

KONSERVASI MATA AIR PANCUR DAN SIREMBES SEBAGAI SUMBER KEBUTUHAN AIR DOMESTIK DI DESA PENUNGKULAN, KECAMATAN GEBANG, KABUPATEN PURWOREJO, JAWA TENGAH

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INTISARI

Air merupakan kebutuhan pokok bagi setiap manusia dan aktivitasnya yang mana penggunaannya semakin meningkat dari waktu ke waktu sehingga perlu dijaga ketersediaannya. Mata air Pancur dan Mata Air Sirembes merupakan sumber air bersih yang dimanfaatkan masyarakat di Desa Penungkulan Kecamatan Gebang Kabupaten Purworejo. Pada musim kemarau debit mata air mengalami penurunan dan belum efisien dalam pemanfaatannya. Penelitian perlu dilakukan bertujuan untuk mengetahui karakteristik mata air, mengkaji potensi mata air dan menerapkan teknik konservasi di daerah penelitian.

Metode yang digunakan dalam penelitian ini diantaranya metode survey (menentukan karakteristik mata air, potensi mata air dan kondisi lapangan secara langsung), metode wawancara (penentuan kebutuhan air penduduk) menggunakan metode *random sampling* perhitungan rumus Slovin dalam penentuan responden, metode matematik (menghitung kuantitas debit dan penggunaan mata air), metode laboratorium untuk analisi sifat fisik (warna, bau, rasa, dan TDS) mata air, sifat kimia (CL^- , BOD, COD, Ca, SO_4^{2-} , Mg, NO_3^- , Fe, pH, $CaCO_3$) mata air, dan sifat biologi (*total coliform*) mata air dengan acuan Peraturan Menteri Kesehatan No. 32 Tahun 2017 tentang standar baku mutu Air Bersih, dan metode evaluasi digunakan untuk mengetahui hasil akhir dari analisis mata air sebagai penentuan arahan konservasi di daerah penelitian.

Hasil penelitian menunjukkan bahwa Mata Air Pancur dan Mata air Sirembes termasuk mata air *Perennial Spring* (mataair menahun). Debit Mata Air Pancur sebesar 2,6844 L/detik dan debit Mata Air Sirembes 1,907 L/detik. Kebutuhan air warga Desa Penungkulan di Tahun 2027 sebesar 9,327 L/detik. Kualitas Mata air Pancur dan Mata Air Sirembes tergolong baik dan sesuai baku mutu kecuali parameter biologi *total coliform*. Potensi kuantitas mata air Pancur dan mata air Sirembes sedang dan dapat mencukupi kebutuhan air bersih 10 tahun kedepan. Teknik konservasi yang diterapkan yaitu secara vegetatif (penanaman pohon beringin, bambu, dan sukun), secara mekanis (pembuatan teras gulud, pembutan lubang resapan biopori, dan perlindungan mata air), secara teknologi (pembuatan bak reservoir distribusi dan hidran umum), pendekatan kemasyarakatan dan pemerintahan.

Kata Kunci: Karakteristik Mata air, Konservasi Mata air, Mata air Pancur dan Sirembes

CONSERVATION OF PANCUR SPRINGS AND SIREMBES AS A SOURCE OF DOMESTIC WATER NEEDS IN PENUNGKULAN VILLAGE, KECAMATAN GEBANG, DISTRICT PURWOREJO, CENTRAL OF JAWA

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ABSTRACT

Water is a basic requirement for every human being and its activities which use is increasing from time to time so it needs to be maintained. Pancur spring and Sirembes spring is a source of clean water that is used by the community in Penungkulan Village, Gebang District, Purworejo Regency. During the dry season the spring discharge decreases and is not yet efficient in its utilization. Research needs to be carried out aiming to determine the characteristics of springs, assess potential springs and apply conservation techniques in the study area.

The method used in this study included survey methods (determining spring characteristics, potential springs and direct field conditions), interview methods (determining population water requirements) using random sampling method calculation of Slovin formula in determining respondents, mathematical methods (calculating debit quantity and use of springs), laboratory methods for analyzing physical properties (color, odor, taste, and TDS) of springs, chemical properties (CL-, BOD, COD, Ca, SO₄²⁻, Mg, NO₃⁻, Fe, pH, CaCO₃) springs, and biological properties (total coliform) of springs by reference to Regulation of the Minister of Health No. 32 of 2017 concerning Clean Water quality standards, and the evaluation method is used to determine the final results of springs analysis as the determination of conservation directions in the study area.

The results showed that Pancur Spring and Sirembes Spring included Perennial Spring springs. Pancur Spring discharge is 2.6844 L / sec and Sirembes Spring discharge is 1.907 L / sec. The water needs of the people of Penungkulan Village in 2027 are 9,327 L / sec. Pancur Spring Quality and Sirembes Springs are classified as good and according to quality standards except the total coliform biological parameters. Potential quantity of Pancur springs and Sirembes springs are being and can meet the needs of clean water for the next 10 years. Conservation techniques that are applied are vegetatively (planting banyan trees, bamboo, and breadfruit), mechanically (making ridge terraces, refining biopore infiltration holes, and protecting springs), technologically (making distribution reservoir tanks and public hydrants), community approaches and government.

Keywords: Springs Characteristics, Springs Conservation, Pancur Springs and Sirembes