

Water contaminants in Republic of Moldova and their characterization

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Abstract

The water management is one of the key problems for many countries including Republic of Moldova. In some cities groundwater has become an exclusive source of drinking water supply. Some chemical parameters of water were determined by study of groundwater bodies in Prut river basin and were later on used for the groundwater classification. Monitoring of groundwater properties was conducted by sampling from water wells. The results of chemical analysis were used for the preliminary identification, characterization and classification of groundwater bodies. The chemical composition of groundwater highlights the importance monitoring of groundwater bodies. Some heavy metals were analyzed in surface water from national monitoring network. One hot spot (contaminated region) is the old pesticide deposit “Chismichioi”, which was studied for the assessment of actual status at the surrounding territory. It is one of the biggest deposits of toxic substances at the Low Danube Euro-region. The following spectrum of POPs was identified in the samples: DDE, DDD, DDT, a-HCH, b-HCH, g-HCH. The other toxic organic substances were studied also at this site: PAHs, triazine pesticides and some other heavy metals. The general conclusion about the situation around “Chismichioi deposit” is that the level of pollution from the time of the origination (in 1979) is not changed in general. The zones with high pollution were eliminated and recommendation was proposed for the mitigation of negative impact to the environmental and water resources in this area of Moldova.

Key words: groundwater monitoring, heavy metals, environmental risk assessment

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