Spatial variability of Heavy Metal Contamination in Agricultural Soil Along Wadi Al-Samin at Hebron Industrial Area.

Murad Alhousani¹, Ahmad Abu-Obaid², Ayman Salah³, Jamil Harb⁴, Lamees Majad²

¹ Land Research Center, P.O. Box 35, Halhul-Palestine. (rmhousani@yahoo.com)
² Department of Chemistry, An-Nnajah National University, Palestine. (obaid@najah.edu)
³ Palestine Polytechnic University, Hebron, Palestine. (aymansal@gmail.com)
⁴ Department of Biology and Biochemistry, Birzeit University, Birzeit- Palestine.

Abstract

Soil heavy metal concentrations along Wadi Alsamin in the industrial area at Hebron district were analyzed to indicate the effect of raw wastewater on soil quality. Samples of top soil were taken from three points along the wadi to determine the pollution level of 4 heavy metals (Cr, Mn, Zn and Ni). The current presentation shows the results of heavy metal concentrations in the first point. The average concentration of the Cr, Mn, Zn and Ni were 147.3, 48.8, 68.0, 11.3 mg.kg⁻¹, respectively. The results show that the pollution of Cr was relatively severe. Zn and Ni were found at safety value, where Mn concentration was lower than natural average value. The spatial variation of heavy metal concentrations in the soil is closely related to the degree of industrialization of the city, specially ternaries factories.

Acknowledgements: The authors would like to thank GEF-UNDP for funding this study and Land Research Center "LRC" for their assistance and support.