

## **Evaluation of the Correlation between Heavy Metals in *Chaetomorpha* sp. and Water and Sediment in the Pond Drinking Water Treatment Plants in Karoon River Area**

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### **Abstract**

Given the importance of biological index in monitoring heavy metals in aquatic ecosystems, in this study, an alga was used as a bio-indicator for heavy metals (lead, zinc, chromium and cadmium) in Karoon River. For this purpose, samples were collected from the dominant alga (*Chaetomorpha* sp.) as well as from the water and sediments of 6 stations in Karoon River in the summer 2015. After acid digestion of the samples, heavy metal concentrations were measured using Flame atomic absorption spectrometry. The results showed that the average concentration of lead, zinc, chromium and cadmium in water were 2.50, 7.04, 4.32 and 0.28 ppm, in sediments were 26.11, 72.36, 53.14 and 3.68 ppm, and in the tissues of algae were 20.59, 58.08, 37.36 and 1.27 ppm. A significant positive correlation between the concentrations of metals in the sediments of algae tissue showed that the alga (*Chaetomorpha* sp.) is a suitable bio-indicator for heavy metals in the Karoon River.

Keywords: *Algae, Biomonitors, Heavy metals, Karoon River.*

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