

Arsenic and heavy metal concentrations in agricultural soils around tin and tungsten mines in the Dai Tu district, N. Vietnam

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Abstract: This study assessed the arsenic and heavy metal contaminations of agricultural soils around the tin and tungsten mining areas in Dai Tu district in northern Vietnam. Among the examined elements, high total contents of As and Cu were found in the agricultural fields at both tin and tungsten mining sites. Although the major part of the accumulated As and Cu were bound by various soil constituents such as Fe and Mn oxides, organic matter, and clay minerals, increases in water soluble As and Cu were observed, especially for the paddy fields. The results suggest that, in the studied area, As and Cu dispersion from their pollution sources into farmlands is mainly via fluvial transportation of mine waste through streams that cross the paddy fields around the tin mining area, and soil erosion at the tea fields located at lower positions of the slope in the tungsten mining area. © 2008 Springer Science+Business Media B.V.

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