Contamination of soil due to heavy metals in the Patancheru industrial development area - A serious issue

Industrialization and urbanization are the two main causes for the increasing contamination of heavy metals in soil. An environmental geochemical investigation was carried out in and around the Patancheru industrial development area of Andhra Pradesh to determine the extent of chemical pollution in the soil. The main objective of the study was to establish the spatial variability in heavy-metal enrichment and to assess the extent of contamination in the study area. The data reveal that soils in the area are significantly contaminated, showing two to three times higher levels of toxic elements than normal. Many heavy metals, such as Cr, V, Fe, As, Cd, Se, Ba, Zn, Sr, Mo and Cu, are present above the normal distribution in the soil. The heavy-metal loads of the soils in the study area are 240 mg/kg for Cr, 235 mg/kg for V, 1,350 mg/kg for Ba, 200 mg/kg for Cd, and 500 mg/kg for Cu. Most of the soils should be removed from agricultural production, and the area needs to be monitored regularly for heavy metal enrichment.