

VAISHNAVI SURENDRA

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Current Employment	Postdoctoral Researcher, Precision Development (PxD) <i>At PxD, I lead innovative research projects on digital information services to enhance farmers' climate resilience and gender inclusivity in India, utilizing my skills in research design, quantitative and qualitative data analysis, stakeholder engagement, and fundraising to drive impactful solutions.</i>	2021 –
Education	Ph.D., Agricultural and Resource Economics, <i>University of California, Berkeley</i> M.Sc., Economics, <i>London School of Economics</i> M.A. (5 year integrated undergraduate) Economics, <i>Indian Institute of Technology Madras</i>	2020 2012 2011
Fields	Development Economics, Agriculture and Natural Resource Economics, Environmental Economics	
References	<u>Prof. Shawn Cole</u> scole@hbs.edu Harvard Business School	<u>Prof. Aprajit Mahajan</u> aprajit@berkeley.edu ARE, UC Berkeley
	<u>Prof. Vivian Hoffmann</u> V.Hoffmann@cgiar.org IFPRI & Carleton University	
<u>Job Market Paper</u>	“Weathering Climate Change: How Farmers Learn from Forecast Outcomes,” with Shawn Cole, Tomoko Harigaya. [Paper Available Here] <i>Abstract.</i> Weather-induced risk reduces farmers’ incomes, and climate change is increasing such risk. Accurate short-to-medium-range rainfall forecasts, predicting weather zero to fifteen days ahead, can mitigate this risk by helping farmers better time activities and take precautionary measures. But, this requires that farmers accurately interpret, trust and act on forecasts. This paper evaluates how farmers in rural South India form beliefs about upcoming weather, and about forecast (in)accuracy through incentivized lab-in-the-field and real-world experiments. We find that farmers exhibit high willingness-to-pay for a subscription to a voice-call forecast service, and actively use it when available. Farmers integrate forecast information into their weather expectations. But, their trust in forecasts decreases after erroneous predictions, with less frequent use after errors. Accuracy in initial interactions mitigates this effect, highlighting the importance of initial successes for building long-term trust in a new technology. An informational intervention aimed at improving interpretation of probabilistic forecasts counters the loss in trust following incorrect predictions but introduces call fatigue, reducing overall engagement with the service. Finally, when climate change is salient, farmers are more likely to use the forecast service and are more tolerant of forecast errors, underscoring the value of forecasts in climate adaptation. <i>Funding.</i> J-PAL King Climate Initiative, iCARE Innovation Fund	
Publications	“Relief from Usury: Impact of a Self-Help Group Intervention in Rural India,” with Vivian Hoffmann, Vijayendra Rao, Upamanyu Datta. <i>Journal of Development Economics</i> , 2021, Vol 148. [Paper Available Here] <i>Abstract.</i> Provision of low-cost credit to the poor through self-help groups (SHGs) has been embraced as a key poverty-reduction strategy in developing countries, but evidence on the impact of this approach is thin. Using a randomized program rollout over 180 panchayats, we evaluate the impact of a government-led SHG initiative in the Indian state of Bihar. Two years after the start of the program, we find a dramatic increase in SHG membership, borrowing from SHGs, and a corresponding decline in the use of informal credit. Fewer informal lenders are operating in treatment villages, and those who do charge lower interest rates. While these credit market impacts could lead to substantial improvements in economic well-being over time, the short-run impact of the program on such outcomes is modest. <i>Funding.</i> International Initiative for Impact Evaluation (3ie), World Bank Research Support, SAFANSI	
Working Papers	“Risk Sharing, Commitment Constraints, and Self-Help Groups,” with Orazio Attanasio, Anjini Kochar, Aprajit Mahajan. <i>NBER Working Paper No. 31245.</i> [Paper Available Here] <i>Abstract.</i> Evaluations of group savings and lending programs have largely focused on average impacts, rather than distributional impacts—finding modest effects on long-term economic well-being. In this paper, we exploit the randomized roll-out of a self-help group lending program in rural Bihar, India (Hoffmann et al., 2021) to demonstrate that well-functioning groups facilitate risk-sharing within rural communities. We find no impact of the program on risk-sharing, measured as a reduction in the variance of consumption growth, in the aggregate. However, the program significantly improves risk-sharing in regions where it had greater institutional capacity and was better implemented. Building on our theoretical framework, we provide evidence of a specific channel of impact: program quality and pre-existing scale improve the quality and functioning of groups, which in turn increase the insurance value of the program to communities. <i>Funding.</i> Bill and Melinda Gates Foundation	

Working Papers

“Customizing Weather Forecasts for Climate Change Adaptation in Rural India,”

with Shawn Cole, Tomoko Harigaya. [\[Paper Available Here\]](#)

Abstract. Making customized, accurate weather forecasts more accessible to farmers can aid adaptation to climate change. For farmers to make more informed decisions through the agricultural season with the aid of forecasts, forecasts need to be customized to best communicate information relevant for farmers’ decision-making at different times in the year. Relying on lab-in-the-field and real-world experiments in a mobile-phone based weather forecasting service for farmers in South India, this paper identifies how farmers interpret and act on probabilistic information, and how farmers use and respond to forecasts in varying formats.

Funding. J-PAL King Climate Action Initiative, iCARE Innovation Fund

“The Moneylender as Middleman: Formal Credit Supply and Informal Loans in Rural India”

[\[Paper Available Here\]](#)

Abstract. A majority of household borrowing in developing countries is from informal lenders. In this paper, I exploit exogenous weather-induced shocks to household credit demand and variation in bank credit supply to demonstrate that informal moneylenders rely on bank credit to ease lending capital constraints in rural India. I document that informal moneylenders use loans from banks as lending capital, and they increase borrowing from banks following weather-induced increases in household credit demand. Moreover, following an equivalent demand shock, districts with higher predicted bank credit supply see larger increases in household borrowing from moneylenders than those with lower predicted bank credit supply—driven by changes in moneylender supply rather than in household demand for credit overall. These results help explain the persistence of informal credit since they indicate that, rather than competing with informal moneylenders, banks effectively collaborate with them.

“Self-Help Groups and Women’s Employment in Rural India” [\[Paper Available Here\]](#)

Abstract. National and state governments in India have relied on women’s Self-Help Groups (SHGs) to provide access to low-cost credit and savings with the dual intent of financial inclusion and women’s empowerment. I focus on one such SHG initiative in the state of Bihar, Jeevika, and exploit the randomized roll-out of the program to evaluate its impact on women’s labor supply. I find that the program had mixed effects across caste categories. Women from more privileged households increased their labor supply, while both women and men from disadvantaged households decreased their labor supply. The decline in labor supply among disadvantaged households is driven by reduced participation in agricultural wage labor, and is associated with an increase in agricultural labor wage rates. These results suggest that better access to finance reduces the need to sell labor as a coping mechanism for women from more vulnerable households; while allowing women from privileged households to increase their labor force participation in more ‘suitable’ occupations.

Research in Progress

“Information Aggregation and Dissemination among Community Mobilizers: Women and Digital Tools in Gujarat, India” (with Surili Sheth)

“Women’s Time Use and Intra-Household Dynamics in Rural India” (with Surili Sheth)

“Citizen Science and Weather Information”

Media & Public Outreach

Blog: “Customized Weather Forecasts for Improved Farmer Decision Making”

Blog: “Brewing better weather services for Indian coffee farmers”

Blog: “Leveraging Women’s Groups to Bridge Gender-Specific Information Gaps in India”

Blog: “Facilitating risk-sharing through self-help groups in Bihar”

Blog: “Are moneylenders financial intermediaries?”

Podcast: “Moneylenders and Formal Banking”

Talks

(including scheduled*)

2025 CSAE Conference (Oxford University)*

2024 AERE Summer Conference, Advances with Field Experiments (London School of Economics), SEA Annual Meeting*, 19th Annual Conference on Economic Growth and Development (ISI-Delhi)*

2023 NBER-ISB Conference on Economic Policy and the Indian Economy, 18th Annual Conference on Economic Growth and Development (ISI-Delhi), SEA Annual Meeting, IFPRI (FNP Brown Bag Seminar), Workshop on Risk and Vulnerability (IIT Bombay)

2022 ASSA Annual Meeting, PacDev (UC San Francisco), CSAE Conference (Oxford University), NEUDC (Yale University), SEA Annual Meeting

2021 PacDev (UC San Diego), NEUDC (Boston University), Webinar series in Finance and Development (WEFIDEV), SEA Annual Meeting

2020 Webinar series in Finance and Development (WEFIDEV), NEUDC (Dartmouth University), Center on Food Security and the Environment, Stanford University

2019 Summer School in Development Economics, Prato, Italy

2017 NEUDC (Fletcher School at Tufts University), PacDev (UC Riverside)

Teaching	University of California, Berkeley (<i>Graduate Student Instructor</i>)		
	<i>Introduction to Economics</i>		2015, 2017, 2018, 2019
	<i>Microeconomic Theory with Application to Natural Resources</i>		2016, 2017
	<i>Environmental Economics</i>		2016
Refereeing	<i>American Economic Journal: Economic Policy, Economic Development and Cultural Change, Empirical Economics, Journal of Development Economics, Journal of Human Resources, Journal of Public Economics, World Development, World Bank Economic Review</i>		
Fellowships & Awards	2019	The Jean O. Lanjouw Memorial Endowment Grant, UC Berkeley Conference Travel Grant	
	2018	ARE Travel Grant, IRLE Graduate Student Research Grant (with Manaswini Rao)	
	2017	The Dennis J. Aigner Endowed Graduate Support Fund, Maharaj Kaul Memorial Research Travel Grant	
	≤ 2016	UC Berkeley Graduate Division Summer Grant, Marjorie Deane Financial Journalism Foundation Studentship (LSE), MITACS Globalink Scholarship (University of British Columbia)	
Service & Activities	<i>Organizing Committee, Graduate Student Summit for Diversity in Economics</i>		
	<i>Leadership Board, Women in Economics at Berkeley</i>		
	<i>Intern Reporter, The Economic Times</i>		
Prior Employment	University of California, Berkeley, Postdoctoral Scholar		2020 - 2021
	The World Bank, Development Research Group, Consultant		2015 - 2019
	<i>Centre de Science Humaines</i> , Research Assistant		2012 - 2014
Software & Languages	R (proficient), Stata (proficient), Python (intermediate), Dedoose (proficient) English (fluent), Hindi (fluent), Tamil (native), Telugu (basic)		
Citizenship	Indian Citizen, United States Permanent Resident		