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AGRICULTURAL DIVERSIFICATION AND INTEGRATED PEST MANAGEMENT IN A RICE-VEGETABLE FARMING SYSTEM IN BANGLADESH

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An economic optimization model calibrated with data from Bangladesh is used to study factors associated with a shift toward diversified, high-valued vegetable crops and the incentives associated with the use of IPM methods for low-income vegetable producers. We measure how IPM technologies affect the crop and technology choices of farmers. The model encompasses three-seasons and examines crop and technology choice under price and yield uncertainty. The model incorporates data from experimental IPM trials conducted in Bangladesh. Simulation results show that access to IPM technology and IPM availability combined with access to credit increase household welfare and lead to higher rates of vegetable adoption. Off-farm employment opportunities work against vegetable cultivation and IPM use by risk-averse farmers. Implications for policy and extension efforts are highlighted.