

EVALUASI INSTALASI PENGOLAHAN AIR LIMBAH KOMUNAL DESA NGLUWAR KECAMATAN NGLUWAR

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ABSTRAK

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Air merupakan kebutuhan utama bagi proses kehidupan di bumi. Namun demikian, air dapat menjadi malapetaka bilamana tidak tersedia dalam kondisi yang benar, baik kualitas maupun kuantitasnya. Saat ini air menjadi masalah yang perlu mendapat perhatian yang serius, karena air sudah banyak tercemar oleh bermacam-macam limbah dari berbagai hasil kegiatan manusia. Pemerintah Kabupaten Magelang menekan pembangunan Instalasi Pengolahan Air Limbah (IPAL) di kawasan rawan pencemaran air limbah domestik. Oleh karena itu peneliti melakukan evaluasi terhadap hasil pengolahan air limbah guna mengetahui efektifitas instalasi pengolahan air limbah di desa ngluwar. Metode penelitian yang digunakan yaitu kualitatif dan kuantitatif. Untuk metode kualitatif dilakukan observasi pada IPAL di Desa Ngluwar dan wawancara dengan pengelola IPAL. Kemudian metode kuantitatif dilakukan dengan uji laboratorium terhadap kualitas air pada bak *inlet* dan bak *outlet* IPAL Desa Ngluwar. Tujuan dari penelitaian ini yaitu untuk mengetahui kondisi *eksiting* dan kualitas air limbah yang diolah pada Instalasi Pengolahan Air Limbah (IPAL) Komunal Desa Ngluwar Kecamatan Ngluwar sesuai dengan baku mutu air limbah. Berdasarkan penelitian yang dilakukan diperoleh hasil Instalasi Pengolahan Air Limbah (IPAL) Desa Ngluwar Kecamatan Ngluwar Kab. Magelang dibangun pada tahun 2019 melayani 401 jiwa dengan menggunakan teknogi *Anaerobic Baffled Reactor* (ABR) dan *Anaerobic Filter* (AF). Kondisi *eksiting* kurang terawat, namun sistem pengolahan berjalan dengan lancar tidak terjadi penyumbatan. Pengujian kinerja IPAL dalam menurunkan parameter BOD sebesar 68,83%; COD 59,90%; TSS 72,72%; TDS -14,39% namun masih dibawah batas kadar maksimum; Deterjen 38,23%; Suhu 0%; Ph 0% dan Total Coliform 99,99% namun masih diatas batas kadar maksimum. Hasil pengujian laboratorium menunjukkan baku mutu air limbah IPAL Desa Ngluwar belum seluruhnya memenuhi standar baku mutu air limbah menurut Permen LHK No. 68 Tahun 2016 tentang baku mutu air limbah dometik.

Kata kunci: *air limbah, istalasi pengolahan air limbah, baku mutu air*

EVALUATION OF COMMUNAL WASTEWATER TREATMENT INSTALLATION IN NGLUWAR VILLAGE, NGLUWAR DISTRICT

ABSTRACT

Water is the main requirement for the processes of life on earth. However, water can be a disaster if it is not available in the right conditions, both in quality and quantity. Currently, water is a problem that needs serious attention because water has been polluted by various kinds of waste from various human activities. The Magelang Regency Government has suppressed the construction of a Wastewater Treatment Plant (IPAL) in areas prone to domestic wastewater pollution. Therefore, researchers evaluate the results of wastewater treatment in order to determine the effectiveness of the wastewater treatment plant in the village of Ngluwar. The research methods used are qualitative and quantitative. For the qualitative method, observations were made on the IPAL in Ngluwar Village and interviews with the IPAL manager. Then the qualitative method was carried out by laboratory testing on the quality of the water in the inlet and outlet tubs of Ngluwar Village IPAL. This research aims to determine the existing condition and quality of the wastewater treated at the Communal Wastewater Treatment Plant (IPAL) in Ngluwar Village, Ngluwar District, following the wastewater quality standards. Based on the research conducted, the Wastewater Treatment Installation (IPAL) results in Ngluwar Village, Ngluwar District, Kab. Magelang was built in 2019 to serve 401 people using the Anaerobic Baffled Reactor (ABR) and Anaerobic Filter (AF) technology. The existing condition is poorly maintained, but the processing system runs smoothly without blockages. WWTP performance testing in reducing BOD parameters by 68.83%; COD 59.90%; TSS 72.72%; TDS -14.39% but still below the maximum level; Detergent 38.23%; 0% temperature; Ph 0% and Total Coliform 99.99% but still above the maximum level. The laboratory testing results show that the quality standards of the Ngluwar Village IPAL wastewater have not fully met the wastewater quality standards according to the Minister of Environment and Forestry No. 68 of 2016 concerning domestic wastewater quality standards.

Keywords: wastewater, wastewater treatment plant, water quality standards