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Performance assessment of a real scale constructed wetland for wastewater treatment

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Sustainable water management urges for the use and treatment of wastewater in an efficient way. Tourism units are often characterized by great variations in wastewater quantity and quality over the year. Constructed wetlands (CW) have been proposed as a nature-based solution to support the wastewater treatment from these units. In the present study, the potential wastewater treatment in a tourism unity through a real scale constructed wetland application is addressed. A CW was installed in a tourism unit in Ponte de Lima with a polyculture, delivering several ecosystem services.
The aim of the study is to monitor the efficiency of the biological system, after long term operation, based on phytoremediation processes, to treat the wastewater from the tourism unit. Wastewater quality will be assessed through the analysis of physic-chemical and microbiological parameters towards its reuse for irrigation purposes. CW substrate will also be analysed concerning the enzymatic activity associated to the rhizosphere of selected plants. The work to be developed is of outmost importance since it has a real implication on the water management of a tourism unit.

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