



The potential of wastewater reuse in the Arab region as a management option for water security under climate change condition

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Water resources scarcity, accessibility, and environmental degradation are the major challenges facing most of the Arab region. This region has already run out of renewable freshwater decades ago and is unable to meet their food requirements using the available water resources. Water reuse features prominently amongst other innovative integrated water management approaches and reuse of treated domestic wastewater is becoming a common source for additional water in several Arab regions and many of these countries have included wastewater re-use in their water planning. This will narrow the gap between freshwater supply and demand in different water-use sector. The major challenge in using marginal-quality waters in agriculture is to maximize the benefits for the farmers and society while minimizing adverse environmental and health impacts. Therefore, pre-use treatment, and/or appropriate soil-water-crop management strategies are needed for using treated

wastewater for irrigation in agriculture through efficient, environmentally acceptable, cost-effective and sustainable strategies, and enabling policies and institutional support. This paper will address the integrated approach for reclamation and reuse of treated wastewater? How wastewater has been managed successfully for safe reuse in some Arab countries? What are the institutional and the organizational involved in the safe reuse of wastewater? How some Arab policymakers adapted the wastewater management agenda to their country's economic context?

Findings demonstrate that water reuse can help in addressing water problems and challenges, particularly when decision-making are from a systems perspective. When ecosystem services are taken into account and are valued properly, water reuse is a sustainable practise that can also be financially profitable.