EVALUASI KINERJA IPAL KOMUNAL DITINJAU DARI PARAMETER *BOD* DAN *COD*
(Studi Kasus: IPAL Komunal Sembir Asri, Bendosari Sehat, dan Tirto Madu Kecamatan Prambanan Kabupaten Sleman)

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ABSTRAK

Evaluasi Kinerja IPAL Komunal Ditinjau Dari Parameter BOD dan COD, Studi Kasus: IPAL Komunal Sembir Asri, Bendosari Sehat, dan Tirto Madu Kecamatan Prambanan Kabupaten Sleman. Penelitian ini bertujuan untuk mengetahui kualitas dan kelayakan air limbah domestik yang berpedoman pada persyaratan Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.68/Menlhk/Setjen/Kum.1/8/2016 Tentang Baku Mutu Air Limbah. Metode penelitian menggunakan deskriptif kuantitatif, dengan pengujian secara tiga hari dengan pengambilan sampel inlet dan outlet dan uji laboratorium di Balai Laboratorium Lingkungan Dinas Lingkungan Hidup dan Kehutanan (BLLDLHK) Yogyakarta. Teknologi yang digunakan pada IPAL Komunal Sembir Asri, Bendosari Sehat, dan Tirto Madu menggunakan Teknologi Anaerob Filter (AF). Hasil sampel outlet yang diuji menunjukkan bahwa kadar limbah yang dikeluarkan untuk IPAL Komunal Sembir Asri Tidak Memenuhi baku mutu yaitu kadar BOD 78,66 mg/L dan kadar COD 181 mg/L , untuk IPAL Komunal Bendosari Sehat kadar bodnya tidak memenuhi baku mutu yaitu 33 mg/L dan untuk Kadar COD nya memenuhi baku mutu yaitu 88 mg/L, dan hanya IPAL Komunal Tirto Madu yang dari kadar BOD dan COD memenuhi baku mutu yaitu BOD 30 mg/L dan COD 70,67. Status mutu air limbah pada tiga IPAL Komunal di Kalurahan Madurejo dengan menggunakan metode indeks pencemaran menunjukkan bahwa kadar parameter *BOD dan COD* pada ketiga IPAL Komunal tersebut tercemar ringan. Hasil dari penelitian analisis efektivitas penurunan kadar air limbah dari inlet ke outlet pada parameter Biologycal Oxygen Demand (BOD) IPAL Komunal Sembir Asri sebesar 48% %, IPAL Komunal Bendosari Sehat sebesar 57%, IPAL Komunal Tirto Madu sebesar 58%, Chemical Oxygen Demand (COD) IPAL Komunal Sembir Asri sebesar 43%, IPAL Komunal Bendosari Sehat sebesar 57% dan IPAL Komunal Tirto Madu Sebesar 63%.

Kata Kunci: Air limbah, Kualitas air limbah, Kelayakan air limbah, IPAL Komunal, Anaerob Filter, BOD, COD

PERFORMANCE EVALUATION OF COMMUNAL WWTPS REVIEWED FROM BOD AND COD PARAMETERS

(Case Study: Sembir Asri, Bendosari Sehat, and Tirto Madu Communal WWTPs, Prambanan District, Sleman Regency)

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ABSTRACT

This is a case study of Sembir Asri, Bendosari Sehat, and Tirto Madu Communal WWTPs, Prambanan District, Sleman Regency. This research aims to determine the quality and suitability of domestic wastewater which is guided by the requirements of the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number P.68/Menlhk/Setjen/Kum.1/8/2016 concerning Wastewater Quality Standards. The research method used quantitative descriptive, with three-day testing by taking inlet and outlet samples and laboratory tests at the Yogyakarta Environmental Laboratory Center for the Environment and Forestry Service (BLLDLHK). The technology used at Sembir Asri, Bendosari Sehat, and Tirto Madu Communal WWTPs uses Anaerobic Filter (AF) Technology. The results of the outlet samples tested showed that the waste levels released for the Sembir Asri Communal WWTP did not meet the quality standards, namely BOD levels of 78.66 mg/L and COD levels of 181 mg/L, for the Bendosari Sehat Communal WWTP the BOD levels did not meet the quality standards, namely 33 mg/L and the COD levels meet the quality standards, namely 88 mg/L, and only the Tirto Madu Communal WWTP, whose BOD and COD levels meet the quality standards, namely BOD 30 mg/L and COD 70.67. The quality status of waste water at three Communal WWTPs in Madurejo District using the pollution index method shows that the levels of BOD and COD parameters at the three Communal WWTPs are lightly polluted. The results of the research analysis of the effectiveness of reducing wastewater levels from inlet to outlet on the Biological Oxygen Demand (BOD) parameters of Sembir Asri Communal WWTP were 48%, Bendosari Sehat Communal WWTP was 57%, Tirto Madu Communal WWTP was 58%, Chemical Oxygen Demand (COD) Sembir Asri Communal WWTP is 43%, Bendosari Sehat Communal WWTP is 57% and Tirto Madu Communal WWTP is 63%.

Keywords: Waste water, waste water quality, waste water suitability, Communal WWTP, Anaerobic Filter, BOD, COD