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Economic Efficiency of Chili Pepper Producers in the Volta Region of Ghana

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Abstract

Vegetable cultivation in both rural and urban Ghana is a germane economic activity. This is because of its importance as a major source of quick employment and income generation for both the rural and urban poor. This study sets out to investigate the economic efficiency of chili pepper producers in the Volta region of Ghana. The study used farm level data to examine the productivity of selected agricultural inputs, technical, allocative and economic efficiency levels of chili farms and the determinants of chili pepper production. The study further identified the key constraints militating against the realisation of the full frontier output using the Garret ranking technique. The modified translog stochastic frontier production and cost function models were analysed on the sampled chili farms using the maximum likelihood estimation procedure. Data was collected on 200 chili pepper producers through a multi-stage sampling technique. The results indicate that on average, chili farms were only 62.9% economically efficient, whilst mean technical and allocative efficiencies were estimated to be 68.1% and 92.3%, respectively. This high mean allocative efficiency estimate lends support to the view that resource-poor farmers in developing countries are highly efficient in allocating the limited financial resources at their disposal. The findings also show that chili farms in the study area are characterized by decreasing returns to scale. The study also identified the difficulty in accessing credit, lack of market and lack of irrigation facilities as the key constraints militating against the attainment of the frontier output of chili pepper. The results further show that age, experience, gender, household size among others significantly influence technical efficiency. Allocative efficiency is however influenced by gender, off-farm income, education, access to credit inter alia. The combined effect of these factors is responsible for explaining the variation in the economic efficiency of chili farms in the study area. The study therefore concludes that chili farms in the study area are economically less efficient. The study recommends policies and programs that aim at attracting the teaming youth into chili pepper cultivation to be pursued by giving them incentive packages.

Keywords: Data, maximum likelihood estimation, modified translog model, multi-stage sampling technique, stochastic frontier