

Assessment of selected heavy metals uptake from soil by vegetation of two areas of district Attock, Pakistan

ABSTRACT

The present study was conducted to examine the heavy metals in the soil and vegetation of two areas of district Attock (Pakistan). Investigations were made to compare the heavy metals concentrations (Cu, Pb, Cd, Ni, Zn) in a relatively less polluted site (Khour City) and a polluted site (Khour Company). An assessment of the selected heavy metals uptake by the soil and vegetation was made through calculation of bioaccumulation and enrichment factors. Samples of soil and plants were collected from both sites. From each site, four points were selected randomly for vegetation and soil sampling. Plant species included *Eucalyptus camaldulensis*, *Calotropis procera*, *Ziziphus nummularia*, *Cynodon dactylon*, *Acacia senegal*, *Parthenium hysterophorus*, *Dalbergia sissoo* and *Desmostachya bipinnata*. Heavy metals were detected in soil and vegetation of both areas using atomic absorption spectrophotometer. Lead concentration was highest amongst other heavy metals in both soil and vegetation (*Cynodon dactylon*). In studied plant species heavy metals concentrations varied among different species. The level of heavy metal concentration in Khour Company was greater compared to Khour City. The increasing level of heavy metal contamination in the Khour Company area may be because of higher traffic density and industrialization compared to Khour City.

Keyword: Heavy metal uptake; Pollution; Pakistan; Vegetation