**An economic analysis of saffron production in South Khorasan Province**

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**Abstract**

Studying productivity of production factors, especially scarce inputs such as land and water, can help to increase productivity in order to reduce dependence on external inputs and resources, and to achieve the principles of sustainable agriculture. Saffron is one of the main agricultural products and export items of South Khorasan province and Iran, which not only have high economic benefits to producers, but also is one of the most efficient crops in terms of economic productivity, especially in respect to water consumption. The aim of this study was evaluating the productivity and optimum use of inputs in saffron production systems in South Khorasan province. Required data were collected by using questionnaires and interviews with 98 farmers. These variables were cultivated area, production, amounts of inputs used during planting, growth period and harvesting, and also prices and cost of consumed inputs. The trans-log production function was used to determine the relationship between production and inputs. Based on data, the elasticity of inputs was calculated and used to determine the production areas for each input, and reasonable rate of inputs consumption. The results showed that the production elasticities of land, water, fertilizer and saffron corms (for planting) were positive, but were negative for manure and pesticides. This means that the farmers uses the inputs of land, water and fertilizer and saffron corms in the economic area, but uses animal manure and pesticide in the third region and more than optimum amount. Furthermore, the sum of elasticities of inputs was equal to 0.91 that indicate there is decreasing returns toward scale in saffron production in South Khorasan province.

**Keywords:** Production function, Production inputs, Productivity, Trans-log function