

## Arnika

*Czech Republic*

Arnika's project, entitled "Impact of heavy metals from Balkan power plants on inhabitants and the environment", focuses on the presentation and discussion of data related to contamination by heavy metals at selected locations in the Balkans. Sampling teams conducted monitoring in the field to obtain data about the impacts of coal fired power plants from emissions and releases (including ash ponds and dumps). The sampled sites were located in Montenegro, Bosnia and Herzegovina and Serbia. A series of different kinds of samples were taken for analysis, which included both abiotic (sediments, soils and water) and biotic (fish, eggs, cheese, vegetables) and hair samples. The aim of this project was to evaluate the influence of coal fired power plants on local inhabitants and on the environment. Increased concentrations of nickel, chromium and arsenic, significantly exceeding local limits for heavy metals, were found in samples of soils and sediments



from Tuzla, Bosnia and Hercegovina and in samples from Obrenovac, Serbia, where increased concentrations of cadmium were also detected. Higher concentrations of heavy metals (nickel, chromium, cadmium, arsenic and mercury) in soils and sediments were found closer to the ash landfills in Bosnia and Herzegovina. The fish consumption advisory level for mercury was exceeded in 4 of the 11 samples of fish from Sava River and Cehotina River. Higher levels of cadmium were determined in samples of onions closer to the ash landfills in Tuzla. The results of this study indicate significant contamination in many locations from industrial sources that is impacting on environmental values and food production. Regulatory action, further monitoring and implementation of alternative power sources such as renewable energy technologies will be required to address these environmental impacts.



A Serbian shepherd grazes his sheep on the edge of a fly ash landfill.

*(Photo by Jitka Strakova)*

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