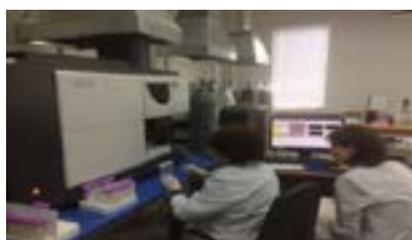


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The chemical and microbiological analysis of the uncontrolled landfill sites in Georgia and its impact on the pollution of the surrounding areas

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Presently, there are 56 official landfills for non-hazardous waste off which only 36 are operating. However, it should be noted that there is no official landfill for construction waste or an operational landfill for hazardous waste. There are many uncontrolled landfills in Georgia. They are near resided territories, in the gorges and near rivers. You can often meet hazardous waste on the landfills because Georgian legislation does not regulate hazardous waste management. Thus, uncontrolled landfills represent huge threat for regional population. Local governments in the regions, and especially in villages, cannot provide high-level cleaning service that results in different territories of accumulated dumped waste by years and amount. Often uncontrolled landfills are located near resided territories. Moreover, hazardous waste can also be dumped in the areas of uncontrolled landfills that may create a number of health-related problems for the population of the regions. In the framework of the study, the following types of work were carried out: inventory of uncontrolled landfills for several territories of Georgia; identification of the hottest spots in the study territories; identification of the list of pollutant ingredients common for landfills; in laboratory conditions analyzed samples (soil, water) were determined (heavy metals: Cu, Zn, As, Pb, Cd, Hg; and intestine bacteria: *E-coli*, total coliforms, fecal streptococci); the analysis of physical and chemical parameters (pH, temperature, electrical conductivity, salinity and oxygen dissolved in water) of the so-called field analysis on the first day were carried out with the use of the latest mobile device. The results obtained (as in the laboratory as well as field) have been evaluated by the study group members and have therefore concluded conclusions on the impact of uncontrolled landfills on the pollution of the surrounding territories and the health of people residing in the regions of their hazardous quality.



Figures

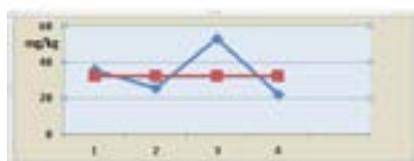


Figure 1. The Lead concentration in the soil samples collected in Kakheti Region.

1 - vil. Natkvasi
 2 - vil. Enosa Mghviri
 3 - Tekoni
 4 - background

Pb - concentration
 Pb - MPC



Figure 2. The Zinc concentration in the soil samples collected in Imereti Region.

1 - vil. Chigvart
 2 - vil. Chigvart (background)
 3 - vil. Sakhli
 4 - vil. Sakhli (background)

Zn - concentration
 Zn - MPC

Biography

Nugzar Buachidze is a Doctor of Chemical Sciences. Over the years he has been working in the field of Ecology and is a Senior Scientist at the Hydrometeorological Institute of the Technical University of Georgia. He participates in the international forums and conferences, as well as the author of more than 100 scientific articles. He is also often invited as an expert in many international or local projects.

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