Abstract

One of the main challenges for the growing population of country is water and its management. Nowadays, the problems of related to policies and optimal management of water usage can be considering one of the important international issues. Agriculture sector is the largest water consumer. Therefore, providing comprehensive ways of water resource management and codification correct policies in this filed is necessary. In the recent years, due to reducing rainfall and continuing droughts, excessive dig of deep shafts and semi – deep, irrigation weak management and deficit installation of water control the water situation in Silakhor plain has reached to the border crisis. In this study, for protect and conservation of water resource and increasing efficiency water usage in the farm was used positive mathematical programing method (PMP). Furthermore, to goal analysis farmer responses to water management policy with assuming profit maximizing investment in irrigation technology the CES production function was used. The used information were collected through refer to Jihad Agriculture organization and regional water organization and interview with farmers of region in the period of 2011-2012. The Simulated scenarios is increasing water price, reducing amount of available water and integrate reducing amount of water and paid subsidizing investment to technology of irrigation. The result of this study showed the effects of policies on income, water demand, cropping pattern are different. In addition, integrated Policy is more effective compared with the two other policies.

Keyword: Groundwater, Positive Mathematical Programing, Production Function, Silakhor plain.

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