

**EFFECT OF MAJOR SOCIO-ECONOMIC FACTORS ON
DAIRY CATTLE MILK PRODUCTION IN MAHO
VETERINARY REGION IN KURUNEGALA DISTRICT**

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W.A.M.P.M. DISSANAYAKE

**Department of Animal Science
Faculty of Animal Science and Export Agriculture
Uva Wellassa University**

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ABSTRACT

Livestock plays a socially and economically significant role in Sri Lankan agriculture providing multi-functional outputs and supplementing family incomes for livelihood security. Therefore, the present study was conducted to identify the effect of major socio-economic factors and constraints on dairy cattle milk production in Maho veterinary region in Kurunegala district. Three hundred and fifty (350) farmers from Maho veterinary region were selected using stratified sampling. Socio-economic and production data were collected using a pre-tested structured questionnaire. Data were subjected to descriptive analysis and multiple linear regressions using Minitab 17 statistical software. Results of the descriptive analysis revealed that majority engaged in dairy cattle farming as a major source of income (58.29%). Of the total farmers, 78.29% practiced semi-intensive rearing while Jersey and Sahiwal were reported as the dominant breeds (38%) within the region. Average daily milk production was 6.20 L/cow/day. Results of the regression analysis highlighted relationships between breed type, breeding technique, feeding method, concentration type, level of education of the farmer and experience in dairy farming with the daily milk production ($P < 0.05$). Fitted regression model well predicted the daily milk production ($R^2 = 94\%$). It disclosed that breed type, breeding technique, feeding method, concentration type, level of education of the farmer and experience determine the dairy cattle milk production. However, lack of high yielding cross breeds, less success in artificial insemination (AI), low quality pasture and seasonality in pasture production and poor milk collection network were reported as the major constraints. The key findings of this study might promote improving the factors affecting the milk production in Maho veterinary region. In this study, the technical efficiency of dairy farmers was estimated by using stochastic frontier production function, incorporating technical efficiency effect model. The Cobb-Douglas production function was found to be an adequate representation of the data. According to the results obtained from the stochastic frontier estimation, the average technical efficiency of selected farmers given by the Cobb-Douglas model is 20.19%. This indicates that there is scope of further increasing the milk production by 79.81% without increase the level of inputs.

Keywords: Cobb-Douglas production function, dairy cattle, regression analysis, socio economic, technical efficiency.