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APPROPRIATE SOLUTIONS FOR WASTEWATER REUSE IN AGRICULTURE: A PILOT PLANT IN RAFAH, GAZA STRIP

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Abstract

Water supply represents a constant worldwide challenge for people and authorities. This issue is significantly severe in semiarid regions such as Gaza Strip, where groundwater constitutes the only fresh water source. Furthermore, Gaza Strip area suffers from water scarcity due to the decrease in water recharge and a constantly groundwater over-pumping, along with seawater intrusion, which cause serious problems in fresh water supply. Treated wastewater reuse represents a sustainable approach to increase water resource availability, to alleviate stressed polluted Gaza's coastal aquifer and to contribute to local agriculture development. On this issue, a pilot-scale plant has been designed to evaluate the feasibility of a municipal wastewater recovery for agricultural purposes in Rafah (Gaza Strip), reproducing the working conditions and performances of a real plant, which will be built by summer 2020. The paper aims to describe the case study in the context of Appropriate Technology (AT) for Developing Countries approach.

Key words: appropriate technologies, Gaza Strip, natural treatment system, wastewater reuse

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