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HEAVY METAL POLLUTION OF WATER AND SLUDGE IN RIVER OF LLAP, THE PODUJEVA TERRITORY

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ABSTRACT

Deposition of wastes into water and sludge is a significant problem confronting developing nations including Kosovo. This study assessed heavy metal concentrations in sludge and surface water of River Llap. The observation of the chemical analyses of water and sediments is essential to determine the extent of trace elements in these ecosystems. Level of contamination of water and sludge has used to determine the Health Risk Index (HRI) for the exposed population. Heavy metals were determined in water and sludge, using Atomic Absorption Spectrometry. Samples were collected in March, 2022 at three different sample points. The concentration (maximum value) of Cr (0.046 mg/l), Zn (0.039 mg/l), Mn (0.097 mg/l) and Cu (0.029 mg/l) in all sample points (M1, M2 and M3) was found to be under USEPA and WHO recommended norms. But the concentration (maximum value) of Cd (0.029 mg/l), Pb (0.086 mg/l), Fe (0.594 mg/l) and Ni (0.158 mg/l) in all sample points were found to be above USEPA and WHO recommended norms originated from urban and industrial sources, in this area. The statistical analysis has been found a highly significant positive relationship of Cd with Ni, Fe and Pb originated mainly of sulphide ores in this area.

Keywords: Llap River, pollution, heavy metals, urban and industrial discharges.