



Applying an integrated methodology toward non-revenue water reduction: the case of Nicosia, Cyprus

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ABSTRACT

Non-Revenue Water (NRW) is one of the major issues water utilities are facing today, especially in areas with severe water scarcity conditions. The WATERLOSS-DSS, a user friendly decision support system (DSS), was developed to help water operators decide which NRW reduction measure(s) to apply in their water networks. The DSS evaluates the water network performance level and finally proposes a list of prioritized NRW reduction measures. This DSS was checked for Nicosia's (capital of Cyprus) urban water network. Three problematic District Metered Areas (DMAs) were chosen. The DSS provided a list of prioritized NRW reduction measures targeting at various NRW causes for each DMA. Nicosia's water utility officials decided to apply some of the short-listed measures in those DMAs, resulting in significant NRW reduction and additional benefits. The annual water savings came up to 1 million m³, equal to 4.8% of the water entering the network. Economic benefits of more than 700,000 € are noted. Additional benefits are important energy savings, reduced overtime, and better knowledge of the network. These were incredibly important for Nicosia, as Cyprus is facing severe water scarcity conditions.

Keywords: Water losses; Non-Revenue Water; NRW reduction measures; Pressure management; Active leakage control

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