

# PENGARUH FAKTOR JARAK TERHADAP KEHILANGAN AIR PADA SALURAN TERSIER DI DAERAH IRIGASI BENDUNGAN PENGGA LOMBOK TENGAH

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## ABSTRAK

Penelitian ini bertujuan untuk mengetahui hubungan jarak terhadap besarnya kehilangan air pada saluran tersier dan mengetahui faktor-faktor apa saja penyebab kehilangan air di saluran. Metode yang digunakan dalam penelitian ini, yaitu metode survey dengan melakukan pengamatan dan pengukuran langsung di lapangan dengan menggunakan alat *Current Meter* untuk mengukur kecepatan aliran. Penelitian ini dilakukan pada saluran BJK1.1 yang memiliki panjang saluran 800 m, kemudian BJK1.2 dengan panjang saluran 600m, BDB1.1 dengan panjang saluran 72.8 m, dan BDB1.2 dengan panjang saluran 41 m. Pada penelitian ini dilakukan pengukuran terhadap debit *inflow* dan debit *outflow* pada tiap saluran, perhitungan kehilangan air akibat evaporasi, perhitungan kehilangan air akibat rembesan, persentase kehilangan air selama penyaluran, dan efisiensi tiap saluran. Berdasarkan hal tersebut maka terjadi proses kehilangan air pada saluran BJK1.1 sebesar 0,086436 m<sup>3</sup>/s, pada saluran BJK1.2 kehilangan air sebesar 0,083368 m<sup>3</sup>/s selanjutnya kehilangan air pada saluran BDB1.1 sebesar 0,0685 m<sup>3</sup>/s dan pada saluran BDB1.2 kehilangan selama penyaluran sebesar 0,089412 m<sup>3</sup>/s. Perhitungan kehilangan air akibat evaporasi tertinggi mencapai 0,0162316 m<sup>3</sup>/s pada saluran BJK1.1 dengan panjang 800 m dan evaporasi terendah pada saluran BDB1.2 dengan panjang 41 m sebesar 0,000751366 m<sup>3</sup>/s. Faktor jarak sangat berpengaruh terhadap besar kecilnya kehilangan air selama penyaluran, faktor penyebab kehilangan air disaluran adalah evaporasi dan kebocoran pada saluran.

**Kata kunci:** debit *inflow* dan *outflow*, evaporasi, kehilangan air

# THE INFLUENCE OF DISTANCE FACTORS ON WATER LOSSES IN TERTIARY CHANNEL OF PENGGA DAM CENTRAL LOMBOK IRRIGATION AREA

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## ABSTRACT

This study aimed to determine the relationship of distance to the amount of water losses in tertiary channels and investigate factors caused water losses in the channel. The method used in this study was survey method by observations and measurements directly in the field using current-meter to measure flow velocity. This research was conducted on BJK1.1 channel which has channel length of 800 m, BJK1.2 with channel length of 600 m, BDB1.1 with channel length of 72.8 m, and BDB1.2 with channel length of 41 m. In this study, inflow and outflow discharge on each channel were measured; water loss due to evaporation, water losses due to seepage, percentage of water loss during distribution, and efficiency of each channel were calculated. Based on this, water losses during distribution occurred on BJK1.1 channel was 0.086436 m<sup>3</sup>/s, on BJK1.2 channel was 0.083368 m<sup>3</sup>/s, on BDB1.1 channel was 0.0685 m<sup>3</sup>/s, on BDB1.2 channel was 0.089412 m<sup>3</sup>/s. The highest water loss calculation due to evaporation reached 0.0162316 m<sup>3</sup>/s on the 800 m BJK1.1 channel and the lowest evaporation occurred on 41 m length of BDB1.2 channel of 0.000751366 m<sup>3</sup>/s. The distance factor is very influential on the size of water losses during distribution; the causes of water loss in the channel are evaporation and leakage in the channel.

**Keywords:** inflow and outflow discharge, evaporation, water losses