

Crop Yield Convergence Across Districts in India's Poorest State

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Abstract:

Bihar, India's poorest state, witnessed impressive yield growth in each of its three principal crops over 2005–17. This paper examines whether a convergence in district yields accompanied the improvement in yields at the state level, thereby reducing regional inequalities in land productivity. The convergence test allows the idiosyncratic element of productivity to be time-varying, thus allowing yields to diverge in some interim phases. Rice yields across districts appear to be converging to a common level, while maize yields have diverged over the same period. However, the sub-period analysis shows a trend of divergence for both crops going forward. In contrast, wheat yields seem to be converging to a common level recently, although the convergence for the entire period is weak. The analysis also identifies district clubs, which are converging to similar steady states. The club classification transcends agro-climatic boundaries, indicating a need for policy action to aid yield growth in lagging districts. Finally, there is no evidence that the divergence in yields was driven by a divergence in credit allocation, highlighting the limitations of a macro credit-driven policy. Credit supply might not be enough when there are structural snags in the availability of direct agricultural inputs.

Keywords: Crop Yield Convergence, Time-Varying Idiosyncratic Productivity, India, Bihar Districts, Rice, Wheat, Maize

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