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**POTENTIAL ENVIRONMENTAL IMPACTS RELATED WITH OPEN  
DUMPING SOLID WASTE AT “BLOEMENDHAL”,  
COLOMBO, SRI LANKA**

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**ABSTRACT**

Through decades, 'Bloemendhal' was famous for being a dumping site for municipal solid waste which was brought and dumped from all over the places of Colombo Municipal Council area of Sri Lanka. This garbage pile occupies an area approximately 6.5 ha and goes to an average height of 30 meters containing about 1.5 - 2.5 million tons of garbage. However, effect of leachate that result from this huge garbage pile on the environment have not been investigated. Present study was conducted to determine the levels of phosphate, nitrate, heavy metals, and coli-form as determinants to the environment pollution. This was done by examining the random samples of soil, leachate and water (n=4) each within 150 m and 400 m radius distances from the centre of the garbage pile of 'Bloemendhal' by laboratory standard methods. This study revealed that, the leachate and soil within 150 m and 400 m radius from the centre of the waste pile contained high amounts of nitrate, phosphate, organic matter, heavy metals and coli-form bacteria. These values always exceeded the standard levels set by Sri Lanka Standards Institute. Among the heavy metals, Lead (Pb) and Chromium (Cr) concentrations were extremely high in leachate collected at 150 m distance compared to that collected at 400 m distance. However, Cadmium (Cd) level was significantly high in both distances compared to the set levels. However, a very low amount of Zinc (Zn) was detected at both distances. This study shows that there is a greater impact of the leachate resulting from open dumping on the environment in a long run.

**Keywords:** solid waste, heavy metals, leachate.