sungai. Pencemaran air Embung Tambakboyo ditinjau dari bioindikator dengan Ikan Nila menunjukkan tidak terjadi pencemaran, NVC Ikan Nila masih diatas 1,7 (koefisien yang menunjukkan terjadi pencemaran) yaitu sebesar 2,26. Upaya konservasi lingkungan perairan Embung Tambakboyo dapat dilakukan secara preventif, pengendalian, pemulihan.

Kata kunci : pencemaran air, limbah domestik, kualitas air, bioindikator, koefisien nilai nutrisi, pengelolaan lingkungan

## ABSTRACT

*Tambakboyo Reservoir, located in Sleman Regency, Yogyakarta, serves three main functions: conservation, environmental tourism, and the provision of raw water. The reservoir collects rainwater and water from the sub-watershed of the Tambakbayan River. This research focuses on assessing the potential contamination of Tambakboyo Reservoir from domestic wastewater. Situated in the densely populated Depok Subdistrict, Tambakboyo Reservoir is surrounded by domestic activities such as sanitation and cooking, which have the potential to degrade water quality and impact aquatic life. The objectives of this study are (1) to assess the potential contamination of Tambakboyo Reservoir by domestic wastewater; (2) to analyze the level of environmental pollution in Tambakboyo Reservoir using the nutrition value coefficient (NVC) of Nile Tilapia as a bioindicator; (3) to formulate a strategy for managing the aquatic environment of the Tambakboyo.*

*This research employed the following methods: purposive sampling for abiotic sample collection (water quality tests), exploratory method for biotic sample collection (NVC of Nile Tilapia), and in-depth interviews to obtain cultural data from the local community. Data analysis was conducted comparatively, qualitatively, and descriptively.*

*The findings regarding the water quality of Tambakbayan Watershed up to Tambakboyo Reservoir, as assessed through abiotic components (physico-chemical tests), are as follows: the water quality in the upstream Tambakbayan Watershed is not contaminated. Inlet 1 of the river has the potential to be contaminated by domestic wastewater, specifically oil/fat compounds, while Inlet 2 remains uncontaminated. Meanwhile, the overall water quality of Tambakboyo Reservoir is not contaminated. The water quality test results for all parameters meet or exceed the Water Quality Standard (BMA), except for the DO concentration, which approaches the BMA based on Regional Regulation No. 20 of 2008 on Water Quality Standards. The cultural component contributing to environmental damage is the behavior of the population, which lacks awareness of river conservation, and the ineffective management of wastewater before it is discharged into the river. Pollution of Tambakboyo Reservoir, as assessed through the bioindicator Nile Tilapia, indicates no pollution. The NVC of Nile Tilapia remains above 1.7 (a coefficient indicating pollution) at 2.26. Conservation efforts for the aquatic environment of Tambakboyo Reservoir can be carried out preventively, through control measures, and in terms of restoration.*

**Keywords:** *water pollution, domestic wastewater, water quality, bioindicator, nutrient value coefficient, environmental management*