

ASSESSMENT OF CONTAMINATION WITH HEAVY METALS IN ENVIRONMENT: WATER, SLUDGE AND SOIL, AROUND KOSOVO POWER PLANTS

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Abstract. Ensuring the regular production and supply of electricity is a prerequisite for the economic development of a country. In Kosovo, the current production of electricity depends mainly on its generation, which is based on the burning of lignite in the power plants "Kosovo power plant A and B". In this research, the findings indicated that there were significant changes in the concentrations of heavy metals at various sediment, soil and water sample locations. Physico-chemical parameters such as temperature, pH, dissolved oxygen, chemical oxygen demand, total dissolved solid, biochemical oxygen demand, and main ions (SO_4^{2-} , PO_4^{3-} , Cl^- , NO_3^- , NO_2^- , and NH_4^+) were monitored to obtain accurate and representative data. Also, the study indicates that there is mild contamination from these elements in the river, but in order to reach a clear conclusion, it is prudent to do additional research in the study area. The sampling took place over a three-month period in 2018 (April, July and October). The data analysis revealed that the concentration of heavy metals such as Pb, Zn, Fe, Ni, Cd, Mn, Al, Cu, and Cr in several examined samples exceeds the maximum permissible limits. The findings show substantial levels of metal pollution in the tested samples, which were collected in three distinct locations. Atomic absorption spectroscopy were used to measure heavy metals.

Keywords: pollution, water, soil, sludge, power plants, heavy metals.