Stochastic Frontier Application for Evaluating Cost Inefficiencies in Organic Saffron

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Abstract : Saffron is one of the most precious spices grown on the earth and is cultivated in a very limited area in few countries of the world. It has also been grown as a niche crop in Kishtwar district of Jammu region of Jammu and Kashmir State of India. This paper attempts to examine the presence of cost inefficiencies in saffron production and the associated socio-economic characteristics of saffron growers in the mentioned area. Although the numbers of inputs used in cultivation of saffron were limited, still cost inefficiencies were present in its production. The net present value (NPV), internal rate of return (IRR) and profitability index (PI) of investment in five years of saffron production were INR 1120803, 95.67 % and 3.52 respectively. The estimated coefficients of saffron stochastic cost function for saffron bulbs, human labour, animal labour, manure and saffron output were positive. The saffron growers having non-farm income were more cost inefficient as compared to farmers who did not have sources of income other than farming by 0.04 %. The maximum value of cost efficiency for saffron grower was 1.69 with mean value of 1.12. The majority of farmers have low cost inefficiencies, as the highest frequency of occurrence of the predicted cost efficiency was below 1.06.

Keywords : saffron, internal rate of return, cost efficiency, stochastic frontier model
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