Resource-use efficiency and dairy farm development in Sri Lanka

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The present study examines the resource-use efficiency in dairy production system in Nuwara-eliya districts, Up-country and Kurunegala districts, Coconut triangle, Sri Lanka. One year regular bi-weekly panel data were collected from sixteen (16) small scale dairy farms between 1st to December 31st in 2009 and 2010 from Up-country (10 farms) and Coconut triangle (6 farms) respectively. The dairy farmers were selected randomly representing different management systems. Firstly, the stochastic production frontier model was used to estimate the technical efficiency and secondly, the Tobit model was regressed to identify determinant factors of efficiency. Efficiency of feed resource use was estimated by determining the ratio of Marginal value product (MVP) to Marginal factor cost (MFC). The return to scale of 1,368 was obtained indicating that the resource allocation and production were inefficient at the present level. In addition, house hold size, feed cost per cow and training were found to contribute positively to technical efficiency while age and cattle disease occurrences reduce technical efficiency. Therefore, the government should concentrate on encouraging old dairy farmers to produce more efficiently by giving them trainings and extension services on new feed management technologies. Furthermore, the results of MVP to MFC ratio revealed that feed resources are under-utilized in Coconut triangle, while over-utilized in Up-country. Hence government should encourage the private sector to do more research on developing low cost feed rations for different agro-climatic zones using available feed resources.