A study of heavy metal contamination in road side soil

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Summary

Contamination of heavy metals in the environment is of major concern because of their toxicity and threat to human life and the environment. Metal interaction in soil vary considerably with the nature of soil types. Concentrations of Pb, Cu, Cr, Zn, Ni and Cd were determined to assess the impact of traffic and industrial activities. Soil samples at two polluted sites and a control site were collected at a depth of 0-2cm. A comparison of elemental levels between polluted and control sites exhibited exceptionally higher concentrations at the former sites. The Pb levels in polluted sites varied from 33.23-41.50 µg/cm³. Similarly mean concentrations of Cu, Cr, Zn, Ni and Cd were significantly higher in industrial and traffic area compared to residential area. Correlation coefficients between heavy metals were positively significant for all the heavy metals. A comparison of heavy metal content strongly implicate the automobile as the source of contamination. Heavy metal contamination such as Pb in road side soil is continuous and takes place on a relatively long term basis since many metals are not so mobile. The levels of Pb, Cu, Cr, Zn, Ni and Cd in the road side soil of traffic areas are much higher than the industrial and residential road side soil. Therefore, it is apparent that the continued loading will ultimately place human health and other environmental targets at risk. The results have been presented using heavy metal index.

Key words: Concentrations, Polluted sites, Control site, Heavy metal index, Contamination, Environmental target, Correlation coefficient