

Abstract

Complex nature of water issues, rapid population growth, the need for water for various uses and limited resources for water supply in different weather conditions all require new approaches that interconnect technical, economic, environmental, social and logical views.. For optimal planning and management of water resources in a basin plan, there are several models among which the WEAP model has recently taken many researchers' attention around the world due to its generality for integrating hydrological -physical processes, integrated water resource management and water allocation priorities.

The purpose of this study was to determine the amount of water allocated and to assess the effects of climate change (low→ hydration) on the amount allocated for agriculture, drinking, and Hamoon plain using WEAP model of Chah- nimeh reservoirs. To achieve this goal, the WEAP model has been used in canal- feeder parts and Chah- nimeh reservoirs. This repository is one of the most important water resources in Sistan plain mainly due to its particular circumstances. In spite of its considerable potential, it becomes dehydrated most of the time. In this regard, the reservoirs were simulated and then, the model was developed and implemented for basic conditions and available scenarios. Finally, the results were evaluated and compared.

Comparing the results of the scenario (D1) and the reference scenario (R) indicates that by the new planning resource allocation of Sistan plain, increasing the amount of land under cultivation up to 58,500 hectares and allocating ecological wetland from the reservoirs is allowable with a reliability level of % 48.7 and % 62.2. If the level of reliability in other parts rather than scenario R remains constant, there will be no threat to other needs. Also comparing the state of meeting the needs during the total period with the dehydrated period (2008- 2013), the resulted declined reliability in the potable water will return its previous reliability level, i.e. % 88.9 mainly as a result of proper management in the agricultural sector and changes in the cropping patterns.

Keywords: Chah- nimeh reservoirs, Hamoon plain, trust, water resources' allocation, WEAP model



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**Operational Assessment of Chahnime
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Plans Using WEAP Model**

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