Saturday, June 15th Session 2B (15-2B)
Oral introduction: 15:40-16:50, Poster viewing: 16:50-17:50 Chair: NAKAI Satoshi

15-2B-11

Bioavailability and risk assessment of trace metals in sediment and fish species of some rivers in Bangladesh

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Contaminations from trace metal a major problem globally, with a large share of this problem presently occurring in developing countries. As a forward step to understand metal bioavailability and assess the potential impact on aquatic biota, a study of trace metal speciation of sediment was achieved. The accumulation of trace metals in fresh water fish has direct consequences to man and ecosystem. Concentrations of trace metal (Cr, Ni, Cu, As, Cd and Pb) were measured in sediment and three fish species, spotted snakehead (*Channa punctatus*), stinging catfish (*Heteropneustes fossilis*) and banded gourami (*Trichogaster fasciata*) from three peripheral rivers of Dhaka city, Bangladesh. The availability of metal was established as following decreasing order: Pb>Cu>Ni>Cr>As>Cd in sediment. In addition, the effect of this pollutant was studied by the evaluation of metal bioaccumulations and correlations between metal levels in fractions of sediment and metal levels in fish species. Higher levels of Cu (1.12-4.91), Cr (0.75-2.38), Ni (0.14-2.56) and Pb (0.05-1.22 mg/kg wet wt) were observed in fish species, in according with higher total content and more available metals in sediment. Health risk assessment and comparison with international standards showed that consumption of those fish species from these rivers were not safe.