

Abstract

Investigating the farmers' behavior toward the price of agricultural products can play an important role in regulating government and private institution's policies. It is equally critical to reduce the instability of farm incomes and provide guidelines for the production sector or producers. In this research, the effects of asymmetric changes in the prices of selected agricultural products in the Sistan region were investigated. Further, the effect of increasing the price of selected agricultural products on the cropping area of other cropping pattern products and finally on the gross margin of farmers was evaluated. For this purpose, the Positive Mathematical programming (PMP) and Maximum Entropy Method (ME) were used. The data and information of 1965-96 years were gathered through referrals to the offices and organizations located in Sistan and Balouchestan province. The results showed that the cultivation pattern in Sistan region was non-Optimal and according to the economic value of water input (equivalent to 3830 Rials) this commodity as almost free among agricultural activities allocated. Additionally, the results showed that under the policy of pricing of wheat and onion under 10 to 50 percent scenarios, Sistani farmers tended to develop their crops, and they slow down the cropping area of barley, alfalfa, melon and watermelon. Pricing policy along with the availability, reduced water policy and also increase in the cropping area of wheat (minimum share) and onion (maximum share) leading to a reduction in the cropping area of other selected products, especially trefoil production. The gross profit margin of farmers in the simultaneous performing of the pricing policy of products and sustainability policy for water resources was at optimal levels (with a rise of 77.7% to 40.3% compared to the base year). Finally, because of the limitation of water input in the Sistan region, to continue to produce selected agricultural products in line with the sustainability of water resources, agricultural production pricing policy was recommended at the same time as available water reduction policy.

Keywords: Price changes, Economic assessment, Model PMP, Selected Agricultural Products, Maximum entropy, Sistan region



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