TEKNIK KONSERVASI MATA AIR UNTUK KEBUTUHAN AIR DOMESTIK DI SEBAGIAN DESA PENGKOL, KECAMATAN NGLIPAR, KABUPATEN GUNUNGKIDUL, DAERAH ISTIMEWA YOGYAKARTA

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INTISARI

Sebagian Desa Pengkol, Kecamatan Nglipar, Kabupaten Gunungkidul merupakan daerah yang rawan kekeringan. Sebagian warga desa menggunakan mataair dan sumur sebagai sumber air untuk kebutuhan air domestik. Namun saat musim kemarau, sumur – sumur mengering dan debit mataair berkurang sehingga beberapa warga kekurangan air untuk kebutuhan air harian. Warga harus mendapatkan dropping air baik dari lembaga/instansi maupun pemerintah. Pemanfaatan sumber daya air masih tradisional dan belum dikelola secara optimal, baik dari pelestarian, perlindungan dan sistem distribusi air. Oleh karena itu, perlu adanya penelitian yang mengkaji karakteristik dan potensi mataair serta teknik konservasi mataair yang sesuai di daerah penelitian sehingga dapat mempertahankan ketersediaan air untuk kebutuhan air domestik warga.

Metode yang digunakan dalam penelitian yaitu metode survei & pemetaan, wawancara, matematis, laboratorium dan evaluasi. Karakteristik mataair yang dikaji meliputi sebaran dan tipe mataair berdasarkan sifat pengaliran, kelas debit, dan tenaga gravitasi. Potensi mataair diketahui dari kuantitas (debit) dan kualitas mataair. Kuantitas mataair dihitung dari debit mataair pada dua musim yaitu musim kemarau dan penghujan. Kualitas matair diketahui dari analisis laboratorium dan pengamatan di lapangan. Parameter yang digunakan meliputi fisik (suhu, bau, warna, kekeruhan, TDS, dan TSS), kimia (pH, DO, CaCO3, BOD, COD, Nitrat dan Fe) dan biologi (Total coliform) berdasarkan acuan Peraturan Menteri Kesehatan No. 32 Tahun 2017 dan Peraturan Gubernur DIY No. 20 Tahun 2008. Wawancara digunakan untuk mengetahui kebutuhan air penduduk dan evaluasi daerah imbuhan untuk mengetahui kelas daerah imbuhan.

Berdasarkan hasil penelitian, kedua mataair (Mataair Song Putri dan Mataair Sawah) termasuk *Depression Springs*, memiliki sifat pengaliran tipe *Intermittent Springs* dan kelas debit VI (debit berkisar 0,1-1 L/detik). Kualitas air dari mataair tidak sesuai sebagai Air Kelas I sehingga diperlukan pengelolaan. Kebutuhan air penduduk di tahun 2029 tercukupi dan daerah imbuhan termasuk kelas sedang. Teknik konservasi yang dilakukan berupa penerapan *strip cropping*, pembuatan bak penampung dan sistem distribusi serta sumur resapan

Kata Kunci: Potensi Mataair, Kebutuhan Air, Konservasi Mataair, Daerah Imbuhan.

SPRING CONSERVATION TECHNIQUE FOR DOMESTIC WATER NEEDS IN A PART OF PENGKOL VILLAGE, NGLIPAR SUB-DISTRICT, GUNUNGKIDUL REGENCY, SPECIAL DISTRICT OF YOGYAKARTA

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ABSTRACT

Some of the Pengkol Villages, Nglipar District, Gunungkidul Regency is a drought-prone area. Some villagers use springs and wells as a source of water for domestic water needs. However, during the dry season, the wells dry up and spring discharge decreases so that some residents lack water for daily water needs. Residents must get water dropping from certain institutions and the government. Utilization of water resources is still traditional and has not been managed optimally, both from preservation, protection and water distribution systems. Therefore, there is a need for research that examines the characteristics and potential of springs and appropriate springs conservation techniques in the research area so it can maintain the water avaibility for domestic water needs of residents.

The methods used in the research were survey and mapping methods, interview, mathematical, laboratory and evaluation. The characteristics of springs studied include the distribution and type of springs based on flowing properties, class of discharge, and gravity. Springs potential were known from the quantity (debit) and quality of the spring. The quantity of spring was calculated from the spring discharge (debit) in two seasons, dry and rainy season. The quality of the spring was known from laboratory analysis and observations in the field. The parameters used include physical (temperature, odor, color, turbidity, TDS, and TSS), chemistry (pH, DO, CaCO3, BOD, COD, Nitrate and Fe) and biology (Total coliform) based on the reference to Minister of Health Regulation No. 32 of 2017 and DIY Governor Regulation No. 20 of 2008. Interviews were used to determine population water requirements and evaluation of recharge areas to determine the class of recharge areas.

Based on the results of the research, both springs (Song Putri Springs and Sawah Springs) are Depression Springs, have Intermittent Springs type flowing properties and VI discharge class (discharge ranges from 0.1-1 L / sec). Water quality from springs is not suitable as Class I Water so management is needed. The water needs of the population in 2029 are sufficient and the recharge area is divided into medium classes. Conservation techniques carried out in the form of applying strip cropping, making reservoirs and distribution systems and infiltration wells.

Keywords: Springs Potential, Water Needs, Springs Conservation, Recharge Area.