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An Economic Study On Shifting Boro Rice to Maize Production in Northern Region of Bangladesh

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Abstract

This study investigates the shift from Boro rice to maize cultivation in northern Bangladesh, specifically in the Lalmonirhat and Dinajpur districts, focusing on profitability, production efficiency, and sustainability. Data were gathered from 300 farmers and agricultural laborers using surveys, focus group discussions (FGDs), and key informant interviews (KIIs). The research analyzed factors influencing farmers' decisions to switch to maize, including education, profitability, credit availability, high demand, training, land type, and seed access. Probit regression and SWOT analyses were used to evaluate the findings. The results show that maize farming is considerably more profitable than Boro rice. The total cost of maize cultivation was lower (Tk. 111,649.9/ha) compared to Boro rice (Tk. 128,726.3/ha). The average net return for maize was Tk. 32,824.33/ha, much higher than Boro rice's Tk. 9,516.60/ha. Farmers in Dinajpur achieved greater profits than those in Lalmonirhat. Maize's Benefit-Cost Ratio (BCR) was 2.06, surpassing Boro rice's 1.60, reflecting higher profitability due to lower costs and higher demand. Despite the profitability, maize farmers were operating below their maximum production capacity, with potential production increases of 41.9%. The technical efficiency was below optimal, but the economic incentives continue to drive the shift toward maize. While the transition offers significant economic benefits, it may also impact food security, especially for poorer communities. The study suggests that public interventions are needed to mitigate negative consequences and ensure that vulnerable populations are not adversely affected by this agricultural transformation.

Keywords: Boro rice, profitability, production efficiency, maize cultivation, technical efficiency, sustainability

