

UTILISATION OF TWO DIFFERENT PRODUCTION
FUNCTIONS IN ANALYSING FARM DATA

K.L. de Silva

Regional Agricultural Research Centre Bandarawela

The objective of this paper is to compare the performance of the Cobb-Douglas Production function with a production function with variable returns to scale over the range of the functions.

A modified form of the Cobb-Douglas function is developed for this purpose.

Data collected over two seasons (Maha B1/82 & Yala 82) from fifty two farmers were utilised in the analysis.

Multicollinearity among the dependant variables turned out to be a severe problem. To overcome this problem some of the dependant variables were aggregated and used in the production function analysis.

Capital intensity index was utilised to develop the Cobb-Douglas production function with variable returns to scale. Production relationship was estimated assuming the relationship between the index variable and the dependant variable to be linear. When the relationship between the index variable and the dependant was assumed to be linear, increasing capital intensity index increased the partial production elasticity of land which resulted in an increasing return to scale. The empirical results showed that the capital intensity of production systematically influenced the partial elasticity of land hired labour. Returns to scale were shown to be higher for more capital intensive techniques.

The results of the above analysis showed that the modified production function is better than the conventional Cobb-Douglas Production function.