



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Spatial Growth and Convergence in Indian Agriculture

Balaji S. Janarthanan

**Scientist, ICAR-National Institute of Agricultural Economics and Policy Research, New Delhi, India
Visiting Research Fellow, Department of Agricultural and Applied Economics, University of Georgia,
Athens, USA**

Munisamy Gopinath

**Department Head and Distinguished Professor of Agricultural Marketing, Department of Agricultural
and Applied Economics, University of Georgia, Athens, USA**

***Selected Poster prepared for presentation at the 2023 Agricultural & Applied Economics Association
Annual Meeting, Washington DC: July 23- 25, 2023***

Copyright 2023 by [authors]. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.



Spatial Growth and Convergence in Indian Agriculture

Balaji S. Janarthanan¹ and Munisamy Gopinath²

¹ ICAR-National Institute of Agricultural Economics and Policy Research, New Delhi, India
^{1&2} Department of Agricultural and Applied Economics, University of Georgia, Athens, USA

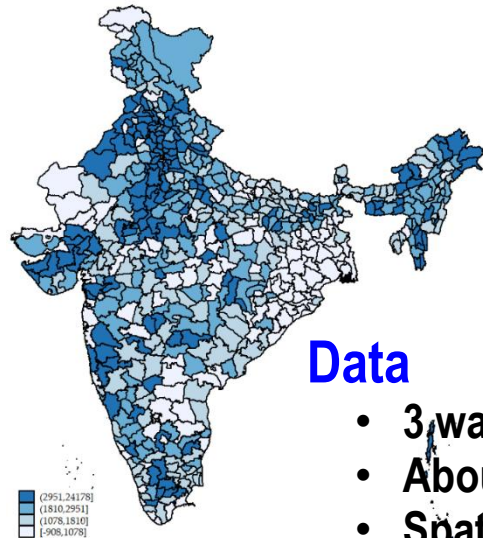


Introduction

- Developing countries are converging with the industrialized west in output per capita since 1990s.
- Simultaneously, a rise in intra-country income inequality is observed, implying persistence of spatial disparities within developing countries.

Objectives

- To study within-country income disparities in India
- To investigate if disparity disproportionately affects some at the cost of others in Indian agriculture, which employs over 200 million people.



Theory & Methodology

- Neoclassical growth theory.
- Conditional spatial convergence

$$\frac{1}{T} \ln \left(\frac{y_{i,t_0+T,p}}{y_{i,t_0,p}} \right) = B - \left(\frac{1 - e^{-\beta T}}{T} \right) \ln(y_{i,t_0,p}) + \alpha_j X_{i,t_0} + u_{i,t_0,t_0+T}$$

$$u_{i,t_0,t_0+T} = \rho W u_{i,t_0,t_0+T} + \varepsilon$$

Data

- 3 waves of national (NSSO) surveys.
- About 51000 households & 500 districts
- Spatial weight matrices

Results (Spatial Error Model)

	Coefficients across income percentiles					
	2003-13			2003-19		
	P ₂₀	P ₅₀	P ₈₀	P ₂₀	P ₅₀	P ₈₀
ln INCOME ₂₀₀₃	-0.004**	-0.014***	-0.025***	-0.001	-0.008***	-0.016***
ln IRRINT ₂₀₀₃	0.005	0.012**	0.032***	0.005	0.012***	0.022***
ln MARKET	-0.066***	-0.093***	-0.058***	-0.025*	-0.024*	-0.019*
ln DIVERS ₂₀₀₃	0.007	0.007*	0.008**	-0.001	0.002	0.004**
Constant	0.479***	0.693***	0.445***	0.179*	0.179**	0.153*
ρ	0.241***	0.434***	0.486***	0.237***	0.339***	0.476***
σ ²	0.013***	0.009***	0.005***	0.004***	0.003***	0.002***

Discussion

- Income convergence across districts.
- Income grows less rapidly among poor.
- Irrigation, diversification, and market distance explain spatial disparities.

Conclusions

- Link poor to the market; strengthen infrastructure, value chain for the rest.

