

ECONOMIC GROWTH CENTER

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THE EFFECTS OF AGRICULTURAL EXTENSION
ON FARM YIELDS IN KENYA

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Note: Center Discussion Papers are preliminary materials circulated to stimulate discussions and critical comments.

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ABSTRACT

The paper examines effects of agricultural extension on crop yields in Kenya controlling for other determinants of yields, notably the schooling of farmers and agro-ecological characteristics of arable land. The data we use were collected by the Government of Kenya in 1982 and 1990, but the estimation results reported in the paper are based primarily on the 1982 data set. The sample used for estimation contains information about crop production, agricultural extension workers (exogenously supplied to farms), educational attainment of farmers, usage of farm inputs, among others. A quantile regression technique was used to investigate productivity effects of agricultural extension and other farm inputs over the entire conditional distribution of farm yield residuals.

We find that productivity effect of agricultural extension is highest at the extreme ends of distribution of yield residuals. Complementarity of unobserved farmer ability with extension service at higher yield residuals and the diminishing returns to the extension input, which are uncompensated for by ability at the lower tail of the distribution, are hypothesized to account for this U-shaped pattern of the productivity effect of extension across yield quantiles. This finding suggests that for a given level of extension input, unobserved factors such as farm management abilities affect crop yields differently. Effects of schooling on farm yields are positive but statistically insignificant. Other determinants of farm yields that we analyze include labour input, farmer experience, agro-ecological characteristics of farms, fallow acreage, and types of crops grown.

Key words: agricultural extension, economic effects

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