

## **Environmental impacts of base metal mining in the Trepça Mineral Belt, UN administered territory of Kosovo**

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The lead-zinc-silver deposits in the Trepça Mineral Belt, UN administered territory of Kosovo, have been exploited for more than 2,000 years since Pre-Roman times. As a consequence of lacking environmental awareness, since the beginning of mining and metallurgical activities on industrial scale in the 1930ies, severe water, air, and soil pollution occurred in the surroundings of the mining and smelting sites, resulting in detrimental health effects for workers and the public. The mining-induced contamination of surface water bodies resulted also in pronounced transboundary impacts for the river systems in neighbouring countries and the Danube river basin in particular.

In the framework of the EARAP project (*Environmental Assessment and Remedial Action Plan*) initiated and funded by the United Nations Development Programme, environmental assessments were carried out for two underground lead-zinc mines (Stan Trg/Stari Trg mine and Artana/Novo Brdo mine) and their associated processing facilities and tailings deposits with respect to required remedial action.

The most substantial environmental impacts at the Artana/Novo Brdo mine result from the discharge of untreated acidic mine water (flow rate about 250 m<sup>3</sup> per hour) with a pH of 2 to 3 and elevated Pb, Zn, and Cd contents into the adjacent Krivareka River, and the erosion of mine tailings placed close to the river banks. Furthermore, the river is adversely affected by acidic and contaminated seepage from these tailings deposits.

Detrimental environmental impacts at the Stan Trg/Stari Trg mining site are mainly the consequence of the untreated discharge of neutral tailings decant and seepage water with elevated Pb and Zn levels into the Ibar river. In addition, the population of the villages close to the tailings pond is adversely affected by contaminated dust generated on dry tailings beaches by wind erosion, especially during the dry and windy summers.

Based on the evaluation of the geological and hydrogeological framework, the quality of mine waters and the state of ground and surface water bodies, air quality, as well as public health and workers safety, immediately required remediation measures with respect to erosion protection of tailings deposits and mine water treatment / management were suggested. Based on this, respective terms of reference for the implementation of these measures were drawn up. In addition, recommendations for monitoring plans regarding the surveillance of air and water quality before, during and after the implementation of remedial measures at both mining sites were elaborated and proposed to the relevant stakeholders.

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