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Study of Anthropogenic Impact in Water Quality of Drini i Bardhë River (Kosova)

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Abstract: The main research was the multielementary analyses of some environmental toxic elements downstream the river were they end up as natural and anthropogenica recipients. The surface waters in our country are permanently polluted and this is the matter of fact that our cities aren't yet equipped with any treating equipment program for the urban and industrial wastewaters. In this research the concentration of major and minor elements was determined by inductively coupled plasma mass spectroscopy (ICP-MS) except for Hg which is analyzed by cold vapor method in combination with adsorption atomic spectroscopy (CV-AAS). Concentration of the toxic elements (67 of them) which we analyzed from rivers surface waters samples are compared with the results obtained for the source of the river where anthropogenic effects aren't present. The sampling sites in Kosovo are geographically determined using Geographic Information System (GIS). Statistical methods are applied to find locations where integrated water resources management can be suggested. Our results show significant levels of some ecotoxic elements: Mn (1.9-59.2 μg dm^{-3}), Pb (4.12-35.1 μg dm^{-3}), Br (7.0-28.0 μg dm^{-3}), Cu (3.6-24.1 μg dm^{-3}), Zn (1.9-59.2 μg dm^{-3}), Sb (3.6-156.0 μg dm^{-3}), Ni (0.7-2.6 μg dm^{-3}) and Fe (<10-70.0 μg dm^{-3}). Results analyzed by the box plot method shows that the levels of heavy metals is some regions of the Drini i Bardhë river have anomalous values. Results obtained by the box plot method shows that the levels of heavy metals in some regions of the river Drini i Bardhë have anomalous values and the pollutions are as results of partional impact of natural and anthropogenic factors.

Key words: *Drini i Bardhë, anomalies, pollution assessment, ICP/MS.*

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