



Source Identification and Sequential Leaching of Heavy Metals in Soil Samples Collected from Selected Dump Sites in Ekiti State, Nigeria

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Abstract: Ten heavy metals (Fe, Cu, Mn, Zn, Pb, Ni, Co, Cd, Cr and Sn) in fractionated and bulk soil samples collected from four dump sites located in Ado-Ekiti and Ikere -Ekiti, South western Nigeria were analysed using a modified Tessier's procedure and acid digestion to obtain the distribution pattern of metal in this region. The metals were found to have been distributed in all phases with Fe, Cr, and Sn dominating the residual fraction (90.12 - 94.88%), Co, Ni, Cu, and Zn were found in all the extractive phases with about 50% of them in residual phases. About 53.42-66.78% of Pb was obtained in site 1, 2 and 3 as present in the mineralogical matrix; however, there is possibility of the environment being grossly polluted by lead. A considerable proportion of Mn and Cd were found as exchangeable metals, forming complex with Fe and weakly bound to organic matter. In all, heavy metals were largely bound to lower dimension size fractional samples.

Keywords: *Source, Speciation, Heavy metals, Soil, Dumpsites*

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