

Effects of Leachate from Open Dump Area on Underground Water

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Aim of the study: In this study, the results obtained by compiling studies on the effects of leachate waters originating from irregular solid waste landfills on the quality of groundwater were evaluated.

Material and Methods: Solid wastes originated from human and economic activities, have been increasing with the increase of population. The one of the most difficult issues of local government is the control and disposal of solid wastes. There are no regular solid waste storage facilities in many settlements in Turkey. Due to this shortage, one of the preferred and applied methods of disposal of solid wastes at present is irregular storage method. Forest areas and agricultural land, particularly empty fields, are frequently used for random storage of solid wastes for this purpose. However this method has many negative aspects in terms of environmental effects. These effects consist of some environmental problems such as pathogenic parasites, reproduction of vermin and other harmful organisms, diffusion of foul-smelling and other hazardous gases, pollution of underground water and impossibility in monitoring of pollution. Moreover, toxic elements in leachate from solid wastes are transported in various ways to pollute underground and surface water resources and prevent their use as a drinking water source.

Results: When studies on this subject are evaluated, it is observed that shallow wells in the irregular solid waste storage area are exposed to pollution and these resources lose their use as a source of drinking, use and irrigation water. Moreover, in case leakage water is discharged to the creek bed, it is necessary to collect and purify the waste water using a suitable technology in a treatment facility instead of discharging the leaking water to the creek bed.

Keywords: Leachate, underground water, water quality