

Impacts of the Economical Developments and Population Growths on Water Resources in Dubai, United Arab Emirates

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Water is an essential input to sustain the society development in Dubai Emirate, United Arab Emirates (UAE). Dubai is situated to the north of the UAE on the Arabian Gulf. Due to its political stability and strong economy, people are continuing to immigrate to Dubai. This regular immigration will enhance the stress on water resources. Therefore demands for water will increase significantly in Dubai. The scarcity of water resources in Dubai is evident. The total production of water in the Emirate of Dubai has increased to 61, 478 million gallons in 2004. About 58, 808 million gallons has been produced from the desalination plants in 2004. The production of freshwater from the main aquifers is about 2, 763 and 2, 655 million gallons for the years 2003 and 2004 respectively. The reduction of groundwater in 2004 may be ascribed to the low amount of rainfall and to the decreasing capacity of the aquifers. Treated wastewater is another source for water whose quantity was increased from 72 m³ to about 107 m³ in 2000 and 2004 respectively. It is observed that the water resources in Dubai Emirate rely mainly on desalinated water and then treated wastewater. Due to the location of the country in an arid zone, the groundwater resources are limited. Moreover, major problems related to the water resources have appeared and affected the development in Dubai. These problems include: lowering water level and groundwater deterioration. This paper is aimed to assess the impacts of economical developments and populations growth on water resources in Dubai.