Abstract

irrigation water distribution network optimization for the amount of water available and the arable land is one of the best ways to increase profits for farmers under the land. Allocation of water in these systems is often based on factors such as demand forecasting of water for crops and water are available. Uncertainty in the predictionis is one of the inherent component of agricultural water distribution systems. The present study was made to optimize the water allocation and land cover in the basin of lake dams to maximize users profits for the three-year planning horizon (2014-2016).). For survey the effect of uncertainty in allocation of water and agricultural land of this region used model was the optimization model with degree of conservative controller parameters. To examine the sensitivity of the model to increase efficiency and conservative rate, different scenarios were applied. The proposed model in four efficiencies of 35, 45, 55 and 65% , different levels of uncertainty and the combination of these scenarios were investigated. The results showed that in order to produsing water need lack and other sectors in some of dams like shaharchaiee and bookan, the ariable land must be reduced about 50% in the first year of planning and planning should be reduced approximately 40% in the second year. Other dams in the area must be reduced the current ariable land as much as possible.

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Optimizing the allocation of agricultural water and land in Urmia lake basin

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