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## ANAEROBIC-AEROBIC BAFFLED REACTOR TREATING REAL MUNICIPAL WASTEWATER IN A LOW INCOME COMMUNITY

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### Abstract

Inadequate sanitation and poor infrastructure for waterborne sanitation are common in many developing countries. The anaerobic/aerobic baffled reactor (AABR) is a sustainable option for water sanitation in developing countries. In the present study, a 2.50 m<sup>3</sup> AABR reactor working with real municipal wastewater was monitored. Four sequenced chambers, the first three being anaerobic and the fourth aerobic composed the AABR reactor. AABR efficiency and performance were examined during four different periods. Organic and hydraulic load increases were adequately absorbed, provoking no instability in the system and demonstrating good configuration for absorbing organic impacts. The AABR had a promising effect on COD removal, which led removal values of total COD up to 74%, and total suspended solid (TSS) removal up to 79%. Regardless of the value on entering, the pH from the reactor effluent remained close to 7 during the four periods, indicating good stability in the reactor.

*Key words:* aerobic treatment, anaerobic treatment, anaerobic-aerobic baffled reactor, municipal wastewater, reactor stability

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