



MONITORING TREATED WASTEWATER IN THE UNITED ARAB EMIRATES

A major challenge faced by the United Arab Emirates is the sustainability of their natural resources, above all water. Traditionally, water demands have been met through the exploitation of groundwater. However, rapid economic development, coupled with an increased population, has significantly increased water demand. Groundwater abstraction in Abu Dhabi is currently over 25 times the average recharge rate and groundwater resources are expected to be exhausted within the next 50 years. To reduce its reliance on groundwater and desalinated water, the Emirate plans to increase the use of TWW for agriculture. The main challenge is how to do this without endangering citizens' health or the environment. In response to this challenge, the project strengthened the capabilities of Abu Dhabi Food Control Authority ADFCA in the safe reuse of TWW for agriculture through the improved monitoring of treated sewage effluent.



WHAT DID THE PROJECT DO?

FAO carried out a comprehensive assessment of the current utilization of TWW, conducted a quantitative and qualitative evaluation of the current monitoring of TWW and formulated a project proposal to develop an effective monitoring and evaluation (M&E) system for the use of TWW in Abu Dhabi, based on the establishment of a state of the art online and field monitoring system, and taking into consideration existing facilities and capabilities. Finally, the project initiated an environmental impact assessment of current TWW use in agriculture in Abu Dhabi. During the project, on-the-job training was provided in such fields as TWW technologies, wastewater monitoring systems, international guidelines of wastewater reuse, agricultural drainage wastewater reuse and sludge management.

IMPACT

As a result of the project, the capacity of ADFCA to use TWW for agriculture in a safe and sustainable manner has increased. This will lead to a reduction in the current high demand on groundwater and desalinated water that, in its turn, will reduce costs and protect the environment. Among its activities, the project summarized international guidelines on TWW use for livestock drinking water. After samples were taken for analysis, it was found that the microbiological and chemical levels of TWW in the Al-Nahda pilot project area were within the safe limit of guidelines enforced in Australia and New Zealand. Accordingly, ADFCA allowed farmers in the Al-Nahda to use TWW to water their livestock, a decision that had a positive effect on 143 farms in the area.

KEY FACTS

Contribution

USD199 897

Duration

May 2015 – December 2016

Resource Partners

Abu Dhabi Food Control Authority (ADFCA)

Beneficiaries

Ministry of Climate Change and Environment Ministry of Energy; farmers who wish to use treated wastewater (TWW) in agriculture

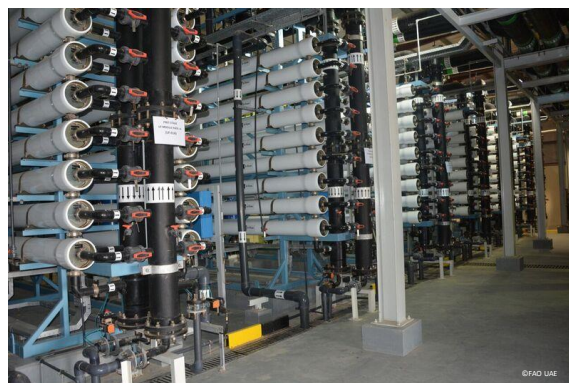
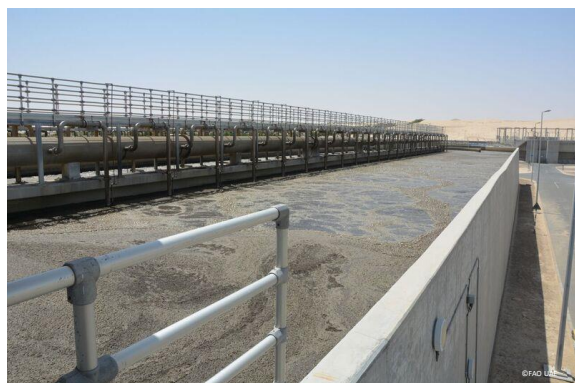


ACTIVITIES

- All available information related to the use of TWW in Abu Dhabi collected, a database developed and analysed, and all collected data assessed.
- Assessment report prepared, with recommendations, and presented at a workshop.
- Assessment report submitted to ADFCA.
- Quantitative and qualitative review conducted of data gathered for ongoing monitoring, and an evaluation made of its adequacy.
- Improvements identified in ongoing data collection and presented to ADFCA.
- Comprehensive state of the art online and field monitoring system defined.
- Hardware and software required to establish the M&E system identified, along with training needs.
- Project proposal to develop an M&E system drafted in collaboration with ADFCA.
- Data reviewed and evaluated for preliminary environmental impact assessment of current TWW use, and additional data collection needs identified.
- Preliminary environmental impact assessment undertaken.



SUSTAINABLE DEVELOPMENT GOALS



Project Code

FAO: GCP/UAE/001/AFC

Project Title

Monitoring and Evaluation of Use of Treated Wastewater in Abu Dhabi

Contacts

FAO Subregional Office for the Gulf Cooperation Council States and Yemen

FAO-SNG@fao.org

