

**TEKNIK KONSERVASI MATAAIR UNTUK KETERSEDIAAN AIR BERSIH  
DI DESA SENGI, KECAMATAN DUKUN,  
KABUPATEN MAGELANG, PROVINSI JAWA TENGAH**

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**INTISARI**

Permasalahan terkait kelestarian sumber daya air seringkali terjadi baik itu dari dampak pergantian musim yang tidak menentu, berkurangnya daerah resapan air, hingga banyaknya kasus pencemaran air di Indonesia. Namun, permasalahan utama dari semua itu ada pada masyarakat itu sendiri dimana kesadaran akan pentingnya pelestarian dan pengelolaan sumber daya air yang masih rendah. Penelitian yang dipilih berlokasi di Desa Sengi, Kecamatan Dukun, Kabupaten Magelang, Provinsi Jawa Tengah. Masyarakat daerah tersebut memanfaatkan mataair sebagai sumber penyedia air utama, namun pengelolaan air yang dilakukan masyarakat masih tergolong kurang optimal. Oleh karena itu perlu adanya upaya konservasi agar kelestarian dan fungsi mataair tersebut dapat terus terjaga dengan baik. Penelitian ini bertujuan untuk mempelajari karakteristik dan potensi mataair, serta bagaimana teknik konservasi yang sesuai untuk diterapkan pada mataair di daerah penelitian.

Metode yang digunakan dalam penelitian yaitu metode survei dan pemetaan, metode uji laboratorium, metode matematis, dan metode evaluasi. Karakteristik mataair yang dikaji dalam penelitian ini meliputi sebaran dan klasifikasi tipe mataair. Potensi mataair yang dikaji meliputi kualitas dan kuantitas mataair. Kualitas mataair menggunakan parameter berupa Kekeruhan, TSS, TDS, pH, BOD, COD, DO, Kesadahan, *Total Coliform* dan *E. coli* yang dianalisa menurut peraturan perundangan yang berlaku. Kuantitas mataair diketahui dengan melakukan perhitungan debit mataair dan kebutuhan air penduduk.

Hasil penelitian diperoleh sebaran mataair terletak pada lereng gunung merapi, bertipe musiman, termasuk mataair kelas 6 dengan debit 0,1-1 L/detik, dan termasuk dalam mataair depresi karena terbentuk dari hasil perpotongan muka airtanah akibat adanya perbedaan topografi. Potensi mataair dari segi kualitas mataair, secara fisik sudah baik, namun secara kimia dan biologi masih dijumpai beberapa parameter yang melebihi baku mutu di antaranya, parameter BOD, COD, *Total Coliform*, dan *E. coli*. Kuantitas mataair secara umum masih kurang karena masih belum dapat memenuhi kebutuhan untuk 10 tahun mendatang dengan hanya memenuhi kebutuhan 52% dari total penduduk yaitu sejumlah 2.331 jiwa. Konservasi mataair dilakukan dengan pembuatan bak penampung mataair dengan volume bak 2 m<sup>3</sup>. Selain itu dilakukan pula pendekatan secara sosial terhadap masyarakat di daerah setempat perihal pelestarian kondisi mataair beserta daerah imbuhan.

**Kata Kunci : Mataair, Daerah Imbuhan, Karakteristik Mataair, Potensi Mataair, Konservasi Mataair.**

**SPRINGS CONSERVATION TECHNIQUES FOR CLEAN WATER  
AVAILABILITY IN SENGI VILLAGE, DUKUN DISTRICT,  
MAGELANG REGENCY, CENTRAL JAVA PROVINCE**

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**ABSTRACT**

*Problems related to the sustainability of water resources often occur, both from the impact of the erratic change of seasons, the reduction in water catchment areas, to the many cases of water pollution in Indonesia. However, the main problem of all that lies in the community itself where awareness of the importance of conservation and management of water resources is still low. The selected study was located in Sengi Village, Dukun District, Magelang Regency, Central Java Province. The local community utilizes springs as the main water supply source, but the water management carried out by the community is still classified as less than optimal. Therefore, there is a need for conservation efforts so that the sustainability and function of these springs can be maintained properly. This study aims to study the characteristics and potential of the springs, as well as how appropriate conservation techniques are applied to springs in the research area.*

*The methods used in the research are survey and mapping methods, laboratory test methods, mathematical methods, and evaluation methods. The characteristics of the springs studied in this study include the distribution and classification of springs types. The potential of the springs studied includes the quality and quantity of the springs. The quality of the springs uses parameters such as Turbidity, TSS, TDS, pH, BOD, COD, Hardness, Total Coliform and E. coli which are analyzed according to the applicable laws and regulations. The quantity of springs is known by calculating the springs discharge and the population's water needs.*

*The results obtained that the distribution of springs located on the slopes of Mount Merapi, is of seasonal type, including class 6 springs with a discharge of 0.1-1 L/second, and is included in depression springs because it is formed from the intersection of groundwater levels due to topographic differences. The potential of the springs in terms of the quality of the springs, physically is good, but chemically and biologically there are still some parameters that exceed the quality standards, including BOD, COD, DO, Total Coliform, and E. coli parameters. The quantity of springs is still lacking because they still not able to meet the needs for the next 10 years by only meeting the needs of 52% of the total population of 2,331 people. Springs conservation is carried out by making a springs reservoir with a volume of 2 m<sup>3</sup>. In addition, a social approach to the local community area is also carried out regarding the preservation of the condition of the springs and their recharge areas.*

**Keywords: Springs, Recharge Area, Springs Characteristic, Springs Potential, Springs Conservation.**