Linnaeus ECO-TECH 2022
Kalmar, Sweden, November 21-23, 2022

ASSESSMENT OF FEASIBILITY OF LANDFILL MINING AT OPEN DUMPSITES IN INDIA

Mohit Somani [1]
[1)] *Estonian University of Life Sciences, Tartu, Estonia*

Abstract
Landfill mining has gained a major boom in developing countries particularly in global south in past few years. In 2016, National Green Tribunal (NGT) of India had directed to mine more than 2000 old dumpsites in India. The local civic authorities in India are using the mined material reclaimed from dumpsites in offsite applications such as earth-fill, agricultural applications etc. without any prior knowledge about its chemical and physical characteristics. The feasibility of landfill mining in India was assessed by characterizing the samples of aged municipal solid waste from four old waste dumpsites. The study concluded that bulk of the material (60-70%) reclaimed after the mining of old municipal solid waste dumpsites in India consists of soil-like material (SLM). SLM refers to the fraction of aged MSW passing the 4.75 mm sieve as per the Indian standard of practice from geotechnical perspectives. It includes sand, silt, and clay sized material. However, SLM is found to be contaminated on the basis of excessive presence of soluble salts, elevated total heavy metals, and significantly higher leachable heavy metals, therefore, its unrestricted (direct) reuse in offsite geotechnical applications is not feasible. Therefore, SLM can only be re-used after adopting suitable design measures such as sealing layers, leachate collection system/drainage system in offsite applications.

ISBN: 978-91-89460-85-0