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**Field-Scale Anaerobic Filter System with Low-Cost Packing Media for the
Treatment of Landfill- Leachate**

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Anaerobic filter is a major concern in the treatment of landfill-leachate and one major drawback is the usage of expensive packing media. Hence the investigations on low-cost and locally available packing media would be a useful research. This study was focused on assessing the applicability of low-cost and locally available materials as packing media in two field-scale anaerobic filters connected in series to treat landfill-leachate. The treatment was processed through the first anaerobic filter filled with dewatered alum sludge and sea sand, and the second filter following filled with sawdust and bio char. The concentrations of the organic compounds, nutrients and heavy metals were measured in the influent and effluent of the anaerobic filters. The treatment efficiencies of the BOD₅ was 27% and increased with time. COD removal efficiency was 35.2%. There was considerable treatment efficiencies for ammonia and phosphorus. The removal efficiency of Cu²⁺ increased with the time from 20 to 100 percentage.

Keywords: landfill-leachate, anaerobic filters, packing media, nutrients, organic compounds, heavy metals