

The performance of decentralized treatment (SBR, Sequence Batch Reactor) and purified water reuse in irrigation: Case of the Huber Mini-STEP Établissements Berenger in Casablanca / Morocco

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In Morocco, as in all developing countries, sanitation and sewage treatment constitute certainly one of the largest environmental problems. The lack of public network, lack of waste water treatment plants, absence of control and of environmental awareness contribute to the spread of diseases, the degradation of landscape and the contamination of surface and groundwater. Currently, Morocco produces about $600 \text{ Mm}^3 / \text{year}$ ($900 \text{ Mm}^3 / \text{year}$ in 2020), and discharges more than 50% of the untreated waste water in the coast or used directly for the irrigation without treatment. Decentralized treatment by the Mini-Station SBR technology in the form of prefabricated tank or in concrete basin for houses, establishments and for villas showed a tremendous economic and ecological efficiency and with reuse of purified wastewater for irrigation. Analysis of raw sewage at the input of the Mini-STEP SBR institutions Berenger in Casablanca is about $600 \text{ mg} / \text{l}$ COD, $350 \text{ mg} / \text{l}$ BOD5 and $250 \text{ mg} / \text{l}$ of the MLLS with a flow of $4.5 \text{ m}^3 / \text{d}$ and it is in operation from November 2009. In order to comply with Moroccan standards for treated waste water discharges into the natural and for the reuse for irrigation of green spaces. The treatment with the Mini-STEP SBR can achieve the releases concentrations releases as the following: COD $<80 \text{ mg} / \text{l}$, BOD5 $<10 \text{ mg} / \text{l}$ and MLLS $<20 \text{ mg} / \text{l}$.

Keywords: Casablanca, Mini-STEP SBR, COD, BOD5, Waste Water, Huber.