
Productivity Gap and its Determinants in Smallholder Farms: A case study of Mango Production in Makueni county, Kenya

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Abstract

Improving agricultural productivity requires an understanding of the extent of and characteristics of the yield gap and the determinants involved in the production process. In this study, we determine the yield gap using boundary line analysis and analyze the factors contributing to the gap in mango production using multiple regression in Makueni County, Kenya. A total of 60 smallholder mango farmers were randomly sampled and data was collected on actual and potential mango yield, fertilizer use, access to extension services, acquisition of a credit, membership to farmers' groups, farmer's age, education level and years in mango production. Results from the study indicate that the actual yield is 10.1 MT/ha/yr while the potential is 18.4 MT/ha/yr. Further, the results indicate that farmers' access to extension services, acquisition of credits, fertilizer use, membership in farmers' groups and education level significantly determined the productivity gap in the area. An improved understanding of the productivity gap and its determinants are important in the development of management strategies aimed at increasing mango production among smallholder farmers.

Key Words: Mango productivity, Boundary Line Analysis, Multiple Regression, Makueni County

