

Promoting Biofuels in India: Assessing Land Use Shifts Using Econometric Acreage Response Models

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Abstract : Acreage response function are modeled taking account of expected harvest prices, weather related variables and other non-price variables allowing for partial adjustment possibility. At the outset, based on the literature on price expectation formation, we explored suitable formulations for estimating the farmer's expected prices. Assuming that farmers form expectations rationally, the prices of food and biofuel crops are modeled using time-series methods for possible ARCH/GARCH effects to account for volatility. The prices projected on the basis of the models are then inserted to proxy for the expected prices in the acreage response functions. Food crop acreages in different growing states are found sensitive to their prices relative to those of one or more of the biofuel crops considered. The required percentage improvement in food crop yields is worked to offset the acreage loss.

Keywords : acreage response function, biofuel, food security, sustainable development

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