

RESOURCE USE EFFICIENCY IN TOMATO FARMING IN BADULLA DISTRICT

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Tomato is a cash crop grown in Sri Lanka and high cost of production is a major problem that reduces farm income and increased food expenditure. This study attempted to address this problem by examining the current level of efficiency of tomato farming in Badulla district. Data were collected from 100 tomato farmers selected using a combination of multi-stage stratified random sampling and purposive sampling techniques. Partial budgeting technique was used to analyze costs and returns, frontier production function was estimated using Frontier version 4.1 for efficiency analysis, and Minitab software package was used for descriptive analysis related to socio-economic data. Results showed that 75% of the tomato farmers were male and 79% were above 40 years old. Majority have at least 10 year experience in tomato farming as justified by 78% of respondents. Cost benefit analysis showed that one rupee investment in tomato farming generates Rs. 3.12 as a return. Cost of production was Rs.22.44 /kg. Regression analysis revealed that farm size was the most important variable in determining production having the highest positive and significant coefficient of elasticity. It shows that doubling the area of cultivation with the other inputs held constant would increase the production by nearly 60%. Return to scale was 1.0 which implies that if all the variables increase by 1% production would increase at the same rate. Frontier production function analysis found that mean technical efficiency is 0.77 showing that production can be increased by 23% or cost could be reduced by 23% by adopting the best farmers' practices. Allocative efficiency analysis showed that ratio of marginal productivity to factor cost was greater than 1.0 for seed, farm size and labour while less than 1.0 for fertilizer. This indicates that profitability can be increased by increasing seeds, farm size and labour while decreasing fertilizer. Extension staff should advice farmers to reduce fertilizer usage and spend saved money to purchase seeds and higher labour to enhance profit of tomato farming in Badulla district.

Keywords: Badulla district, Cost and returns, Production function, Resource use efficiency, Tomato