



Optimization of decentralized wastewater treatment and sanitation via constructed wetlands: the DOMUS_CW project

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ABSTRACT

Two free surface flow CWs constructed in one Greek and one Cypriot community, were upgraded in order to serve as case studies to be further optimized via modeling. Through the systematic and detailed monitoring of the two CWs their operational efficiency was evaluated, and the response to operational factors that have not been extensively studied yet, such as supply variations and recirculation, were recorded and incorporated into the model. In addition, the effect and fate of xenobiotics, the interactions among plants and microorganisms, the toxic potency of effluents and the cropping frequency were evaluated aiming to the better understanding and thus further improvement of the operation of the systems. An exploitation plan for CW effluents and plant biomass is also proposed investigated, aiming at the recovery of water and nutrients, contributing thus to the European goals for Sustainable Development. The main outcome of the project is the creation of a generic assessment tool, a model platform via which the feasibility of CW technology application in different sites could be evaluated based on minimal initial data.

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