

KAJIAN PENCEMARAN LINGKUNGAN PERAIRAN SUNGAI KREO AKIBAT BUANGAN AIR LINDI TPA JATIBARANG KOTA SEMARANG

INTISARI

Oleh:

Tito Hasa Saniy¹, Langgeng Wahyu Santosa², Slamet Suprayogi³

**Program Studi
Magister Pengelolaan Lingkungan**

Penelitian ini dilakukan di sepanjang Sungai Kreo yang berada di Kota Semarang. Tujuan dari penelitian ini adalah untuk mengkaji karakteristik air lindi TPA Jatibarang dan kualitas air Sungai Kreo, mengkaji beban pencemaran dan tingkat pencemaran akibat buangan air lindi TPA Jatibarang, serta merumuskan strategi pengelolaan lingkungan yang diakibatkan dari buangan air lindi TPA Jatibarang, Kota Semarang. Metode penelitian yang digunakan adalah metode survei dengan sampling dan observasi lapangan. Sampling air sungai dilakukan secara *purposive sampling*. Hasil pegujian laboratorium digunakan untuk menentukan beban pencemar, tingkat pencemar dan merumuskan strategi pengelolaan lingkungan. Analisis pada penelitian ini meliputi parameter Suhu, TDS, TSS, DHL, COD, BOD, NH₃-N, Besi (Fe), Kadmium (Cd), Timbal (Pb) dan bakteri Total Coliform.

Berdasarkan dari hasil analisis, karakteristik air lindi TPA Jatibarang memiliki konsentrasi TDS, TSS, COD, BOD dan NH₃-N yang melebihi baku mutu PermenLH no.5 tahun 2014, sedangkan kualitas air Sungai Kreo menunjukkan bahwa beberapa parameter TSS, COD, BOD, NH₃-N dan Bakteri Total Coliform melebihi baku mutu PP 82 tahun 2001 sungai kelas I. Beban pencemaran tertinggi pada Sungai Kreo yaitu parameter Total Coliform, TDS, COD, TSS, BOD, Amonia, Besi, Timbal dan Kadmium, Sedangkan tingkat pencemaran Sungai Kreo dari keseluruhan lokasi titik sampling memiliki status mutu air cemar ringan untuk air sungai kelas I dan kelas II.

Kesimpulanya, Sungai Kreo mengalami penurunan kualitas akibat adanya buangan air lindi TPA Jatibarang serta aktivitas masyarakat yang dilakukan disekitar Sungai Kreo. Strategi pengendalian pencemaran sungai yakni dengan pengoptimalan IPAL TPA Jatibarang, pemasangan *bar screen*, monitoring debit air lindi, relokasi sapi dari area TPA, pengolahan sampah berbasis masyarakat, pengaktifan kembali pengomposan di TPA Jatibarang serta peningkatan pengawasan terhadap buangan air lindi serta kualitas air Sungai Kreo.

Kata kunci: *Pencemaran Lingkungan, kualitas air, air lindi, TPA*

**STUDY OF ENVIRONMENTAL POLLUTION OF KREO RIVER WATERS
DUE TO LEACHATE OF JATIBARANG LANDFILL DISPOSAL,
SEMARANG CITY**

By:

Tito Hasa Saniy ¹, Langgeng Wahyu Santosa ², Slamet Suprayogi ³

ABSTRACT

This research was conducted along the Kreo River in the Semarang city. The aims of this research are to study the characteristics of Jatibarang landfill leachate and Kreo River water quality, to calculate pollution load and environmental pollution index due to Jatibarang landfill leachate effluent, and formulate an environmental management strategy from Jatibarang landfill leachate, Semarang City. This research used survey sampling technique and field observation. Sampling of river water is done by purposive sampling. Laboratory testing results were used to determine pollutant load, environmental pollution index and formulate environmental management strategies. The analysis in this study included the parameters of Temperature, TDS, TSS, DHL, COD, BOD, NH₃-N, Iron (Fe), Cadmium (Cd), Lead (Pb) and Total Coliform bacteria.

Based on the results of the analysis, the characteristics of Jatibarang landfill leachate have concentrations of TDS, TSS, COD, BOD and NH₃-N which exceed the quaiuty standard of PermenLH no.5/2014, while the Kreo River water quality shows that several parameters are TSS, COD, BOD, NH₃ -N and Total Coliform Bacteria exceed the quality standard PP 82/2001 class I river. The highest pollution load on the Kreo River is the Total Coliform, TDS, COD, TSS, BOD, Ammonia, Iron, Lead and Cadmium parameters, while the Kreo River pollution index from the whole location of the sampling point has the status lightly poluted for river water class I and class II.

In conclusion, the Kreo River experienced a decline in quality due to the discharge of leachate water from the Jatibarang landfill and community activities carried out around the Kreo River. The river pollution control strategy is by optimizing the Jatibarang landfill WWTP, installing a bar screen, monitoring leachate discharge, relocating cattle from the landfill area, community-based waste management, reactivating composting in the Jatibarang landfill and increasing monitoring of leachate water and Kreo River water quality.

Keywords: *Environmental pollution, water quality, leachate, landfill*