

**CONSTRUCTED WETLANDS TO TREAT HOUSE WASTEWATER.
A SOLUTION FOR INDONESIA?**

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ABSTRACT

A pilot project of one constructed subsurface flow wetlands to treat sewage from family Subandi house has been built in Bandung Indonesian in February 1999. The water samples from both influent and effluent (COD, BOD₅, NO₃-N, NO₂-N, NH₄-N, PO₄-P, pH, and settleable solids, and O₂) were taken twice a month and analyzed. Fecal coliforms bacteria was determined by MPN method. The objective of this study was to install one constructed subsurface flow wetlands with vertical flow to treat sewage from private house. The treatment efficiency of this constructed wetlands was already relatively high, although this constructed wetlands was just only eleven months in operation. The results were very promising and give a possibility of constructed wetlands to be installed and developed in tropical countries, especially in Indonesia, as a viable alternative to conventional wastewater technology, because this system is and simple and cost effective.

Keywords: Constructed wetlands, wastewater treatment, conventional system, subsurface flow

**INSTALASI PENGOLAH LIMBAH UNTUK MENGOLAH AIR LIMBAH
RUMAH TANGGA SEBAGAI SUATU SOLUSI UNTUK INDONESIA ?**

ABSTRAK

Sebuah instalasi pengolah air limbah rumah tangga telah dibuat di rumah keluarga Subandi, Bandung, Indonesia pada bulan Pebruari 1999. Instalasi ini merupakan pilot projek. Sampel air baik dari aliran masuk (inlet) maupun aliran keluar (outlet) dianalisa dua kali sebulan sekali terutama untuk COD, BOD₅, NO₃-N, NO₂-N, NH₄-N, PO₄-P, pH, settleable solids dan O₂. Penentuan bakteri fecal dilakukan dengan metoda MPN. Tujuan dari penelitian ini adalah membuat suatu pilot projek instalasi pengolah limbah tipe vertikal untuk mengolah air limbah rumah tangga. Hasil penelitian ini menunjukkan bahwa efisiensi pembersih dari instalasi ini sudah relatif tinggi walaupun baru beroperasi selama 11 bulan. Instalasi pengolah limbah ini sangat menjanjikan dan cocok untuk dikembangkan di negara tropis terutama di Indonesia sebagai alternatif dari instalasi pengolah air limbah konvensional dikarenakan instalasi limbah ini murah dan mudah.

Kata kunci: Instalasi pengolah limbah, pengolah limbah, sistim konvensional, aliran subsurface