

Strategies to Reduce Groundwater Level Decline (The Case Study of Lavar Plain in Hormozgan Province)

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Abstract

Water scarcity and mismanagement of available water resources leads to water crisis that might be further heightened under drought conditions with dire environmental, social, and economic outcomes. The present study was implemented to determine the quantity of groundwater resources in the Lavar-Fin Plain, Bandar Abbas City, to identify and assess the consequences of indiscriminate groundwater withdrawals, and to develop useful solutions for the problems ahead. For the purposes of this study, the meteorological, hydrologic, geological, and geographical data obtained on six observation wells in the study plain collected over a 20-year period (1995-2015) were analyzed to determine the overdraft, groundwater levels drop, and water deficit of the aquifer. It was found that the groundwater level underwent a drop of 4.28 meters (or, an annual average of 21 cm) over the 20-year study period. Given the fact that surface water resources account for 10% and groundwater resources account for about 90% of the abstraction in the region and, further, that most of the withdrawal from groundwater resources is consumed for irrigation, it follows that the water table decline and its dire consequences can be abated by water conservation in the agriculture sector through improved irrigation systems along with such measures as raising public awareness of the imminent problems, raising users' knowledge of water conservation methods, exercising accurate control measures to restrict water withdrawals through installing metering devices, issuing no new drilling licenses, and changing cropping patterns in the region.

Keywords: Groundwater, Water Table Drop, Lavar plain, Management remedies.

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