



Distribution of Heavy Metals in Water and Sediments in Passur River, Sundarban Mangrove Forest, Bangladesh

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Abstract: Spatial and seasonal variability of heavy metal concentrations both in water and sediment samples collected from six different locations along the Passur river of Sundarban mangrove forests, Bangladesh have been investigated. Concentrations of Pb, Cd, Zn, Fe, Cu, Co, Ni, As, Mn, Se and Cr were determined in both water and sediment samples. The physico-chemical water quality parameters were also monitored. The metals concentration observed in sediments were in good agreement with literature values with exception of Fe and Cd. The highest concentration of Fe was observed as 108 - 1016 $\mu\text{g/L}$ for water and 16500 - 31900 mg/Kg for sediments. The heavy metals were obtained in the order of Fe > Mn > Cu > Ni > Zn > Cr > Cd > Pb with no remarkable change between upstream and downstream along the river. Correlation matrix analysis provided a significant relationship between the variables at different stations. No distinct seasonal pattern of concentrations of heavy metals was found.

Keywords: Heavy metals, Sundarban mangrove forest, water and sediment, river

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