

ABSTRAK

STUDY OF SIMAN RESERVOIR WATER USE FOR IRRIGATION AGRICULTURAL LAND IN SIMAN VILLAGE, KEDIRI DISTRICT

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Siman Reservoir is located in Siman Village, Kepung District, Kediri Regency, about 35 Km from the Kediri district government center. This reservoir has an area of around 50,000 m² and has a raw rice field area of 23,060 ha and plays an important role in the agricultural irrigation process in Kepung District and its surroundings. Regional development in an area will cause water demand to continue to increase along with the rate of population growth. The research aims to assess water quality, assess the amount of water availability in Parit Pati, and assess the amount of water needed by plants in the Parit Pati water catchment area. This research uses primary data and secondary data. Primary data includes the dimensions of the Parit Pati channel. Secondary data consists of rainfall data and climate data (maximum and minimum air temperature, relative humidity, duration of sunlight and wind speed).

Water availability was analyzed using the Mock method. Plant water needs were analyzed using Cropwat 8.0 software. The mainstay discharge with an average probability of 80% is 4,127 m³/sec. The minimum discharge was in August at 4,127 m³/sec, while the maximum discharge was in January at 6,920 m³/sec. The maximum water requirement is in August at 1.07 liters/second. Overall, Parit Pati's water availability is sufficient for the water needs of plants in the Siman area.

Keywords: Availability, Water Needs, CROPWAT.

ABSTRAK

STUDI PEMAKAIAN AIR WADUK SIMAN UNTUK MENGAIRI LAHAN PERTANIAN DI DESA SIMAN KABUPATEN KEDIRI

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Waduk Siman terletak di Desa Siman, Kecamatan Kepung, Kabupaten Kediri, sekitar 35 Km dari pusat pemerintahan kabupaten Kediri. Waduk ini mempunyai luas sekitar 50.000 m² dan mempunyai luas baku sawah 23.060 ha dan memegang peranan penting bagi proses irigasi pertanian di Kecamatan kepung dan sekitarnya. Perkembangan wilayah pada suatu daerah akan menyebabkan kebutuhan air terus meningkat seiring dengan laju pertumbuhan penduduk.

Penelitian bertujuan mengkaji kualitas air, mengkaji besarnya ketersediaan air Parit Pati, dan mengkaji besar kebutuhan air tanaman pada daerah tangkapan air Parit Pati. Penelitian ini menggunakan data primer dan data sekunder. Data primer meliputi dimensi saluran Parit Pati. Data sekunder berupa data curah hujan dan data iklim (suhu udara maksimum dan minimum, kelembaban relatif, lama penyinaran matahari, dan kecepatan angin).

Ketersediaan air dianalisa menggunakan metode Mock. Kebutuhan air tanaman dianalisa menggunakan software Cropwat 8.0. Debit andalan rata-rata probabilitas 80% sebesar 4.127 m³/det. Debit minimum terdapat pada bulan Agustus sebesar 4.127 m³/det, sedangkan debit maksimum terdapat pada bulan Januari sebesar 6.920 m³/det. Kebutuhan air paling maksimum terdapat pada bulan Agustus sebesar 1,07 liter/detik. Secara keseluruhan ketersediaan air Parit Pati mencukupi kebutuhan air tanaman di daerah Siman.

Kata Kunci : Ketersediaan, Kebutuhan Air, CROPWAT.