

CHEMICAL SPECIATION OF Fe Mn Zn Co AND Cu IN SEDIMENTS OF THE KANDY LAKE

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The sequential extraction techniques of chemical extraction have had useful application in environmental studies. Although the ability of separating trace elements into chemically ^{well}-defined fractions are far from perfect, it is helpful, nevertheless, to understand the chemical behaviour and bioavailability of trace elements in sediments.

The sediments of the Kandy lake were extracted by a fractionation procedure to separate trace elements in the sediments into different chemical forms. The reagent strength, ratio of solution volume (ml) to sediment weight (g), and extraction time were; 1M $\text{CH}_3\text{COONH}_4$ 1:20, 5hr; 1M $\text{NH}_2\text{OH.HCl} + 0.01\text{M HNO}_3$, 1:100, 12hr; $0.2\text{M (NH}_4)_2\text{C}_2\text{O}_4 + 0.2\text{M H}_2\text{C}_2\text{O}_4$ 1:100, 24 hr; 30 o/o $\text{H}_2\text{O}_2 + 1\text{M HNO}_3$, 1:100, 24 hr; con. HNO_3 1:100, 18 hr. There was a considerable amount of Mn (30%), Zn (37%) and Co (48%) bound in the easily reducible fraction, whereas the moderately reducible form is significant only in the case of Cu (42%) and Fe (56%).

These studies show that the surplus metal contaminants introduced by man's activities into the aquatic system usually exist in relatively unstable chemical associations and consequently predominantly available for biological uptake.