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A new Approach to implementing decentralized wastewater treatment concepts

Noama Shareef

Al Balqa applied University, Jordan

Natural and semi-natural waste water treatment system is used as decentralized Wastewater treatment in the rural area, since a long time, to save collection system cost to the central WWTPs and also to improve the treatment efficiency processes in the wastewater treatment units. Different waste Water technologies are commercially used for the treatment of municipal as well as industrial wastewater. Wetland technologies, SBR, Septic Tank, MBBR, Modified septic Tank, and Biofilm are successfully implemented in Fuhies demonstration research centre and in the Salt City- Jordan. DWWT processes are achieved by the aeration in aerobic systems (oxidation of organic compounds and nitrification) and also wetlands system. Professional Staff from University of Balqa to control a good operation monthly tested water samples. The aim of this project is to demonstrate the application of several technologies and to test its efficiency treatment of municipal wastewater in small scale and to reuse the treated wastewater for irrigation purpose. Furthermore, the one-year-scientific evaluation is conducted with municipal wastewater at the wastewater treatment plant and includes a test series with well-defined treatment parameters (such as waste-water-flow, quality, temperature, salinity and more parameters) and extensive sampling to good Treatment Efficiency, which meets the Jordan irrigation standard. Lab. Analysis Values shows extremely high treatment rates that can be achieved by using the above technologies which lead to reducing the BOD loads to 98%, COD reduction to 95% and high nitrification rate especially by Wetland and SBR technologies and also reduction of the parameters SS, TDS, NO₃, TKN, FC, to meet the irrigation Jordanian Standards.

machawemmvulane@gmail.com