

Contact Information	<p>manaswini.rao@gmail.com http://manaswinirao.com +1-(510)-280-4704 FIELDS: Development Economics, Law and Econ, Political Economy, Agriculture and Natural Resource Economics</p>
Academic Employment	<p>University of Delaware, Assistant Professor (Tenure Track), Dept. of Economics Aug 2023 - UC San Diego, Postdoctoral Scholar, Dept. of Economics July 2020 - June 2023</p>
Affiliations	<p>Invited Researcher, J-PAL South Asia Dec 2021 - Invited Researcher, The World Bank DIME Group March 2022 -</p>
Prior Education	<p>Ph.D., Agricultural and Resource Economics, UC Berkeley 2020 Master of Public Policy, UC Berkeley 2010 B.E. (Comp. Sc.), Visveswaraya Technological Univ, India 2004</p>
Publications	<p>“Got (Clean) Milk?: Organization, Incentives, and Management in Indian Dairy Cooperatives” with Ashish Shenoy <i>Journal of Economic Behavior and Organization</i>, Vol 212, Aug 2023, Pages 708-722 (Open Access Version) <i>Pre-analysis plan filed with the AEA RCT Registry (#AEARCTR-0000700)</i> Coverage: VoxDev</p>
Working Papers (Judicial Capacity)	<p>“Front-line Courts as State Capacity: Evidence from India” (<i>Under Review</i>) Coverage: (Ideas for India Blog-post, LiveMint VoxDev). <i>Abstract:</i> Well-functioning frontline courts facilitate dispute resolution, making them a core aspect of state capacity. Using rich data from India and an event study research design, I show that the timing of judge staffing changes have a persistent effect on judge headcount and vacancy rates in the corresponding district court. Removal of vacancy substantially improves local judicial capacity, where each additional judge resolves court backlog by 10 percent. In a context with high levels of backlog, this capacity improvement enables credit circulation through local bank-branch balance sheet effects from legal case resolutions including debt recovery disputes. With better access to credit, productivity of local formal sector firms increases, generating a benefit-cost ratio exceeding 3.</p> <p>“Institutional Factors of Credit Allocation: Examining the Role of Judicial Capacity and Bankruptcy Reforms” <i>Abstract:</i> Poor creditor rights constrain the functioning of credit markets, that subsequently affects the availability of credit for productive uses. I use a difference in difference research design by comparing districts with low judge vacancies and those with high vacancies, before and after the 2016 national legislation on bankruptcy resolution in India that increased creditor rights. First, I find that banks reduce lending towards unproductive uses such as lending to defaulting firms and increase lending based on capital efficiency in districts with better judicial capacity. Second, improved creditor rights coupled with better judicial capacity increases repayment. Third, banks are more likely to initiate and witness resolution of debt recovery related litigation in districts with better judicial capacity.</p> <p>“Whither Justice?: Judicial Capacity Constraints Worsens Trial and Litigants’ Outcomes” <i>Abstract:</i> In this paper, I examine the effect of judge vacancy on the proceedings of ongoing trials involving firms and subsequent effects on firm-level outcomes in India. First, the duration of trial increases when an ongoing trial experiences judge vacancy relative to other trials in the same court that do not. Second, there are more dismissal of legal cases without trials. Third, this shock negatively affects wage bill and decreases the asset value of plaintiff firms whereas the effects are smaller and statistically insignificant for defendant firms. Given that smaller firms are more likely to use the formal judicial system as a plaintiff in the case of transactional disputes relative to larger firms, weaker judicial capacity disproportionately affects them leading to equity concerns.</p>

**Working
Papers
(Agriculture
and Struc-
tural Trans-
formation)**

“Seeding the Seeds: Role of Social Structure in Agricultural Technology Diffusion” with Alain de Janvry and Elisabeth Sadoulet *(Under Review)* AEA RCT Registry (#AEARCTR-0002157)

Abstract: Exploiting the two-stage randomized introduction of flood resistant seeds in rural Odisha, India, we find that the local social structure (the jati caste system) has a significant influence on diffusion of the technology. First, modest overall differences in adoption between treated and control villages is largely explained by the substantial heterogeneity in village-level jati fractionalization. Second, we find immediate diffusion among non-recipient farmers in the same jati groups as the initial, treated recipients and lower diffusion among lower status jatis. These findings highlight the limitations of randomized introduction of technology in a context of weak markets and closed social structures.

“Towns and Rural Land Inequality in India” with Prashant Bharadwaj and Juan Eberhard

Abstract: Using the universe of land records from a large state in India, we document three empirical facts on rural land holding inequality at the village-level: 1) inequality is higher close to urban areas and decreases with distance, 2) this is due to fewer medium-sized farms (i.e. more small and large farms near urban areas), and 3) the distance to urban area-land holding inequality relationship depends on the size of the urban area - larger the urban area, greater the inequality close to such towns. A simple model where individual farmers face financial frictions, a U-shaped agriculture production function linking land size and farm productivity, and a significant urban opportunity cost of farm production, explains these patterns. While medium-sized farmers exit agriculture and large farmers consolidate, financial and land market frictions are key factors behind the preponderance of small farms even near towns.

**Work in
Progress**

“Mission Kakatiya: Impact Evaluation of Minor Irrigation Tank Rehabilitation in Telangana” with Xavier Gine, Aprajit Mahajan, Anup Malani *Endline ongoing. Pre-analysis plan filed with the AEA RCT Registry (#AEARCTR-0001821).*

Abstract: We evaluate the effects of rehabilitating local village level irrigation tanks on agricultural outcomes using a combination of observational and experimental approaches. Tank irrigation is a common (and climate friendly) mode of irrigation in Southern and Western India, which is based on impounding the surface run-off during rainy season for later use. However, since these are common pool resources, a lack of periodic upkeep had led to excessive silting and therefore, lowered capacity. Mission Kakatiya is a state-wide program in Telangana, India, that aims to rehabilitate over 45000 tanks across the state in multiple phases. We make use of the staggered roll-out of earlier phases to study the impacts and understand the context of implementation in a differences-in-difference framework using a sample of 750 tanks. Further, we validate the findings using an experimental approach where we randomize the order of rehabilitation on a set of 92 tanks.

“The Power of Agency: Evidence from India” with Xavier Gine, Aprajit Mahajan, Anup Malani *Endline ongoing. Pre-analysis plan filed with the AEA RCT Registry (#AEARCTR-0004336).*

Abstract. Community-driven development (CDD) emphasizes a “bottom-up” approach focusing on community control over planning and implementation decisions to improve development outcomes. Using a randomized trial, we assess the value of community participation in choosing the location and implementation of local infrastructure projects by comparing a participatory “bottom-up” approach to the standard “top-down” planning and implementation where the community only plays a limited role. The context for the study is the construction of minor irrigation channels in the command area of small irrigation tanks in Telangana, India, across 240 villages and a sample of over 6000 farmers. The government has recently launched a program to rehabilitate the storage capacity of the tanks but has left the distribution of water from the tank to plots in the command area to the farmers. Our intervention varies the extent of community involvement over the choice and implementation of field channels and assesses its impact on irrigation resource allocation, agricultural outcomes, and continued maintenance.

“Land inequality and rural structural transformation: Evidence from India” with Frances Lu and Harrison Mitchell *Analysis ongoing*

Book Chapters	<p>Rao, M., Court Efficiency and Business Outcomes: Measuring the Performance of District Courts, in Justice Frustrated: The Systemic Impact of Delays in Indian Courts, Bloomsbury India, Shruti Vidyasagar, Shruthi Naik, and Harish Narasappa (eds) (2020)</p> <p>de Janvry, A., Rao, M., Sadoulet, E. (2017) Learning for adopting: Technology adoption in developing country agriculture, Ferdi, 120 p., de Janvry, A., Macours K., Sadoulet, E. (eds) (2017)</p>
Teaching (Instructor)	Quantitative Microeconomic Theory (with Calculus)
Grants, Fellowships, and Awards	<p>2023 Center for Effective Governance of Indian States \$ 30,000 (w/ Karthik Muralidharan)</p> <p>2022 STEG PhD Research Grant £15,000 (w/ Frances Lu)</p> <p>2021 J-PAL GI and K-CAI Grants \$100,000 and \$101,654; FID Grant €129,720 (w/ Xavier Gine, Aprajit Mahajan, Anup Malani)</p> <p>2019-20 The World Bank Research Grant \$124,490; ATAI Top-up Grant \$49,207 (w/ Xavier Gine, Aprajit Mahajan, Anup Malani); The Jean O. Lanjouw Memorial Endowment (\$757); UC Berkeley Conference Travel Grant (\$ 900)</p> <p>2018 IRLE Graduate Student Award (w/ Vaishnavi Surendra, \$6000), The World Bank Proposal Development Grant (w/ Xavier Gine, Aprajit Mahajan, Anup Malani, \$30,000)</p> <p>2017 ATAI Grant (w/ Xavier Gine, Aprajit Mahajan, Anup Malani, \$233,565), IGC Grant for Judicial Efficiency and Economic Outcomes (PI Advisor: Aprajit Mahajan, £50,000)</p> <p>≤ 2016 Levin Family Fellowship (w/ Fiona Burlig and Louis Preonas, \$ 800), Maharaj Kaul Research Travel Grant (\$ 1000); Post Primary Education Initiative Exploratory Grant (w/ Bastien Michel and Bhavya Srinivasan, \$ 10,000); USAID DIV Pilot Award, (w/ Emily Breza, Arun Chandrasekhar, and Ashish Shenoy, \$ 99,632); Berkeley International Office Fellowship; Jacob K. Javits Summer Fellowship</p>
Talks	<p>2023 University of Delaware Economics; University of Wisconsin AAE; Ohio State University AEDE; Ashoka University Economics; IIM-Bangalore Econ Area; Shiv Nadar University Economics; Krea University; Firms, Trade, and Development Conference (Yale ECG and the IGC)</p> <p>2022 CGIAR SPIA Webinar; STEG Annual Conference; PacDev USF; Oxford CSAE Poster Session; Urban Economics Asso. Europe Meeting (LSE); University of Kent (Econ Dept. Seminar); Advances in Micro Development Economics-Barcelona GSE Summer Forum; The World Bank ABCDE; Plaksha University; NYU-Abu Dhabi Economics; IIT-Kanpur Economics</p> <p>2021 ASSA Poster Session; PacDev, UC San Diego; Oxford CSAE Conference; University of Kent (Econ Department Seminar); NBER Org Econ Spring Meet (co-author presenting); UC Riverside (Applied Econ Seminar); NEUDC (Boston U); ISI-Delhi Conference</p> <p>2020 PacDev, UC Berkeley; Royal Economic Society Annual Conference (cancelled); SIOE (self organized session); UC San Diego (guest lecture); Advances in Micro Development Economics-Barcelona GSE; ALEA Annual Conference (cancelled); Webinar Series in Finance and Development; Virtual Law and Macro Conference, Yale; NBER Fall Development (lightning round)</p> <p>2019 NEUDC (Northwestern U); UC Berkeley (Econ and ARE Dept Seminars); Berkeley Undergraduate Women in Economics Research Panel</p> <p>≤ 2018 UC Berkeley Development Lunch 2018; J-PAL South Asia Annual Staff Meet 2017; Dept. of Agriculture, Government of Tamil Nadu 2014; PHFI New Delhi 2013</p>
Refereeing	<p><i>American Economic Review-Insights; Berkeley Economists for Equity (Grant Review); Economics of Education Review; Economic Modelling; Environment and Development Economics; The Indian Economic Journal; Journal of Development Economics; Journal of Law and Economics; Journal of Political Economy; National Science Foundation (Grant Review); Rand Journal of Economics; Review of Economics and Statistics</i></p>

Service *UCSD-Indian Economy Seminar Series Co-Organizer; Academic Mentor UC Berkeley UN-SDG Undergraduate Research Group Fall 2020; CEGA East Africa Social Science Translation Mentorship Program Spring 2019; Women in Economics (UC Berkeley); UC Berkeley ARE PhD Admissions Committee Student Member; UC Berkeley ARE Department Coffee Hour*

Prior Employment 2018 The World Bank, Consultant
2010-14 J-PAL South Asia, Senior Research Manager (position at the time of exit)
≤ 2010 The Asian Development Bank, Consultant; Janaagraha, Associate; Infosys Ltd, Software Engineer

Languages English (proficient), Hindi (proficient), Kannada (native), Tamil (conversational), R (proficient), Stata (proficient), Python (Intermediate)

Citizenship Indian Citizen (on H1B)