



“Gheorghe Asachi” Technical University of Iasi, Romania



IMPACT OF MERCURY POLLUTION ON SOIL, SURFACE WATER AND SEDIMENT ECOSYSTEMS IN THE AREA OF AN OLD MERCURY MINE

**Luisa Roxana Popescu^{1,2*}, Mihaela Iordache¹, Eleonora-Mihaela Ungureanu²,
George-Octavian Buica²**

¹*The National Research and Development Institute for Industrial Ecology – INCD-ECOIND Bucharest-Subsidiary Ramnicu Valcea, 1 Uzinei Street, 240050 Ramnicu Valcea, Romania*

²*University “Politehnica” of Bucharest, Faculty of Applied Chemistry and Material Science, 1-7 Gh. Polizu Street, 011061 Bucharest, Romania*

Abstract

The aim of this study was to determine the impact of mercury pollution on soil, surface water, and sediment ecosystems in the area of old mercury mines. The study was performed in the touristic area of Sântimbru Băi and Sâncrăieni villages from the Harghita County, Romania. More than twenty years ago, a mine for the extraction of mercury operated in Sântimbru Băi. The area was decontaminated, but no monitoring studies have been made for over 15 years. During these original monitoring studies over four years, soil, surface water and sediment samples were taken upstream and downstream from the studied areas. They were analyzed in respect with the mercury content by atomic absorption spectrometry. The results showed different mercury concentration levels in the surface water (between <math><1.0</math> and 6.3

Key words: mercury mines, mercury pollution, sediment, soil, surface water

Received: June, 2015; Revised final: February, 2016; Accepted: April, 2016