

## DEPTHWISE DISTRIBUTION OF HEAVY METALS IN SEWAGE IRRIGATED ALLUVIAL SOILS OF ALLAHABAD

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**ABSTRACT :** The depthwise distribution of heavy metals (Cd, Cr, Cu and Pb) was studied in different soil profiles of sewage irrigated areas of Allahabad. Representative soil samples were collected from three sites which were being irrigated with sewage for last 30 years. These samples were collected from different depths i.e. 0-15, 15-30, 30-45, 45-60 cm. The soils of these selected sites were composed mostly of alluvial (ENTISOLS) with some filler soil. Highly significant proportion of these heavy metals were accumulated in top soil. Total content of heavy metals were found to be Cd-2.4, Cr-8.2, Pb-4.6 and Cu-42 mg/kg in surface layer (0-15 cm). DTPA-extractable content of heavy metals were found to be Cd-0.32, Cr-0.12, Pb-2.8 and Cu-2.4 mg/kg in surface layer (0-15cm). Maximum accumulation of heavy metals was observed in Buxi Bandh Daragang. Phaphamau Sewage farm soil was second in order. Rasoolabad Sewage farm soil was least polluted in comparison to Buxi Bandh Sewage and Phaphamau Sewage farm's soil. The concentration of heavy metals was higher in surface layer than lower horizon indicating in less mobility into deeper soil layers.

**Key Words :** Heavy metals, sewage-sludge, organic matter, clay, soil profile.