

Mathematical modelling for demand and supply estimation of Paddy in Maharashtra

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The output supply and factor demand are closely interlinked to each other. Therefore, any change in factor and product prices affect the factor demand and output supply simultaneously. The present study used cross sectional cum time series data of Vidarbha region of Maharashtra state for paddy crop for the ten years from 1999-00 to 2008-09 were collected from the Agricultural Prices and costs Scheme, Department of Agricultural Economics and Statistics, Dr. PDKV, Akola by keeping in view to study the factor demand and output supply by using normalized Cobb-Douglas profit function. The analysis of factor demand equation showed that the demand elasticities with respect to own prices had the expected negative sign indicating that the results were in accordance with the theory of demand. The effect of wage rate was more on bullock labour demand (-0.114), while the effect of bullock labour price on human demand was low (-0.071). This indicates the one way complementarity between bullock labour and human labour. The output supply equation revealed that among the fixed factor, capital was found to be somewhat effective in increasing the supply of paddy. The output supply elasticity with respect to capital was (0.221). Joint estimation of Cobb-Douglas profit function and factor demand equation by using Zellner's method shows that the profit function was decreased in prices of Labour, Fertilizer and seed. Among the variable factors, normalized wage rate in general had the highest negative impact on variable profit followed by seed price and bullock labour price.

Biography

Thakare did his Doctor of Philosophy and Master of Science in Agricultural Economics from Dr. PDKV, Akola. He has one years experience in Academic sector. He has published three international and four national papers. Currently, he is working as a Asst. Professor at Shri Shivaji Agriculture College, Amravati.

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