

PENGENDALIAN PENCEMARAN SUNGAI JENES DI KAMPUNG INDUSTRI BATIK LAWEYAN, KECAMATAN LAWEYAN, KOTA SURAKARTA, PROVINSI JAWA TENGAH

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INTISARI

Batik merupakan salah satu budaya yang berada di Indonesia. Produksi batik terbesar di Indonesia salah satunya berada di Kampung Industri Batik Laweyan, Kecamatan Laweyan, Kota Surakarta, Provinsi Jawa Tengah. Pengelolaan limbah batik di Laweyan belum optimal yang dapat dilihat dari badan air yang tercemar yaitu Sungai Jenes. Tujuan penelitian ini adalah yang pertama menganalisis kualitas air limbah dan status mutu air sungai di Sungai Jenes, mengevaluasi kinerja instalasi pengolahan air limbah, dan memberi arahan optimalisasi unit pengolahan air limbah yang berada di Kampung Industri Batik Laweyan.

Metode penelitian ini menggunakan metode survei dan pemetaan, metode *purposive sampling*, evaluasi *stream* dan *effluent*, indeks pencemaran, serta analisis laboratorium dengan pendekatan kualitatif dan kuantitatif. Lokasi pengamatan berjumlah 19 titik yang meliputi 2 titik pengambilan sampel air limbah, 3 titik pengambilan sampel air sungai, 2 titik pengamatan tanah, 2 titik pengamatan batuan, 3 titik pengamatan biotis, dan 2 titik pengamatan tata air. Sampel air limbah diuji dengan parameter BOD, COD, TSS, fenol, kromium, amonia, minyak dan lemak, dan pH. Sedangkan untuk air sungai diuji dengan parameter BOD, COD, TSS, pH, fenol, minyak dan lemak, dan juga deterjen.

Hasil penelitian menunjukkan kualitas air limbah batik dengan nilai COD senilai 161,10 mg/L, TSS senilai 60,5 mg/L, fenol senilai 0,62 mg/L. dan minyak dan lemak senilai 3,2 mg/L. dan status mutu air sungai pada LP 5 berjumlah 5,35, LP 6 berjumlah 5,67, dan LP 12 berjumlah 5,82 termasuk dalam kategori tercemar sedang. Kinerja Instalasi Pengolahan Air Limbah yang berada di Kampung Industri Batik Laweyan, Surakarta, Jawa Tengah memiliki efisiensi 52,18% untuk BOD, -63,8% untuk COD, 64,17% untuk TSS, 18,42% untuk fenol, 30,43% untuk minyak dan lemak. Arahan pengolahan air limbah industri batik di Kampung Industri Batik Laweyan, Surakarta, Jawa Tengah dengan menambah unit baru yaitu unit foagulasi flokulasi guna menurunkan parameter-parameter yang berada di dalam air limbah industri batik di Laweyan yaitu, BOD, COD, TSS, fenol, dan minyak dan lemak memiliki perhitungan setelah melalui unit tambahan baru untuk parameter BOD 1,82 mg/L, Parameter COD 10,85 mg/L, TSS 22,57 mg/L, fenol 0,3 mg/L, minyak dan lemak 0,75 mg/L

Kata Kunci : Limbah, Batik, Indeks Pencemaran, *Stream – Effluent*.

**CONTROL OF JENES RIVER POLLUTION IN LAWEYAN BATIK
INDUSTRIAL VILLAGE, LAWEYAN DISTRICT, SURAKARTA CITY,
CENTRAL JAVA PROVINCE**

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ABSTRACT

Batik is one of the cultures in Indonesia. The largest batik production in Indonesia is in the Laweyan Batik Industrial Village, Laweyan District, Surakarta City, Central Java Province. Management of batik waste in Laweyan is not yet optimal, which can be seen from the polluted water body, namely the Jenes River. The aim of this research is to first analyze the quality of waste water and the status of river water quality in the Jenes River, evaluate the performance of the waste water treatment plant, and provide direction for optimizing the waste water treatment unit located in the Batik Laweyan Industrial Village.

This research method uses survey and mapping methods, purposive sampling methods, stream and effluent evaluation, pollution indices, and laboratory analysis with qualitative and quantitative approaches. There are 19 observation points, including 2 waste water sampling points, 3 river water sampling points, 2 soil observation points, 2 rock observation points, 3 biotic observation points and 2 water system observation points. Wastewater samples were tested for BOD, COD, TSS, phenol, chromium, ammonia, oil and fat, and pH parameters. Meanwhile, river water was tested using the parameters BOD, COD, TSS, pH, phenol, oil and fat, and also detergent.

The research results show the quality of batik wastewater with a COD value of 161.10 mg/L, TSS value of 60.5 mg/L, phenol value of 0.62 mg/L, and oil and fat worth 3.2 mg/L. And the river water quality status at LP 5 was 5.35, LP 6 was 5.67, and LP 12 was 5.82, including in the moderately polluted category. The performance of the Waste Water Treatment Plant located in Batik Laweyan Industrial Village, Surakarta, Central Java has an efficiency of 52.18% for BOD, -63.8% for COD, 64.17% for TSS, 18.42% for phenol, 30, 43% for oils and fats. Directions for processing batik industrial wastewater in Laweyan Batik Industrial Village, Surakarta, Central Java by adding a new unit, namely a flocculation foagulation unit to reduce the parameters in batik industrial wastewater in Laweyan, namely, BOD, COD, TSS, phenol, and oil and fat have calculations after going through new additional units for BOD parameters 1.82 mg/L, COD parameters 10.85 mg/L, TSS 22.57 mg/L, phenol 0.3 mg/L, oil and fat 0, 75 mg/L

Keywords: Waste, Batik, Pollution Index, Stream - Effluent.