PEMETAAN KUALITAS FISIK AIR SUMUR GALI DAN SUMUR BOR BERDASARKAN KEDALAMAN SUMUR DI DESA KEBONDALEM KIDUL, PRAMBANAN, KLATEN TAHUN 2023

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INTISARI

Air memegang peranan penting untuk memenuhi kebutuhan manusia. Untuk menjamin bahwa suatu sistem penyediaan air aman dan higienis maka harus memenuhi persyaratan kualitas air salah satunya kualitas fisik. Pada lokasi penelitian diketahui bahwa air sumur di beberapa dusun berwarna, keruh, dan juga berbau. Air yang kurang memenuhi syarat dapat memberikan dampak bagi kesehatan dan lingkungan sekitar sehingga untuk mengetahui wilayah yang kualitas fisik airnya memenuhi dan kurang memenuhi syarat di lokasi penelitian dapat dibuat peta persebarannya. Tujuan dari penelitian ini yaitu mengetahui peta persebaran kualitas fisik air sumur gali dan sumur bor di Desa Kebondalem Kidul, Prambanan, Klaten, Tahun 2023. Jenis penelitian ini adalah survei deskriptif. Metode dalam menganalisis menggunakan analisis spasial yaitu sistem informasi geografis dengan aplikasi ArcGIS untuk membuat peta persebarannya. Sampel yang digunakan yaitu sebanyak 22 sumur gali dan 22 sumur bor. Didapatkan hasil bahwa dari 22 sumur gali yang diteliti yaitu untuk parameter suhu terdapat 64% sumur melebihi standar baku mutu, parameter TDS terdapat 59,09% sumur memenuhi standar baku mutu, parameter kekeruhan terdapat 36,4% sumur melebihi standar baku mutu, parameter warna terdapat 9,09% sumur melebihi standar baku mutu, dan parameter bau terdapat 36,4% sumur melebihi standar baku mutu. Dari 22 sumur bor yang diteliti hasilnya yaitu untuk parameter suhu terdapat 86,36% sumur melebihi standar baku mutu, parameter TDS terdapat 31,81% sumur melebihi standar baku mutu, parameter kekeruhan terdapat 27,27% sumur melebihi standar baku mutu, parameter warna terdapat 9,09% sumur melebihi standar baku mutu, serta parameter bau terdapat 50% sumur melebihi standar baku mutu. Kualitas fisik air sumur pada kedalaman >10 meter relatif lebih baik jika dibandingkan dengan kualitas fisik air sumur pada kedalaman <10 meter. Sebagian besar persebaran kualitas fisik air tanah Desa Kebondalem Kidul yang kurang memenuhi syarat berada di wilayah bagian timur dekat area persawahan, sedangkan untuk kualitas fisik air yang relatif baik berada di wilayah bagian barat yang jauh dari area persawahan.

Kata Kunci : Air, Kualitas Fisik Air, Sumur Gali, Sumur Bor, Pemetaan

MAPPING OF PHYSICAL WATER QUALITY OF DUG WELLS AND DRILLED WELLS BASED ON WELL DEPTH IN KEBONDALEM KIDUL VILLAGE, PRAMBANAN, KLATEN IN 2023

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ABSTRACT

Water plays an important role in meeting human needs. To ensure that a water supply system is safe and hygienic, it must meet water quality requirements, one of which is physical quality. At the research location, it was discovered that the well water in several hamlets was colored, cloudy and also smelled. Water that does not meet the requirements can have an impact on health and the surrounding environment, so to find out areas where the physical quality of water meets and does not meet the requirements at the research location, a distribution map can be made. The aim of this research is to determine the distribution map of the physical quality of water from dug wells and drilled wells in Kebondalem Kidul Village, Prambanan, Klaten, in 2023. This type of research is a descriptive survey. The method for analyzing uses spatial analysis, namely a geographic information system with the ArcGIS application to create a distribution map. The samples used were 22 dug wells and 22 drilled wells. The results obtained were that of the 22 dug wells studied, namely for the temperature parameter there were 64% of the wells exceeding the quality standard, for the TDS parameter there were 59.09% of the wells meeting the quality standard, for the turbidity parameter there were 36.4% of the wells exceeding the quality standard, the color parameter there were 9.09% of wells exceeding quality standards, and 36.4% of wells exceeding quality standards for odor parameters. Of the 22 drilled wells studied, the results were that for temperature parameters there were 86.36% of wells exceeding quality standards, for TDS parameters there were 31.81% of wells exceeding quality standards, for turbidity parameters there were 27.27% of wells exceeding quality standards, color parameters there are 9.09% of wells exceeding the quality standard standards, and odor parameters there are 50% of wells exceeding the quality standard standards. The physical quality of well water at a depth of >10 meters is relatively better when compared to the physical quality of well water at a depth of <10 meters. Most of the distribution of the physical quality of groundwater in Kebondalem Kidul Village which does not meet the requirements is in the eastern region near the rice fields, while the physical water quality which is relatively good is in the western region which is far from the rice fields.

Keywords: *Water, Physical Water Quality, Dug Wells, Drilled Wells, Mapping*