

A stochastic frontier analysis on farm level technical efficiency in Zimbabwe: A case of Marirangwe smallholder dairy farmers

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Abstract

This study empirically investigates farm level technical efficiency of production and its associated determinants for Marirangwe smallholder dairy farmers, in Manyame district, Mashonaland east province in Zimbabwe. Using a stochastic production frontier model and a two step estimation approach, results for a sample of 27 smallholder farmers indicates that for the agricultural season 2013/2014, the average efficiency level was 54.9% particularly suggesting that dairy farmers are operating far below their production potentials. In particular, age, veterinary and extension, gender, farming experience and market performance were found to be significant factors affecting technical efficiency of the dairy farmers. The results of the study reveal that market performance, farming experience and gender positively affect the efficiency of dairy farmers. The results on gender implies that male farmers are more inefficient in dairy farming when compare to their female counterparts. On the other hand, age and veterinary and extension services was found to be positively associated technical inefficiency.