A Socio-economic Evaluation of Agricultural Diversification in the Demerara-mahaica Administrative Region of Guyana

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Abstract

Income insecurity is inextricably linked to poverty and by extension living standard. At the farm household level agricultural diversification has always been recognised as a principal risk-reducing strategy. In an effort to secure more stable income streams under risky ecological environments and volatile market conditions, farming households usually employ a mix of ex-ante strategies, with farm level diversification being a principal component in this mix. In the study area, farmers suffer from regular flooding and instability in output prices. Under such conditions however, it is observed that a sizeable proportion of the households practices either very low farm diversification, or is entirely specialised in a single agricultural activity. While income risks faced by farmers in the study area result from varied sources such as production risks, market risks and input risks, in light of the anomaly observed, this study focuses on production risks particularly resulting from flooding, and market risk due to instability in crop prices. An objective of this study therefore is to estimate and analyse the magnitude of these agricultural risks faced by individual farmers, and to relate these findings to the degree of diversification practised. The study utilises Farming Systems Analysis in exploring how living standard of the farming families contribute to the existing degree of diversification. The study also analyses panel data on crop yields and crop prices in ascertaining the level of income risk resulting from production and market variations. Econometric analysis is also undertaken in estimating the impact of cropped land size, diversification degree (estimated by way of the Simpson's Index of Diversity), land tenancy arrangement, and the nature of technology employed in production on income. The study then identifies and simulates strategies aimed at reducing farm income variability through the optimising of farm diversification. The findings of these simulations form the basis for recommended strategies at the farm household level.

Keywords: Farming Systems Analysis, Market Risk, Production Risk, Simpson Index of Diversity

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