OPTIMASI EMBUNG WLAHAR WETAN UNTUK SUPLESI AIR IRIGASI PADA MUSIM KEMARAU DI DESA WLAHAR WETAN KECAMATAN KALIBAGOR KABUPATEN BANYUMAS

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ABSTRAK

Perekonomian masyarakat di Desa Wlahar Wetan sebagian besar bermata pencaharian sebagai petani dengan kondisi SDM (Sumber Daya Manusia) dan keadaan ekonomi yang masih bisa ditingkatkan. Embung Wlahar Wetan bertujuan untuk menampung air pada musim penghujan dan dimanfaatkan pada musim kemarau untuk berbagai kepentingan masyarakat terutama pada bidang pertanian. Potensi ketersediaan air disaat musim hujan cukup melimpah, sedangkan pada musim kemarau ketersediaan air pada Embung Wlahar Wetan tidak mencukupi untuk memenuhi kebutuhan air irigasi pada lahan irigasi seluas 58,5 Ha.

Metode penelitian yang digunakan dalam penelitian adalah deskriptif analisis sehingga data yang diperlukan pada penelitian adalah data primer & data sekunder berupa data curahhujan, data kondisi klimatologi, data luas lahan irigasi dan data luas embung. Analisis data klimatologi diperhitungan dengan Metode Penman (modifikasi FAO), analisis kebutuhan air irigasi dengan memperhitungkan kebutuhan air tanaman, data curah hujan digunakan dalam perhitungan untuk analisis ketersediaan air menggunakan Metode F.J Mock, dari data tersebut dapat diketahui presentase keandalan embung dengan simulasi neraca air.

Kebutuhan air irigasi direncanakan untuk memenuhi lahan irigasi Desa Wlahar Wetan yaitu 58,5 Ha. Berdasarkan hasil perhitungan kebutuhan air irigasi untuk Musim Kemarau sebesar 1.401.092,7 m^3, Masa Tanam (Padi 1) sebesar 1.041.990,4 m^3, Masa Tanam (Padi 2) sebesar 687.533,1 m^3. Kebutuhan air irigasi selama periode 1 tahun sebesar 3.130.616,2 $m^{3.}$ Berdasarkan hasil pehitungan ketersediaan air menggunakan metode F.J Mock ketersediaan air Embung Wlahar Wetan periode 1 tahun sebesar 6.994,8 m^3. Berdasarkan hasil analisis neraca air didapat peluang keandalan Embung Wlahar Wetan untuk pelayanan 100% areal lahan irigasi diperoleh nilai persentase keandalan sebesar 1%, untuk 25% pelayanan areal lahan irigasi sebesar 1% dan untuk 5% pelayanan areal lahan irigasi 1%. Sehingga dapat disimpulkan bahwa Embung Wlahar Wetan tidak bisa mensuplesi luas lahan irigasi 58,5 Ha.

Kata Kunci : Optimal, Embung Wlahar Wetan, Neraca Air

OPTIMIZATION OF WLAHAR WETAN EMBUNG FOR IRRIGATION WATER SUPPLEMENT IN THE DRY SEASON IN WLAHAR WETAN VILLAGE, KALIBAGOR DISTRICT, BANYUMAS DISTRICT

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ABSTRACT

Most of the people's economy in Wlahar Wetan Village has a livelihood as farmers with conditions of human resources (human resources) and economic conditions that can still be improved. Embung Wlahar Wetan aims to store water during the rainy season and use it during the dry season for various community interests, especially in the agricultural sector. The potential for water availability during the rainy season is quite abundant, whereas during the dry season the availability of water at the Embung Wlahar Wetan is not sufficient to meet the needs for irrigation water on an irrigated land area of 58.5 Ha.

The research method used in this research is descriptive analysis so that the data needed in the research is primary data & secondary data in the form of rainfall data, climatological condition data, irrigated land area data and pond area data. Analysis of climatological data was calculated using the Penman Method (modification of FAO), analysis of irrigation water needs taking into account crop water requirements, rainfall data used in the calculations for water availability analysis using the F.J Mock Method, from these data it can be seen the percentage of reservoir reliability by simulating water balance.

The need for irrigation water is planned to meet the Wlahar Wetan Village irrigation area, namely 58.5 Ha. Based on the results of the calculation of irrigation water needs for the Dry Season of 1,401,092.7 m3, Planting Period (Rice 1) of 1,041,990.4 m3, Planting Period (Rice 2) of 687,533.1 m3. The need for irrigation water during a period of 1 year is 3,130,616.2 m3. Based on the results of calculating the availability of water using the F.J Mock method, the water availability of the Embung Wlahar Wetan for a period of 1 year is 6,994.8 m3. Based on the results of the water balance analysis, the probability of reliability of the Embung Wlahar Wetan for 100% service of irrigated land area obtained a reliability percentage value of 1%, for 25% service of irrigated land area of 1% and for 5% service of irrigated land area of 1%. So it can be concluded that Embung Wlahar Wetan cannot supplement the irrigated land area of 58.5 Ha.

Keywords: Optimal, Embung Wlahar Wetan, Water Balance