

Abstract

Delimited water resources and also massive need of water is an issue which requires a solution. Therefore effective policies are needed to control water resources. These policies should focus on accurate way of concentrated usage of water and soil potential in the region. Since nowadays the distance between supply and demand of water resources is getting apart in a daily routine, an operative and proper management of water resources is needed. To provide integrated management of the river basin, the interaction of water, in different level of time and spaces is needed. One of these interactions is the effect of upstream part of the river on downstream. The aim of this research is to determine the live capacity of the the dam reservoir, the effect of water resources development across the basin, flow discharge to the dam reservoir and to study the supplied demands in agriculture, drinking demand and industry demand. On the road to achieve these goals different ways of simulation of water resources have been used. There are many management models to simulate water resources. in this research WEAP has been used. to study the water resources in Narmab river in Golestan. In the First, Narmab river basin was simulated and model was implemented for basic situations and Six different scenarios.to do this, the hydrological called precipitation - runoff FAO has been used, in a thirty year period (1981-2010). Results showed that the live reservoir capacity of Narmab is about 72 million cubic meters.also according to the results can allocated 116 million cubic meter could be allocated to agricultural demand, 56 million cubic meter to voshmgir dam demand, 45.5 million cubic meter to Environmental demand for 3 rivers called Narmab, Chehelchay and Khormaloo, 25 million cubic meter to drinking demand, and 2 million cubic meter to industry demand. Prioritizing water allocation has been studied under different scenarios. result showed that the best water allocation is achieved in presence of demand management in agriculture.

Keywords: Water allocation, WEAP, Simulation of river basin, Narmab basin



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**Prioritizing water allocation in
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