

Integrated Wastewater Reuse Project of the Faculty of Sciences AinChock, Morocco

Authors : Nihad Chakri, Btissam El Amrani, Faouzi Berrada, Fouad Amraoui

Abstract : In Morocco, water scarcity requires the exploitation of non-conventional resources. Rural areas are under-equipped with sanitation infrastructure, unlike urban areas. Decentralized and low-cost solutions could improve the quality of life of the population and the environment. In this context, the Faculty of Sciences Ain Chock "FSAC" has undertaken an integrated project to treat part of its wastewater using a decentralized compact system. The project will propose alternative solutions that are inexpensive and adapted to the context of peri-urban and rural areas in order to treat the wastewater generated and use it for irrigation, watering, and cleaning. For this purpose, several tests were carried out in the laboratory in order to develop a liquid waste treatment system optimized for local conditions. Based on the results obtained at the laboratory scale of the different proposed scenarios, we designed and implemented a prototype of a mini wastewater treatment plant for the Faculty. In this article, we will outline the steps of dimensioning, construction, and monitoring of the mini-station in our Faculty.

Keywords : wastewater, purification, optimization, vertical filter, MBBR process, sizing, decentralized pilot, reuse, irrigation, sustainable development

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