

ANALISIS INDEKS KEKRITISAN AIR DI KALURAHAN SARIHARJO, KAPANEWON NGAGLIK, KABUPATEN SLEMAN

Oleh Nanda Fuji Lestari
20/461428/GE/09388

INTISARI

Pesatnya perkembangan Kalurahan Sariharjo sebagai bagian dari Kawasan Perkotaan Yogyakarta (KPY) mengakibatkan kebutuhan air, baik domestik maupun non domestik. Di sisi lain, persebaran hujan yang tidak merata akibat pengaruh pola iklim membuat ketersediaan air menjadi terbatas. Analisis indeks kekritisan air menjadi penting untuk menilai keseimbangan kebutuhan dan ketersediaan air meteorologis. Penelitian ini memiliki tujuan untuk: (1) Menghitung jumlah ketersediaan air secara meteorologis di Kalurahan Sariharjo; (2) Memperkirakan jumlah kebutuhan air domestik dan non domestik di Kalurahan Sariharjo; dan (3) Menganalisis status kekritisan air Kalurahan Sariharjo.

Penelitian ini menerapkan metode deskriptif kuantitatif dan data spasial untuk menggambarkan dan menjelaskan karakteristik ketersediaan air, kebutuhan air, dan kekritisan air. Perhitungan ketersediaan air meteorologis dilakukan dengan mengalikan nilai surplus, yang diperoleh dari neraca air Thornthwaite Mather, dengan total luas wilayah. Kebutuhan air domestik dan non domestik dilakukan menggunakan kuesioner dan/atau rumus empiris. Selain itu, penentuan sampel kuesioner menggunakan teknik *simple random sampling*. Kekritisan air diketahui dengan metode *Water Scarcity Index* (WSI) atau perbandingan antara kebutuhan air dengan ketersediaan air meteorologis.

Hasil penelitian menunjukkan bahwa total ketersediaan air di Kalurahan Sariharjo mencapai 86.561,9 ribu m³ per tahun. Padukuhan Nglempongsari memiliki ketersediaan air tertinggi sebesar 7.935,5 ribu m³ per tahun karena luas wilayahnya yang lebih besar. Sementara itu, ketersediaan air terendah terdapat di Padukuhan Gondanglegi sebesar 2.040,2 m³ per tahun. Kebutuhan air domestik tercatat sebesar 2.827,7 ribu m³ per tahun dan kebutuhan air non domestik mencapai 692.978,4 ribu m³ per tahun. Tingkat kekritisan air di Kalurahan Sariharjo terbagi menjadi dua klasifikasi, yaitu “kritis” dan “belum kritis”. Kekritisan air tertinggi berada di padukuhan Karangmloko mencapai 2.319 persen. Sementara itu, kekritisan air terendah ialah padukuhan Jongkang dan Sedan dengan persentase sebesar 5 dan 9 persen.

Kata kunci : Sariharjo, Ketersediaan Air, Kebutuhan Air, Kekritisan Air

WATER SCARCITY INDEX ANALYSIS IN KALURAHAN SARIHARJO, KAPANEWON NGAGLIK, SLEMAN REGENCY

By Nanda Fuji Lestari
20/461428/GE/09388

ABSTRACT

The rapid development of Sariharjo Village as part of the Yogyakarta Urban Area (KPY) has caused the need for domestic and non-domestic water. On the other side, the uneven distribution of rain due to the influence of climate patterns means that water availability is limited. Therefore, water criticality index analysis is important to assess the balance between water demand and availability. This research aims to: (1) Calculate the amount of meteorological water availability in Sariharjo Village; (2) Estimating the amount of domestic and non-domestic water needs in Sariharjo Village; and (3) Analyze the critical status of water in Sariharjo Village.

This research applies quantitative descriptive methods and spatial data to describe and explain the characteristics of water availability, water demand and water criticality status spatially. Calculations of meteorological water availability are carried out using the Thornthwaite Mather water balance, by multiplying the surplus value by the total area. Meanwhile, water needs were obtained through a questionnaire, where sampling used a simple random sampling technique. The water criticality is known using the Water Scarcity Index (WSI) method or a comparing meteorological water needs and availability.

The research results show that the total availability of meteorological water in Sariharjo Village reached 86,561,9 thousand m^3 per year. Nglempongsari has the highest availability of meteorological water of 7.935,5 thousand m^3 per year because of its larger area. Meanwhile, the lowest availability of meteorological water is in Gondanglegi at 2.040,2 thousand m^3 per year. Domestic and non-domestic water needs respectively are 2.827,7 thousand m^3 per year and 692.978,4 thousand m^3 per year. million m^3 /year. The level of water criticality is divided into two category, namelt "critical" and "not critical". The highest water critically is in Karangmloko reached 2.319 percent. Meanwhile the lowest water critically is in Jongkang and Sedan with percentages of 5 and 9 percent.

Keyword : Sariharjo, Water Availability, Water Needs, Water Criticality