DATA FOR DEVELOPMENT

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IHDS DATA COMMUNITY RESULTS

Rural-Urban Migration and the Reorganization of Agriculture

By Raahil Madhok, Frederik Noack, Ahmed Mushfiq Mobarak, and Olivier Deschenes




This paper studies the response of agricultural production to rural labour loss during the process of urbanization. Using the IHDS household survey from India and exogenous variation in migration induced by urban income shocks interacted with distance to cities, the authors document sharp declines in crop production among migrant-sending households residing near cities. Households with migration opportunities do not substitute agricultural labour with capital, nor do they adopt new agricultural machinery. Instead, they divest from agriculture altogether and cultivate less land. The authors use a two-sector general equilibrium model with crop and land markets to trace the ensuing spatial reorganization of agriculture. Other non-migrant village

residents expand farming (land market channel) and farmers in more remote villages with fewer migration opportunities adopt yield-enhancing technologies and produce more crops (crop market channel). Counterfactual simulations show that over half of the aggregate food production losses driven by urbanization is mitigated by these spillovers. This leads to a spatial reorganization in which food production moves away from urban areas and towards remote areas with low emigration.

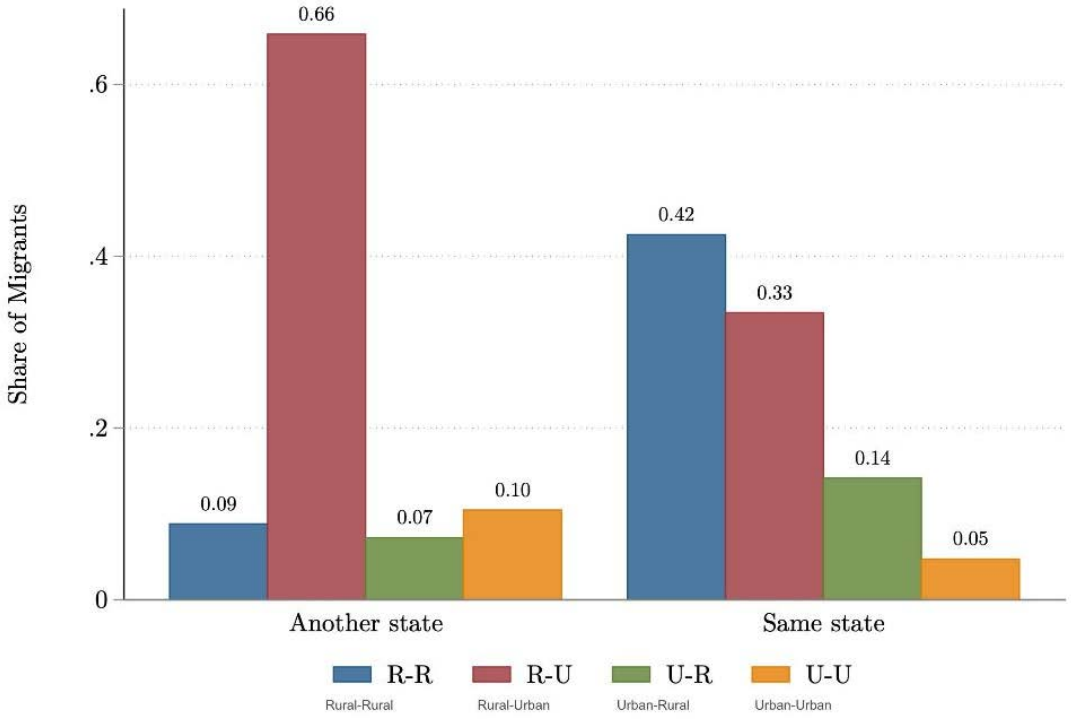

Figure: Share of Migrants by Migration Stream across IHDS-I and IHDS-II

Full Article Here

Raahil Madhok is a PhD Candidate in Food and Resource Economics at the Faculty of Land and Food Systems, University of British Columbia. His interests span

environmental and development economics. His current research agenda explores how economic development shapes land use change and natural resource use, such as biodiversity, food supply, and air quality. Raahil holds an MA in Economics from the University of British Columbia and a BA in Economics and Environmental Studies from McGill University. He was previously a Research Associate at J-PAL South Asia and a Research Fellow at the Harvard Kennedy School.

Frederik Noack is a Canada Research Chair (Tier II) in Environmental Economics and an Assistant Professor in the Food and Resource Economics Group at the Faculty of Land and Food Systems, University of British Columbia. He holds a degree in Ecology and a PhD in Economics. Before joining the University of British Columbia, he worked and studied in the United States, Brazil, India, Uganda, Azerbaijan, Germany, Iran, and Malaysia. His research focuses on the interaction of economic development and the environment.

Ahmed Mushfiq Mobarak is a Professor of Economics at Yale University, with concurrent appointments in the School of Management and in the Department of Economics. He is the founder and faculty director of the Yale Research Initiative on Innovation and Scale (Y-RISE). He has several ongoing research projects in Bangladesh, Nepal, and Sierra Leone. He conducts field experiments exploring ways to induce people in developing countries to adopt technologies or behaviours that are likely to be welfare-improving. He also examines the complexities of scaling up development interventions that have proven effective in such trials.

Olivier Deschenes is Professor of Economics at the University of California, Santa Barbara, where he is also affiliated with the Bren School of Environmental Science and Management. He is also Research Associate at the National Bureau of Economic Research (NBER), a Research Fellow at the Institute for the Study of Labor (IZA), and Program Coordinator of IZA's research area on the Environment, Health, and Labour Markets. He holds a PhD in Economics from Princeton University. His broad research agenda focuses on measuring the benefits and costs associated with policies that improve environmental quality. His recent research

focused on estimating the impacts of climate change adaptation on human health and economic productivity in the US and around the world, using historical data.

The Differential Economic Benefits of Rural Electrification in India: Quantile Regression Estimation

By T. Lakshmanasamy

Rural electrification not only provides affordable modern energy to rural households at a cheaper price but also improves the quality of life and economic development of the rural sector. This paper tries to understand who benefits the most from rural electrification—the poor or the rich rural households. The differential effects of rural electrification on household incomes and expenditures on health and children's education are estimated using the 2011-2012 IHDS-II survey data applying the quantile regression method. The estimated results show that household electrification increases both household income and expenditure. The upper-income rural households gain more from rural electrification in terms of the education of children relative to poor-income households. Rural electrification benefits are higher for median

health expenditure households than either for lower or upper-quantile households. The larger benefits from rural electrification accrue to the better-off rural households through higher consumption and use of electricity for many productive uses.

Quantile Regression Estimates of the Effects of Rural Electrification on Household Welfare

Explanatory Variable	ln(household per capita income)			ln(household education expenditure)			ln(household health expenditure)		
	25th quantile	50th quantile	75th quantile	25th quantile	50th quantile	75th quantile	25th quantile	50th quantile	75th quantile
Electricity tariff paid	0.055* (6.82)	0.066* (6.86)	0.078* (6.11)	0.107** (2.26)	0.252* (8.95)	0.949* (6.90)	0.037* (3.43)	0.063* (3.81)	0.029* (3.27)
Expenditure on kerosene	0.057* (4.11)	0.024** (2.26)	0.022*** (1.73)	-0.072 (0.46)	-0.097* (0.16)	-0.724* (0.61)	0.167** (2.34)	0.435*** (1.80)	0.065 (0.04)
Expenditure on other fuels	0.026*** (2.10)	0.029** (2.25)	0.028* (2.75)	0.140* (3.46)	0.342* (3.82)	0.544* (4.27)	0.141* (3.11)	0.286* (4.51)	0.147* (3.76)
Household head age	0.006* (4.27)	0.008* (3.79)	0.010* (6.43)	-1.352 (1.44)	0.248 (0.07)	0.929 (1.31)	0.915* (3.07)	0.541* (3.76)	0.477* (3.26)
Male household head	-0.051*** (1.73)	0.009*** (0.36)	0.021*** (0.82)	0.217 (1.18)	0.548* (3.40)	0.768* (5.75)	0.472 (0.37)	0.811 (0.13)	0.910** (2.32)
Household size	-0.094** (2.55)	-0.104* (3.96)	-0.110* (3.40)	0.774* (4.94)	0.426* (3.00)	0.932* (4.31)	0.202* (3.45)	0.722* (3.93)	0.396* (3.66)
Highest education of household member	0.168* (5.90)	0.201* (3.23)	0.226* (3.98)	-0.113 (0.68)	0.808* (4.93)	0.281* (3.18)	0.578** (2.01)	0.501* (3.62)	0.368* (4.21)
Household has elderly persons	-0.089* (4.89)	-0.056* (3.62)	-0.070* (4.33)	-2.969 (1.18)	-3.657* (3.69)	-4.256* (4.51)	0.274* (3.37)	0.389* (4.88)	0.217* (5.22)
R^2/Pseudo R^2	0.163	0.196	0.132	0.18	0.14	0.19	0.18	0.16	0.14

Note: Absolute t-values in parentheses. *, **, *** significant at 1, 5, 10 per cent levels.

Full Article Here

T. Lakshmanasamy is an ICSSR Senior Fellow and a former Professor and Head of the Department of Econometrics at the University of Madras. He was awarded the Rockefeller Foundation Special Post-Doctoral Fellowship in 1992 for research at the University of Southern California, Los Angeles, USA. His research focuses on the economic methodology and econometrics of development, human resources, household behaviour, social networks, happiness, neuro-economics, and geno-economics. He has published books on the Methodology of Applied Economic Research, Economics of Human Behaviour, Population Dynamics and Human

Development, Economics of Household Non-Market Behaviour, Economics of Growth, Inequality, Institutions and Development, Applied Micro-econometrics of Human Decisions, New and Evolving Economics, Econometric Applications, Applications of Econometrics, and Econometric Estimation. He has published about 170 research papers in leading journals and contributed over 60 articles in books.

IHDS DATA IN THE NEWS

Desai, Sonalde. 2022. “Global Hunger Index: A Lesson in How Not to Measure Hunger”, *The Indian Express*, October 21. Link.

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Recent publications from IHDS users:

Mohanty, S.K., S.K. Singh, S.K. Sharma, K. Banerjee, and R. Acharya. 2022. "Asset and Consumption Gradient of HEALTH ESTIMATES in India: Implications for Survey and Public Health Research", *SSM—Population Health*, 19, 101258. **Link.**

Duhon, M.E. (2022). "Essays in Development and Demography", Dissertation submitted for PhD in Economics, University of California, Berkeley. **Link.**

Neekhra, B., K. Kapoor, and D. Gupta. 2022. "Generating Synthetic Population", Working Paper. Accepted for oral presentation at New In ML Workshop of the 39th International Conference on Machine Learning, Baltimore, Maryland, USA, 2022. **Link.**

Nolan, S. 2022. "Measuring Upward Mobility in Times of Change", Dissertation submitted for PhD in Public Policy Studies, Duke University. **Link.**

Reed, M.N. 2022. "Marriage and Family in India", Dissertation submitted for PhD in Sociology and Demography, University of Pennsylvania. **Link**.

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ABOUT IHDS

The India Human Development Survey (IHDS) is a nationally representative, multi-topic survey of 41,554 households in 1503 villages and 971 urban neighbourhoods across India. The first round of interviews was completed in 2004-05; data are publicly available through ICPSR. A second round of IHDS re-interviewed most of these households in 2011-12 (N=42,152) and data for the same can be found here. IHDS 3 is in development and expected to be in the field in 2021.

IHDS 3 has been jointly organised by researchers from the University of Maryland , the National Council of Applied Economic Research (NCAER), Indiana University and the University of Michigan. Funding for the second round of this survey is provided by the National Institutes of Health, grants R01HD041455 and R01HD061048. Additional funding is provided by The Ford Foundation, IDRC and DFID.

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