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Off farm work and its effects on farm technical efficiency in Tanzania

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This study examines determinants of off farm work participation and how farm technical efficiency is affected. The study is based on a sample of NPS datasets collected in year 2008/9 and 2010/11 in rural areas. Determinants of household participation decision are established through estimation of a double hurdle equation. Analytical results depicted that land quality, the area under cultivation, and total farm outputs have significance influence ($P < 0.05$) over household participation decisions. Besides those factors, the level of education of the household head, age squared, households with a married couple and a male headed household all have an influence on the decision to participate. Impact of off farm hours on farm efficiency is investigated using a Stochastic Frontier Analysis (SFA), whereby distribution assumptions of the error terms are also examined. Findings indicate that farm specific off farm hours squared displays a positive sign which is highly significant ($P < 0.01$). This is a testimony that increased participation in off farm work has a negative effect on the level of technical efficiency of the farm. Therefore, policies that seek to improve farm productivity should take into account that, when farmers increasingly participate in off farm work, their ability to manage the farm declines. A test of different distribution assumptions has revealed a significant difference in the mean technical efficiency in both NPS waves ($P < 0.01$). Half normal distribution depicted a much higher mean value than exponential distribution.