

**KONSERVASI MATA AIR UNTUK MEMENUHI KEBUTUHAN
DOMESTIK, DI DESA GOTAKAN, KECAMATAN PANJATAN,
KABUPATEN KULONPROGO, DAERAH ISTIMEWA YOGYAKARTA**

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INTISARI

Desa Gotakan merupakan salah satu desa di Kecamatan Panjatan, Kabupaten Kulonprogo yang rawan kekeringan pada musim kemarau. Saat kemarau ketersediaan air sangat terbatas, sumur warga mengalami kekeringan, dan juga tidak layak dikonsumsi karena keruh serta memiliki rasa yang asin. Warga Desa Gotakan beralih menggunakan air dari mata air sebagai sumber air bersih untuk keperluan sehari-hari. Namun, debit mata air mengalami penurunan saat kemarau dan pengelolaannya masih kurang tepat. Maka dari itu, diperlukan penelitian untuk mengkaji karakteristik, potensi dan arahan pengelolaan mata air di daerah penelitian.

Metode yang digunakan adalah metode survei dan pemetaan, wawancara, laboratorium, matematis dan evaluasi. Karakteristik mata air yang di kaji berupa sebaran mata air, tipe mata air berdasarkan debit, sifat pengaliran dan tenaga gravitasi. Potensi mata air diperoleh dari kuantitas berupa debit mata air, serta kualitas mata air. Kualitas mata air diperoleh melalui analisis laboratorium dan uji langsung di lapangan. Parameter yang digunakan berupa sifat fisik (bau, rasa, kekeruhan, warna, suhu dan TDS), sifat kimia (pH, CaCO_3 , Cl^- , NO_3^- , HCO_3^- , SO_4^{2-} , Na^+ , Ca^{2+} , dan Mg^{2+}) dan sifat biologi (*Coliform total*). Parameter disesuaikan dengan Pergub DIY No. 20 Tahun 2008 Tentang Bakumutu Air Provinsi Daerah Istimewa Yogyakarta (Bakumutu Air Kelas I).

Sebaran Mata air yaitu Mata Air Terbolopuluh berada pada lereng kakibukit batugamping dan Empat mata air berada di tekuk lereng. Sifat Pengaliran kelima mata air di daerah penelitian adalah Mata air musiman (*Intermitent Springs*). Berdasarkan kelas debit mata air di daerah penelitian pada kelas debit kelas 6-7. Berdasarkan tenaga gravitasinya, kelima mata air bertipe mata air Depresi. Potensi mata air berupa kuantitas mata air dapat memenuhi kebutuhan air domestik warga hingga 10 tahun kedepan. Semua Mata Air di daerah penelitian memiliki kualitas air yang sesuai bakumutu, hanya parameter kekeruhan (Mata Air Kapresan) dan *coliform total* (Mata Air Waung) tidak sesuai bakumutu. Arahan konservasi mata air (Teknis) terdiri dari 3 aspek konservasi, yaitu upaya memelihara kuantitas air/ketersediaan air dengan cara konservasi vegetatif (penanaman rumput gajah, bambu dan pohon beringin) dan konservasi mekanis (pembuatan tangki bahan fiber dengan kapasitas 2000 liter pada Mata Air Terbolopuluh), upaya memelihara kualitas air dari daya rusak air dengan cara konservasi mekanis (pembuatan pelindung mata air), dan upaya memelihara keberadaan dan keberlanjutan sumber daya air dengan cara konservasi vegetatif (penanaman jati di daerah imbuhan) dan mekanis (pembuatan lubang resapan biopori), serta Konservasi non teknis berupa pendekatan masyarakat (sosial) dan pendekatan institusi (pemerintah).

Kata Kunci : Mata Air, Karakteristik, Potensi Mata Air, Konservasi Mata Air, Daerah Imbuhan, Biopori.

**SPRING CONSERVATION TO MEET DOMESTIC NEEDS, IN GOTAKAN VILLAGE,
PANJATAN DISTRICT, KULONPROGO REGENCY, SPECIAL DISTRICT OF
YOGYAKARTA**

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ABSTRACT

Gotakan Village is one of the villages in Panjatan District, Kulonprogo Regency that is prone to drought during the dry season. When drought happen, water availability will become very limited and the residents's well will experience drought. In addition, water from Gotakan wells is also not worth consumed because it is crusty, feculent and has a brackish water. Gotakan Villagers will switch to use water from the spring as a source of clean water for daily needs. However, the discharge of the spring has decreased during the drought and the management for it is still not quite appropriate. Therefore, research was aimed investigated the characteristics, potential and direction of springs management in the research area.

The methods used in this research include survey and mapping, interview, laboratory analysis, also mathematical and evaluation methods. Characteristics of springs that are studied in the form of distribution of springs, the type of spring based on the water discharge, the nature of drainage and the force of gravity. The potential of springs is obtained from the quantity in the form of the discharge of the springs, as well as the quality of the springs. The quality of springs obtained through laboratory analysis and direct test of spring at the field. The parameters that been used are physical properties (smell, taste, turbidity, color, temperature and TDS), chemical properties (pH, CaCO₃, Cl⁻, NO₃⁻, HCO₃⁻, SO₄²⁻, Na⁺, Ca²⁺, dan Mg²⁺) and biological properties of total Coliform). The parameters are adjusted to DIY Governor Regulation No. 20 year 2008 about Quality Standard of Water in Special Districts of Yogyakarta (Quality Standard of Water class I).

The distribution of spring is Terbolopusuh spring located on the limestone foothill and another four springs are in valley. Flowing properties of the five springs in the area of research are Intermittent Springs. Class of springs has 6th Class until 7th Class. Based on its gravity, the five springs are The Depression type. The Potential of springs in the form of quantity of springs can meet the domestic needs for the next 10 years. All of Springs in the location has a good water quality that suit all quality standards of the parameters tested, just Kapresan Springs have turbidity that exceeds the quality standard and Waung Springs have a total coliform that exceeds the quality standard. Conservation techniques (technical) have 3 aspects, namely efforts to maintain quantity availability by vegetative conservation (will be planting "elephant grass" or Pennisetum purpureum, bamboo and banyan tree) and mechanical conservation (make spring protection from fiber tank with capacity of 2000 liter at Terbolopusuh Spring), efforts to maintain water quality from water damage by mechanical conservation (making springs protection infrastructure), and efforts to maintain the existence and continuity of water resources by vegetative conservation (planting teak tree in the recharge area) and mechanical conservation (making biopore infiltration in the recharge area), and than Non-Technical conservation by social and government approach.

Keywords: Springs, Springs Characteristics, Springs Potential, Springs Conservation, Recharge Area, Biopore infiltration