Pengaruh tempat pembuangan akhir terhadap air sumur dangkal: Studi kasus TPA Putri Cempo Surakarta = The influence of waste final disposal site to shallow well water: A case study in TPA Putri Cempo Surakarta

Nunik Sri Wahjuni, author

Abstrak

<i>Surakarta is the second biggest city in Central Java. The expansion of the city is directed to the north and south. The expansion to the north side is encouraged by the existing Mojosongo PERUMNAS. The Mojosongo PERUMNAS has been developed to the northeast area approaching the Putri Cempo final waste disposal site.

The final waste disposal site is located in the area that consists of volcanic stones, big conglomerates, lava precipitation, tufa, calcareous, and sand stone. The shallow well water in the Nojosongo PERUMNAS tends to be infiltrated by either the leachate or run off from Putri Cempo final waste disposal site, so that the water quality will, of course, be decreasing and potentially will in turn affect the health of community.

Clean water is an essential necessity for human being. Only 40% of the urban and semi urban population and 25% of the rural population in Indonesia have access to a reliable supply of clean water. In Surakarta, only a. small part of the population has been supplied with potable water.

The purpose of this research is to identify the influence of Putri Cempo final waste disposal site towards the water quality of nearby wells. The quality of well water is compared with water quality criteria from the Health Ministry through its Regulation Number 418/MENKES/PER/IBC/1890.

The Location of observed shallow wells was purposely chosen. The sample of well water was collected on two occasions (in the months of July and September). The samples were collected from twelve shallow wells: eight community shallow-wells which are used for daily activities; one unused well; and three other shallow wells purposely made for this re-search. Sampling process was conducted by using standard equipment from Balai Telrnik Kesehatan Lingkungan Yogyakarta (BTKL Yogyakarta). Samples were analyzed in BTKL Yogyakarta, the examined characteristics were: total suspended solids, iron, manganese, chloride, hardness, sodium, sulphate, BOD, COD, Pb, Cd, Cu and Cr. T Test has been employed to analyze sample collected in the month of July and September. The degree of existing parameters and the distance of the wells have been analytically described.

The results indicate that two parameters in lea-chafe (iron and manganese) have exceeded the threshold value of Waste Water Standard as stated in KEP-03/MEIflcLH/I I/ 1991. The wells number 1,2 and 3 which have the distance of 10 in.50 m and 100 m from the final waste disposal respectively have been affected by the lea-chafe; iron and manganese have already exceeded the thres hold value as stated in the regulation number 4l6/MENKES/PER/I/1990 concerning clean water. The content of pollutants has been highest in

well number 1 that have the distance of 10 m. T test analysis indicated that season does not affect the quality of well water around the final waste disposal site. Bacteria Escherichia coil was found in high degree in every examined wells. This certify that those 12 examined well water does not fulfill a requirement for potable water. This has got to be seriously paid attention.</i>