

Human Activities Impact on Groundwater Quality Issues at the United Arab Emirates (UAE)

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Groundwater of the UAE is facing a heavy pressure from population growth, urbanization and agricultural and industrial practices. As a result of this, groundwater has been overexploited during the last two decades to meet the increasing demands of water. With the increasing water demands, the human activities and the low amount of recharge to main aquifers in the UAE resulted in groundwater quality deterioration. There are many problems degrading the quality of groundwater in the UAE. One of these problems is salinity of the groundwater which has developed over the time. Therefore, groundwater in the UAE is getting progressively more saline. The salinity of groundwater is a limiting factor for different uses and may also restrict the development in the country. The continuous depletion of groundwater levels is another problem that might harm the groundwater quality due to the imbalance between the annual recharge and discharge. Recently several wells in the eastern and the northern parts of the country went dry. Moreover, oil industry and agriculture practices are becoming key components in groundwater contamination in the region. The oil industry can deteriorate water quality by increasing the salinity due to disposal of oil-field brines as in Bu Hasa area. The occurrence of incidence of oil spills might contaminate the groundwater and introduce hydrocarbon contamination to the environment with the time. Increasing agriculture with time and using different types of fertilizers and pesticides lead to serious contamination to the groundwater.