

The need for integrated water management in Kuwait

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ABSTRACT

The water problem in Kuwait is outlined. The only natural water resource available is the ground water, which is extremely limited, exhausted, and non-replenished. Its exploitation not only should be stopped, but it should be recharged to serve as strategic water storage. The potable water demand is mainly satisfied by desalting seawater, using the multi stage flash MSF desalting system. This method is inefficient, energy wise, very costly, and should be replaced with more energy efficient desalting system such as seawater reverse osmosis SWRO system. This can save up three-fourth of the fuel energy used for desalination and substantially reduces the desalting water cost. Another non-conventional water resource is the treated wastewater. It should be fully utilized since its cost is much cheaper than desalting seawater or brackish water, and its amount increases with the increase of population and their consumption. The per capita water consumption is extremely high, and should be reduced through an effective water demand management program. The fresh water production in Kuwait can satisfy more than twice the water demand if the water is used wisely.

Keywords: Kuwait; Integrated water management

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