



KAJIAN KUALITAS AIRTANAH BERDASARKAN BENTUKLAHAN DI KABUPATEN CILACAP, JAWA TENGAH

Oleh

Dwi Nila Wahyuningsih
11/316593/GE/07165

INTISARI

Adanya variasi bentuklahan di suatu wilayah besar kemungkinan berpengaruh pula pada variasi kualitas airtanah. Lokasi penelitian mencakup seluruh wilayah Kabupaten Cilacap dengan tujuan penelitian, antara lain (1) menguji dan menganalisis kualitas airtanah fisik dan kimia dominan di setiap bentuklahan, (2) membandingkan tipe kimia airtanah di setiap bentuklahan, dan (3) mengevaluasi kelayakan kualitas airtanah di Kabupaten Cilacap berdasarkan baku mutu air PP No.82 Tahun 2001 dan Permenkes No.492 Tahun 2010.

Metode pengambilan sampel yang digunakan adalah metode *purposive sampling* dengan pertimbangan lokasi pengambilan sampel yang jauh dari kepadatan penduduk dan industri, namun waktu tempuh dan akses jalan masih terjangkau dan mencakup seluruh bentuklahan. Sampel airtanah yang diambil sejumlah 20, 5 sampel pada bentuklahan struktural, 2 pada bentuklahan denudasional, 10 pada bentuklahan fluvial, dan 3 pada bentuklahan marin. Sampel airtanah yang telah diuji kemudian diolah dalam bentuk diagram stiff, klasifikasi Stuyfzand, dan dibandingkan dengan baku mutu air. Analisis data yang digunakan adalah analisis deskriptif, grafis, dan spasial.

Penelitian ini menghasilkan perbedaan yang signifikan pada kualitas fisik airtanah terlihat pada nilai Daya Hantar Listrik (DHL). DHL pada bentuklahan marin dan denudasional cenderung lebih tinggi dibandingkan DHL pada bentuklahan struktural dan fluvial. Pengaruh material penyusun batuan menjadi kunci kevariasian nilai DHL dan kandungan unsur kimia dominan di setiap bentuklahan. Berdasarkan baku mutu air Permenkes No. 492 Th. 2010, sampel 5, 9, 11, 12, 13, dan 20 tidak layak untuk peruntukan air minum, sedangkan menurut PP No. 82 Tahun 2001, hanya sampel 13 yang tidak layak peruntukan kelas I karena air berasa asin, serta kandungan klorida dan sulfat yang sangat tinggi.

Kata kunci: kualitas airtanah, bentuklahan, baku mutu air, Kabupaten Cilacap

THE STUDY ABOUT GROUNDWATER QUALITY BASED ON LANDFORM AT CILACAP REGENCY, CENTRAL JAVA

By

Dwi Nila Wahyuningsih
11/316593/GE/07165

ABSTRACT

Landforms variant in a region have a possibility that it can influence the quality of groundwater. The research area is in Cilacap Regency which an aims are (1) examining and analyzing the quality of groundwater by physic and chemical dominant parameters in every landform, (2) comparing the chemical type of groundwater in every landform, (3) evaluating the feasibility of groundwater in Cilacap Regency based on water quality standard PP Number 82 year 2001 and Permenkes Number 492 year 2010.

The sampling method which was used in this research is purposive sampling method which some condition for assessing location of the sample, such as the location for sample had to far from settlement and industrial building which easy to reach and cover all the landform types. The number of sample in this research are 20 samples, 5 samples in structural landform, 2 samples in denudational landform, 10 samples in fluvial landform and 3 samples in marine landform. Moreover, the results of groundwater's examination were processed in stiff diagram form, were classified using Stuyfzand and compared using baku mutu air. The data analysis which were used in this research are descriptive analysis, graphic analysis and spatial analysis.

This research resulted with some significant differences in the physical parameters which show on the conductivity of electric (DHL). DHL values in marine and denudational landforms are higher than structural and fluvial landforms. Based on water quality standard Permenkes Number 492 year 2010, The sample's number 5, 9, 11, 12, 13, and 20 are not proper for drink water, otherwise based on PP, there are 13 samples which are not proper for first level. Those are because the water felt so salty and contained the high of chlorine and sulfate.

Keywords: groundwater quality, water quality standard, Cilacap Regency.