



THE ENVIRONMENTAL IMPACT OF MUNICIPAL WASTE DEPOSITION ON WATER QUALITY

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Abstract

One of the most important and actual environmental problem is related to the municipal waste management and the environmental impact generated by waste deposition. Following the monitoring, sample collecting and complex physical-chemical analysis on a municipal landfill, a significant pollution on certain environment components, including water (e.g. ground water, surface water and leachate) was found. The leachate produced by waste humidity and rainfall, which percolate the waste landfill, is a highly toxic polluting agent with a tremendous organic and mineral charge, with a great impact on the soil and groundwater quality. It was found that they undergo major pollution effects because the natural impermeable clay layer (thick of 1.5-2 m, situated under and upstream the waste landfill) loses the initial good properties to keep the main pollutants into soil and permit the pollutant infiltration into groundwater. Also, the quality of surface water is affected and almost all of the physical – chemical indicators are higher than the values imposed by the national or local regulations. The results of a new EIRA method used to evaluate the environmental impact and risk show that there is *no major impact and moderate risk* imposing monitoring actions in order to prevent environmental pollution and control impact and risk measures. Also, it was concluded that this pollution source has to be stabilized by closing down the landfill, ecological cleaning of the area and improving the municipal waste management. Other practices for pollution from waste deposition reduction are recommended.

Keywords: municipal waste, deposition, ground water, surface water, leachate, landfill

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