



Assessment of Heavy Metals Pollution in Ibër River Sediment, Kosova

Ardian Rugova¹ Eduard Andoni², Gani Kastrati^{1,2}, Tahir Arbnesi^{1,*}

¹*Department of Chemistry, FMNS, University of Prishtina, Kosova;* ²*Department of Chemistry, FNS, University of Tirana, Albania*

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Abstract: The pollution of environment by heavy metals is one of the most major concerns in the worldwide. Environmentally, available Pb, Cd, Cu and Zn may originate from human activities, atmospheric depositions and erosions. In general, these heavy metals are toxic and non degradable which frequently find their own way to enter aqua systems. When entering the water media they link with food web components via agricultural irrigation and fish consumption risking human being to be exposed to these adverse chemical toxins. Hence, the aim of this study was to monitor heavy metal levels of Pb, Cd, Cu and Zn in sediment samples of Ibër River. To determine the concentration level, and source pollution of heavy metals (Pb, Cd, Cu, and Zn) the sediment samples were chemically analyzed. The sediment samples were collected at four sites places of the Ibër River between Montenegro and Serbia and the study (monitoring) was done for a period of one year in 2010. The concentration of Pb, Cd, Cu and Zn was determined using Differential Pulse Anodic Stripping Voltammetry (DPASV) in a standard three-electrode cell systems equipped with HDME. For accuracy reason the results obtained by DPASV method were validated with well established ICP/MS technique for heavy metals determination. The concentrations level of heavy metals generally decreases as the Ibër River flows downstream, while a significant increase of metals content was observed as the river flows upper stream within the influenced industrial zone of Mitrovica. Unlike, the Pb level which was recorded with a higher value concentration in 2010, the concentrations of Cd, Cu, and Zn were lower at most sites in comparison to other previous years (1981-1985) measurements. The high level of Pb may be due to geological composition of soil in north part of Republic of Kosova, and the location of a considered number of mines of lead and zinc (Pb-Zn-mining), smelting and chemical industry in Zvecan and Mitrovica, situated close to district of Ibër River.

Keywords: *Ibër River, Sediment, Heavy metals, DPASV, ICP/MS and Kosova*

* Corresponding: tahir.arbnesi@uni-pr.edu; Tel: 0038138229964 ; Fax: 0038138244187