

Abstract

“Stimulating Labor and Gendered Employment in Agriculture:
The Case of Hybrid Rice Technology”

This study examines the effects of hybrid rice adoption on rural labor markets in Bangladesh, focusing on household labor allocation, gender-specific labor use, and local wage conditions. We use nationally representative panel data from the Bangladesh Integrated Household Survey and combine household fixed effects with marginal structural models to address both time-invariant and time-varying confounding, including climate shocks, market access, and household demographics. The results show that hybrid rice adoption significantly increases on-farm labor demand, with substantial heterogeneity across production stages, gender, and local labor market conditions. Labor demand rises most in labor-intensive activities such as transplanting and harvesting, where women's labor participation is high. Estimated effects are strongest in high-wage areas, suggesting that hybrid adoption may exacerbate spatial inequalities in rural labor demand. These findings highlight the importance of considering labor market and gender implications when promoting productivity-enhancing technologies.