

## ISHA RAY

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### Current Position

Professor | Energy and Resources Group | University of California, Berkeley  
Affiliate Faculty | Institute for South Asia Studies | UC Berkeley  
Affiliate Faculty | Global Metropolitan Studies | UC Berkeley  
Affiliate Faculty | Political Economy Program | UC Berkeley

### Education

1997 PhD | Applied Economics, Food Research Institute, Stanford University  
1985 MA | Food Research Institute, Stanford University  
1983 BA | Philosophy, Politics and Economics, Oxford University

### Research interests

Water and development; sanitation and development; gender; energy and society.

### Academic Activities

2020 - 2023 Associate Dean | Equity & Inclusion | Rausser College of Natural Resources | UC Berkeley  
2009 – 2019 Associate Professor | Energy & Resources Group | UC Berkeley  
2002-2009 Assistant Professor | Energy and Resources Group | UC Berkeley  
1999- 2001 Ciriacy-Wantrup Postdoctoral Fellow | University of California, Berkeley  
1997-1999 Postdoctoral Fellow | International Water Management Institute (IWMI).

2004-2013 Editorial Committee:  
Annual Review of Environment and Resources

2006 - Reviewer:  
Agricultural Water Management  
American Anthropologist  
Annals of American Geographers  
Antipode  
American Journal of Tropical Medicine and Hygiene  
BMJ Public Health  
Economic Development & Cultural Change  
Environment and Planning  
Environmental Research Letters  
Environmental Science & Policy  
Environmental Science & Technology  
Journal of Asian and African Studies

Journal of Water, Sanitation and Hygiene for Development  
Local Environment  
Nature Sustainability  
Nature Water  
PLOS One  
Progress in Human Geography  
Social Science and Medicine  
Water Alternatives  
Water Policy  
Water Resources Research  
World Development

### Professional Activities

2022- Commissioner, *The Lancet* Commission on Water, Sanitation and Hygiene (<https://wash-commission.com/members/>)  
2021-2022 Contributing Author, Global Gender and Environment Outlook II, UNEP  
2020-2021 Contributing Author, Gender Working Group, World Water Assessment Program, UNESCO  
2016- Member, National Rural Water and Sanitation Standing Committee, China  
2010- Review Panels for National Science Foundation proposals on water, sustainable resource use, and small business opportunities in agriculture  
2015-2016 Expert Group Meeting (Co-Chair), *Women's Empowerment and Sustainable Development*. UN Women  
2013-2014 Expert Group Meeting, *World Survey on Women in Development*. UN Women  
2013-2015 Economic Advisory Panel, California Air Resources Board  
2006-2013 Member, *Global Business Network* ([www.gbn.com](http://www.gbn.com))  
2005- Water Portfolio Advisor, *The Acumen Fund* ([www.acumenfund.org/default.asp](http://www.acumenfund.org/default.asp))  
2002- Advisor, *The Blue Planet Network* (<http://blueplanetnetwork.org/>)  
2002-2006 Senior Advisory Council, William Jefferson Clinton Service Corps Fellowship Program, *American India Foundation*  
2001-2002 Consultant, Global Freshwater, *The William and Flora Hewlett Foundation*

### Awards

2014 Indo-US 21<sup>st</sup> Century Knowledge Initiative Award (PI of UCB-IITB team)  
2006 Prytanean Faculty Award  
2004 Hellman Family Faculty Fund Award  
2003 Regents' Junior Faculty Fellowship

### Books

Pranab Bardhan & Isha Ray (editors). 2008. *The Contested Commons: Conversations Between Economists and Anthropologists*, Malden and Oxford: Blackwell Publishing.

### Peer-reviewed Publications

Water

1. Jenny L Rempel, Ella Belfer, **Isha Ray** & Rachel Morello-Frosch. (2024). Access for sale? Overlying rights, land transactions and groundwater in California. *Environmental Research Letters* 19 (2024) 021417. DOI: <https://doi.org/10.1088/1748-9326/ad0f71>
2. Seigi Karasaki, Jessica Goddard, Alasdair Cohen & **Isha Ray** (2023). Environmental justice and drinking water: A critical review of primary data studies. *WIREs Water* 2023; e1653. DOI: <https://doi.org/10.1002/wat2.1653>
3. Drew Cameron, **Isha Ray**, Manoj Parida & William H. Dow (2023). Product preferences and willingness to pay for potable water delivery: Experimental evidence from rural Bihar, India. *PLOS ONE* online 06 April 2023. DOI: <https://doi.org/10.1371/journal.pone.0283892>.
4. Katya Cherukumilli, **Isha Ray** & Amy J Pickering (2023). Evaluating the hidden costs of drinking water treatment technologies. *Nature Water* online 03 April 2023. DOI: <https://doi.org/10.1038/s44221-023-00055-y>.  
[Authors' reply to comment in response: <https://ehp.niehs.nih.gov/doi/10.1289/EHP13870>]
5. Bethany Caruso, Jenala Chipungo, Seema Kulkarni & **Isha Ray** (2023). Women, work and water. *The Lancet* online 21 March 2023. DOI: [https://doi.org/10.1016/S0140-6736\(23\)00572-x](https://doi.org/10.1016/S0140-6736(23)00572-x).
6. Yoshika Crider, Magnifique Mukundwa, Michi Tsuchiya, **Isha Ray** & Amy Pickering (2022). Adoption of point-of-use chlorination for household drinking water treatment: a systematic review. *Environmental Health Perspectives*, DOI: <https://doi.org/10.1289/EHP10839>.  
[Invited companion perspective on adoption: <https://doi.org/10.1289/EHP11906>.]  
[Response letter <https://ehp.niehs.nih.gov/doi/10.1289/EHP13164>; Authors' comment in reply: <https://ehp.niehs.nih.gov/doi/10.1289/EHP13870>]
7. Jenny Rempel, **Isha Ray**, Ethan Hessl,....David Pellow & Alasdair Cohen (2022). The Human Right to Water: A 20-Year Comparative Analysis of Arsenic in Rural and Carceral Drinking Water Systems in California. *Environmental Health Perspectives*, DOI: <https://doi.org/10.1289/EHP10758>  
[Invited companion perspective on carceral environments: <https://doi.org/10.1289/EHP11653>; Press coverage: <https://news.berkeley.edu/2022/09/21/study-finds-potentially-dangerous-levels-of-arsenic-in-prison-drinking-water/>]
8. Yoshika Crider, Sanjeena Sainju, Rubika Shrestha, Guillaume Clair-Caliot, Ariane Schertenleib, Bal Mukunda Kunwar, Madan R. Bhatta, Sara J. Marks & **Isha Ray** (2022). Evaluation of system-level, passive chlorination in gravity-fed piped water systems in rural Nepal. *Environmental Science and Technology*. DOI: <https://doi.org/10.1021/acs.est.2c03133>
9. Yoshika Crider & **Isha Ray**. (2022). Water and Development: A Gender Perspective. In *Oxford Research Encyclopedia of Environmental Science*. Oxford University Press. doi: <https://doi.org/10.1093/acrefore/9780199389414.013.685>

10. Sara Glade & **Isha Ray**. (2022). Safe drinking water for small low-income communities: the long road from violation to remediation. *Environmental Research Letters* v17: <https://doi.org/10.1088/1748-9326/ac58aa>
11. Alasdair Cohen, Jingyi Cui, ..., **Isha Ray**. (2022). Bottled water quality and associated health outcomes: A systematic review and meta-analysis of 20 years of published data from China. *Environmental Research Letters*, **17**: 013003. DOI: <https://doi.org/10.1088/1748-9326/ac2f65>.
12. Tanu Kumar, Alison E. Post, **Isha Ray**, Megan Otsuka, Francesc Pardo-Bosch. (2022). From public service access to service quality: The distributive politics of piped water in Bangalore. *World Development*, 151 (2022) 105736. DOI: <https://doi.org/10.1016/j.worlddev.2021.105736>
13. Jessica Goddard, **Isha Ray** & Carolina Balazs. (2021). How should water affordability be measured in the United States? A critical review. *WIREs Water*. DOI: <https://doi.org/10.1002/wat2/1573>
14. **Isha Ray** & Kirk R Smith. (2021). Towards safe water and clean cooking for all. *The Lancet Global Health*, **9**: e361. [https://doi.org/10.1016/S2214-109X\(20\)30476-9](https://doi.org/10.1016/S2214-109X(20)30476-9)
15. Jessica Goddard, **Isha Ray** & Carolina Balazs. (2021). Water affordability and human right to water implications in California. *PLOS ONE*, 16: e0245237. <https://doi.org/10.1371/journal.pone.0245237>.
16. Alison Post & **Isha Ray** (2020). Hybrid modes of urban water delivery in low- and middle-income countries. In *Oxford Research Encyclopedia of Environmental Science*. Oxford University Press. doi: <https://doi.org/10.1093/acrefore/9780199389414.013.679>
17. Alasdair Cohen, Ajay Pillarisetti, Qing Luo, Qi Zhang, Hongxing Li, Gemei Zhong, Gang Zhu, John M Colford Jr., Kirk R. Smith, **Isha Ray** & Tao Yong (2020). Boiled or bottled: Regional and seasonal exposures to drinking water contamination and household air pollution in rural China. *Environmental Health Perspectives*, **128**: 127002-1 – 127002-13; <https://doi.org/10.1289/EHP7124>.
18. Isha Ray (2020). Handwashing and COVID-19: Simple, right there...? Viewpoint Paper. *World Development* <https://doi.org/10.1016/j.worlddev.2020.105086>
19. Swati Rayasam, Bakul Rao & **Isha Ray** (2020). The reality of water quality monitoring for SDG 6: A report from a small town in India. Practical Paper. *Journal of Water, Sanitation and Hygiene for Development*; DOI: [10.2166/washdev.2020.131](https://doi.org/10.2166/washdev.2020.131)
20. Swati Rayasam, **Isha Ray**, Kirk R. Smith & Lee W. Riley (2019). Extra-intestinal pathogenic *Escherichia coli* and antimicrobial drug resistance in a Maharashtrian drinking water system. *American Journal of Tropical Medicine & Hygiene*, doi:[10.4269/ajtmh.18-0542](https://doi.org/10.4269/ajtmh.18-0542)
21. **Isha Ray**, N. Billava, Z. Burt, JM Colford, Jr, A. Ercümen, KP Jayaramu, E. Kumpel, N. Nayak, KL Nelson, C. Woelfle-Erskine (2018). From intermittent to continuous water supply: A household-level

evaluation of water system reforms in Hubli-Dharwad, Karnataka. *Economic and Political Weekly*, **58**: 39 – 48.

22. Alasdair Cohen & **Isha Ray** (2018). The global risks of increasing reliance on bottled water. *Nature Sustainability*, **1**: 327 – 329. <https://doi.org/10.1038/s41893-018-0098-9>

23. Zachary Burt, Ayşe Ercümen, Narayana Billava & **Isha Ray** (2018). From intermittent to continuous service: Costs, benefits, equity and sustainability of water system reforms in Hubli-Dharwad, India. *World Development*, **109**: 121 – 133. DOI: [10.1016/j.worlddev.2018.04.011](https://doi.org/10.1016/j.worlddev.2018.04.011)

24. Tanu Kumar, Alison E. Post & **Isha Ray** (2018). Flows, leaks and blockages in informational interventions: A field experimental study of Bangalore's water sector. *World Development*, **106**: 149 – 160. DOI: [10.1016/j.worlddev.2018.01.022](https://doi.org/10.1016/j.worlddev.2018.01.022)

25. Fermin Reygadas, Joshua Gruber, Lindsay Dreizler, Kara Nelson & **Isha Ray** (2018). Measuring user compliance and cost-effectiveness of safe drinking water programs: A cluster-randomized study of household UV disinfection in rural Mexico. *American Journal of Tropical Medicine and Hygiene*. DOI: 10.4269/ajtmh.17-0440

26. Christopher Hyun, Alison E. Post & **Isha Ray** (2018). Frontline worker compliance with transparency reforms: barriers posed by family and financial responsibilities. *Governance*, **31**: 1 - 18. DOI: 10.1111/gove.12268

27. Alasdair Cohen, Qi Zhang, Qing Luo, Yong Tao, John M Colford, Jr. & **Isha Ray**. (2017). Predictors of drinking water boiling and bottled water consumption in rural China: A hierarchical modeling approach. *Environmental Science and Technology*. DOI: 10.1021/acs.est.7b01006.

28. Caroline Delaire, Abhijit Das, Susan Amrose, Ashok Gadgil, Joyashree Roy & **Isha Ray** (2017). Determinants of the use of alternatives to arsenic-contaminated shallow groundwater: an exploratory study in rural West Bengal, India. *Journal of Water and Health*, **15**: 799 – 812. DOI: 10.2166/wh.2017.321.

29. Emily Kumpel, Cleo Woelfle-Erskine, **Isha Ray** & Kara Nelson (2017). Measuring household consumption and waste in unmetered, intermittent piped water systems. *Water Resources Research*, **53**: 302 – 315. DOI: 10.1002/2016WR019702.

30. Zachary Burt, Robert M Njee, Yolanda Mbatia, Veritas Msimbe, Joe Brown, Thomas F Clasen, Hamisi M Malebo & **Isha Ray** (2017). User preferences and willingness to pay for safe drinking water: Experimental Evidence from Rural Tanzania. *Social Science and Medicine*, **173**: 63 – 71.

<http://dx.doi.org/10.1016/j.socscimed.2016.11.031>

31. Susan Amrose, Zachary Burt & **Isha Ray** (2015). Safe drinking water for low-income regions. *Annual Review of Environment and Resources*, **40**: 9.1 – 9.29.

32. Alasdair Cohen, Yong Tao, Qing Luo, Gemei Zhong, Jeff Romm, John M Colford, Jr. & **Isha Ray** (2015). Microbiological evaluation of household drinking water treatment in rural China shows benefits of electric kettles: A cross-sectional study. *PLoS ONE*, 10(9): e0138451.
33. Ayşe **Ercümen**, Benjamin F. Arnold, Emily Kumpel, Zachary Burt, **Isha Ray**, Kara Nelson, & John M. Colford, Jr. (2015). Upgrading a piped water supply from intermittent to continuous delivery and association with waterborne illness: A matched cohort study in urban India. *PLoS Medicine*, 12(10): e1001892.
34. Fermin Reygadas, Joshua S. Gruber, **Isha Ray** & Kara L. Nelson (2015). Field efficacy evaluation and post-treatment contamination risk assessment of an ultraviolet disinfection and safe storage system. *Water Research*, **85**: 74 – 84.
35. Zachary Burt & **Isha Ray** (2014). Storage and non-payment: persistent informalities within the formal water supply of Hubli-Dharwad, India. *Water Alternatives*, **7**: 106 – 120.  
[Also reported in the India Water Portal: <http://www.indiawaterportal.org/articles/does-24x7-water-supply-help-reduce-water-storage-or-hoarding-urban-areas>]
36. Carolina Balazs & **Isha Ray** (2014). The Drinking Water Disparities Framework: On the origins and persistence of inequities in exposure. *American Journal of Public Health | Framing Health Matters*, **104**: 603 – 611. <https://doi.org/10.2105/AJPH.2013.301664>
37. Joshua S. Gruber, Fermin Reygadas, Ben Arnold, **Isha Ray**, Kara L. Nelson & John Colford, Jr. (2013). A stepped wedge, cluster-randomized trial of a household UV-disinfection and safe storage drinking water intervention in rural Baja California Sur, Mexico. *American Journal of Tropical Medicine and Hygiene*, **89**: 238 – 245.
38. Carolina Balazs, Rachel Morello-Frosch, Alan Hubbard & **Isha Ray** (2012). Environmental justice implications of arsenic contamination in California’s San Joaquin Valley: a cross-sectional cluster-design examining exposure and compliance in community drinking water systems. *Environmental Health*, **11**:84 (14 November 2012).
39. Anita Milman & **Isha Ray** (2011). Interpreting the unknown: Uncertainty and the management of transboundary groundwater. *Water International*, **36**: 631 – 645. [Special Issue on: Strengthening Cooperation on Transboundary Groundwater Resources].
40. Carolina Balazs, Rachel Morello-Frosch, Alan Hubbard & **Isha Ray** (2011). ‘Social disparities in nitrate contaminated drinking water in California’s San Joaquin Valley.’ *Environmental Health Perspectives*, **119**: 1272 – 1278.13
41. Giorgos Kallis, **Isha Ray**, Julian Fulton & James McMahon (2010). Public versus private: Does it matter for water conservation? Insights from California. *Environmental Management*, **45**: 177 – 191.

42. David McKenzie & **Isha Ray**. (2009). Urban water supply in India: Status, reform options, and possible lessons. *Water Policy*, **11**: 442 – 460.
43. Jaquelin Cochran & **Isha Ray**. (2009). Equity reexamined: A study of community-based rainwater harvesting in Rajasthan, India. *World Development*, **37**: 435 – 444.
44. Carol de Wilde, Anita Milman, Yvonne Flores, Jorge Salmeròn & **Isha Ray**. (2008). An integrated method for evaluating community-based safe water programs and an application in rural Mexico. *Health Policy and Planning*, **23**: 452 – 464.
45. **Isha Ray** (2007). Women, water and development. *Annual Review of Environment and Resources*, **32**: 421 – 449.
46. **Isha Ray** (2005). Get the prices right: Water prices and irrigation efficiency. *Economic and Political Weekly*, August 13 2005: 3659 – 3668.  
[Reprinted as Ch 4 in F. Molle and J. Berkoff (eds.) (2007) *Irrigation Water Pricing: The Gap Between Theory and Practice*, Wallingford: CABI Publishing]
47. **Isha Ray** & Jeffrey Williams (2002). Locational asymmetry and the potential for cooperation on a canal. *Journal of Development Economics*, **67**: 129 – 155.
48. **Isha Ray** & Serap Gül (1999). More from less: policy options and farmer choice under water scarcity. *Irrigation and Drainage Systems*, **13**: 361 – 383.
49. **Isha Ray** & Jeffrey Williams (1999). Evaluation of price policy in the presence of water theft. *American Journal of Agricultural Economics*, **81**: 928 – 941.

### Sanitation

50. **Isha Ray** (2022). Reducing sexual violence through safe sanitation? Practical Paper; *Journal of Water, Sanitation and Hygiene for Development*, doi: 10.2166/washdev.2022.023.
51. Zachary Burt, CS Sharada Prasad, Pay Drechsel & **Isha Ray** (2021). The cultural economy of human waste reuse: Perspectives from peri-urban Karnataka, India. *Journal of Water, Sanitation and Hygiene for Development*, doi:10.2166/washdev.2021.196
52. Anoop Jain, Ashley Wagner, Claire Snell-Rood & **Isha Ray** (2020). Understanding open defecation in the age of *Swachh Bharat Abhiyan*: Agency, accountability and anger in rural Bihar. *International Journal of Environmental Research and Public Health*, **17**: 1384. doi:10.3390/ijerph17041384
53. Christopher Hyun, Zachary Burt, Yoshika Crider, Kara L. Nelson, CS Sharada Prasad, Swati DG Rayasam, William Tarpeh & **Isha Ray** (2019). Sanitation for low-income regions: A cross-disciplinary review. *Annual Review of Environment and Resources*, **44**: 2.1 – 2.32.

54. CS Sharada Prasad & **Isha Ray** (2019). When the pits fill up: (in)visible flows of waste in urban India. *Journal of Water, Hygiene and Sanitation for Development*, **9**: 338 – 347.  
doi: 10.2166/washdev.2019.153  
[IWA-selected Top 10 cited papers on non-sewered sanitation 2016 – 2020]
55. CS Sharada Prasad & **Isha Ray** (2018). “When you start doing this work, it is hard to eat *dal*”: Life and work in a manual scavenger family. *Economic and Political Weekly*, **v(LIII)**: 25 – 27.
56. CS Sharada Prasad & **Isha Ray** (2018). “It has to be done only at night”: Human Waste Disposal in Bengaluru. Commentary | *Economic and Political Weekly*, **v(LIII)**: 13 – 21.
57. NC Narayanan, **Isha Ray**, Govind Gopakumar, & Poonam Argade (2017). Towards sustainable urban sanitation: A capacity-building approach to wastewater mapping for small towns in India. *Journal of Water, Hygiene and Sanitation for Development*. DOI: 10.2166/washdev.2017.071
58. Zachary Burt, Kara Nelson & **Isha Ray** (2016). Towards Gender Equality through Sanitation Access. *United Nations Women Discussion Paper*.  
<http://www.unwomen.org/en/digital-library/publications/2016/3/towards-gender-equality-through-sanitation-access>
59. Ashley Murray & **Isha Ray** (2010). Back-end users: The unrecognized stakeholders in demand-driven sanitation. *Journal of Planning, Education and Research*, **36**: 94 – 102.
60. Ashley Murray & **Isha Ray** (2009). Wastewater for agriculture: A reuse-oriented planning model and its application in peri-urban China. *Water Research*, **44**: 1667 – 1679.
61. Ashley Murray, **Isha Ray** & Kara Nelson (2009). An innovative sustainability assessment for urban wastewater infrastructure and its application in Chengdu, China. *Journal of Environmental Management*, **90**: 3553 – 3560.

## Energy

62. Annelise Gill-Wiehl & **Isha Ray** (2023). Affording a clean stack: Evidence from cookstoves in urban Kenya. *Energy Research and Social Science*, 105 (2023) 103275.  
<https://doi.org/10.1016/j.erss.2023.103275>
63. Annelise Gill-Wiehl, **Isha Ray** & Daniel Kammen (2021). Is clean cooking affordable? A review. *Renewable and Sustainable Energy Reviews*, **151** (2021) 111537.  
<https://doi.org/10.1016/j.rser.2021.111537>
64. Bodie Cabiyo, **Isha Ray** & David Levine (2021). The refill gap: Clean cooking fuel adoption in rural India. *Environmental Research Letters*, **16**: 014035. <https://doi.org/10.1088/1748-9326/abd133>



65. Veronica Jacome, Noah Klugman, Catherine Wolfram, Belinda Grunfeld, Duncan Callaway & **Isha Ray** (2019). Power quality and modern energy for all. *Proc. Natl. Acad. Sci. USA*, [www.pnas.org/cgi/doi/10.1073/pnas.1903610116](http://www.pnas.org/cgi/doi/10.1073/pnas.1903610116)
66. Veronica Jacome & **Isha Ray** (2018). The prepaid electric meter: Rights, relationships and reification in Unguja, Tanzania. *World Development*. DOI: 10.1016/j.worlddev.2018.01.007
67. Gabrielle Wong-Parodi, Hadi Dowlatabadi, Tim McDaniels & **Isha Ray** (2011). Influencing attitudes towards carbon capture and sequestration: A social marketing approach. *Environmental Science and Technology*, **45**: 6743 – 6751.
68. Judith Bradbury, **Isha Ray**, Tarla Rai Peterson, Sarah Wade, Gabrielle Wong-Parodi & Andrea Feldpausch (2009). The role of social factors in shaping public perceptions of CCS: Results of multi-state focus group interviews in the US. *Energy Procedia* **1**: 4665 – 4672.
69. Gabrielle Wong-Parodi & **Isha Ray** (2009). Community perceptions of carbon sequestration: Insights from California. *Environmental Research Letters*, **4**. DOI:10.1088/1748-9326/4/3/034002.
70. Gabrielle Wong-Parodi, **Isha Ray** & Alexander Farrell (2008). Environmental non-government organizations' perceptions of geologic sequestration. *Environmental Research Letters*, **3**. <http://www.iop.org/EJ/abstract/1748-9326/3/2/024007>

#### Other Resources

71. Beatriz Rodríguez Labajos & **Isha Ray** (2021). Six avenues for engendering creative environmentalism. *Global Environmental Change* v68. <https://doi.org/10.1016/j.gloenvcha.2021.102269>
72. Kripa Jagannathan, Andrew Jones & **Isha Ray** (2020). The making of a metric: Co-producing decision-relevant climate science. *Bulletin of the American Meteorological Society*. DOI: 10.1175/BAMS-D-19-0296.1.
73. Christian Casillas & **Isha Ray** (2018). Participatory modeling and development practice: artisanal fishers in Nicaragua. *Development in Practice*. DOI: 10.1080/09614524.2018.1519012
74. Epstein, K., J. DiCarlo, R. Marsh, B. Adhikari, D. Paudel, **I. Ray** and I. E. Måren (2018). Recovery and adaptation after the 2015 Nepal earthquakes: a smallholder household perspective. *Ecology and Society* **23** (1):29. DOI: <https://doi.org/10.5751/ES-09909-230129>
75. Kathleen Epstein, Jessica DiCarlo, Robin Marsh, **Isha Ray** & Inger Måren (2017). Post-disaster coping strategies of smallholder farming communities in Nepal. *Case Studies in the Environment*. DOI: <https://doi.org/10.1525/cse.2017.000612>

76. **Isha Ray** (2016). Investing in Gender-Equal Sustainable Development. *United Nations Women Discussion Paper*.  
<http://www.unwomen.org/en/digital-library/publications/2016/8/investing-in-gender-equal-sustainable-development>
77. **Isha Ray** & Renee Kuriyan (2012). Poverty and profits in the information age. *Information Technology and International Development*, 8 (1): iii - viii. [Introduction to Special Issue on: Poverty and Profits in the Information Age]
78. **Isha Ray** & Renee Kuriyan (2011). Towards aspirations as a development indicator: The case of information and communication technologies. *Proceedings of the 4<sup>th</sup> IEEE/ACM International Conference ICTD 2010*.
79. Renee Kuriyan & **Isha Ray** (2009). Outsourcing the state? Public-private partnerships and information technologies in India. *World Development*, **37**: 1663 – 1673.
80. Renee Kuriyan & **Isha Ray** (2009). E for “Express”: Seeing the Indian state through ICTD. *Proceedings of the 3<sup>rd</sup> IEEE/ACM International Conference ICTD 2009*: 66 – 73.
81. Renee Kuriyan, **Isha Ray** & Kentaro Toyama. (2008). Information and communication technologies for development: The bottom of the pyramid model in practice. *The Information Society*, **24**: 93 – 104.
82. Renee Kuriyan & **Isha Ray** (2007). Private public partnerships and information technologies for development in India. *Proceedings of the 2<sup>nd</sup> IEEE/ACM International Conference ICTD 2007*: 310 – 320.
83. Renee Kuriyan, Kentaro Toyama, & **Isha Ray** (2006). Integrating social development and financial sustainability: The social and political challenges of kiosks. *Proceedings of IEEE International Conference ICTD 2006*: 121 – 130.
84. **Isha Ray** (2006). Outcomes and processes in economics and anthropology. *Economic Development and Cultural Change*, **54**: 677 – 694. [Reprinted as Ch 4 in Bardhan and Ray (eds) *The Contested Commons*, Blackwell Publishing 2008]
85. Pranab K Bardhan & **Isha Ray** (2006). Methodological approaches to the question of the commons. *Economic Development and Cultural Change*, **54**: 655 – 676. [Reprinted as Ch 1 in Bardhan and Ray (eds) *The Contested Commons*, Blackwell Publishing 2008]

#### **Book Chapters & Book Reviews**

**Isha Ray** (2023). Review of “Unbottled The Fight against Plastic Water and for Water Justice”, University California Press 2023 by D. Jaffee; Water Alternatives, <http://www.water-alternatives.org/index.php/boh/item/357-unbottled>

**Isha Ray** (2022). Perspectives: The moral and political case for water and sanitation rights. *The Lancet* v400 November 12 2022. [https://doi.org/10.1016/S0140-6736\(22\)02176-6](https://doi.org/10.1016/S0140-6736(22)02176-6).

Christopher Hyun, Tanu Kumar, Alison E. Post, & **Isha Ray** (2022). Engineering Predictable Water Supply: The Humans Behind the Tech. Chapter 17 in Temina Madon et al (eds) *Introduction to Development Engineering*. Springer, Open Access: <https://link.springer.com/book/10.1007/978-3-030-86065-3>.

Carolina Balazs & **Isha Ray** (2015). Water Justice in California's Central Valley. Chapter 11 in Lassiter, Allison (ed.) *Sustainable Water*. Berkeley: University of California Press.

**Isha Ray** (2015). Transformative Investments for Gender-Equal Sustainable Development. Chapter 6 in Leach, Melissa (ed.) *Gender Equality and Sustainable Development Pathways*. Abingdon & New York: Routledge. [Based on Ray 2016 *United Nations Women Discussion Paper*]

PK Bardhan & **Isha Ray** (2008 and 2014). Methodological Approaches in Economics and Anthropology. In John B. Davis and Wilfred Dolfsma (eds.) *Elgar Companion to Social Economics*. Edward Elgar Publishing.

### Other Publications

Lead author UNESCO-WWAP (2020). *Accelerating Gender Equality in the Water Domain: A Call for Action*. UNESCO-WWAP Gender and Water Working Group Position Paper.

[https://en.unesco.org/sites/default/files/accelerating\\_gender\\_equality\\_in\\_the\\_water\\_domain\\_a\\_call\\_for\\_action\\_position\\_paper\\_final.pdf](https://en.unesco.org/sites/default/files/accelerating_gender_equality_in_the_water_domain_a_call_for_action_position_paper_final.pdf)

CS Sharada Prasad & **Isha Ray** (2019). Photo-Essay: When the Sewers Get Blocked. The India Forum

<https://www.theindiaforum.in/article/when-sewers-get-blocked>

Also India Water Portal <https://www.indiawaterportal.org/articles/when-sewers-get-blocked-sanitation-labour-urban-india>; EPW Engage <https://www.epw.in/engage/article/when-sewers-get-blocked-photo-essay-sanitation-labour-world-toilet-day>

CS Sharada Prasad & **Isha Ray** (2018). Photo-Essay: When the Pits Fill Up: A Day in the Life of Sanitation Workers in Urban India. *India Water Portal* <http://www.indiawaterportal.org/articles/when-pits-fill-day-life-sanitation-workers-urban-india>

Also: *EPW Engage* <https://www.epw.in/engage/article/how-do-sanitation-workers-live-and-work-in-urban-india>; *Athena Infonomics* <http://www.athenainfonomics.com/2018/11/18/sanitation-workers-india/>

CS Sharada Prasad & **Isha Ray** (2017). Photo-Essay: Where There are no Sewers: The Toilet Cleaners of Lucknow. *India Water Portal* <http://www.indiawaterportal.org/articles/where-there-are-no-sewers-toilet-cleaners-lucknow>

■ Selected by *India Water Portal* as one of seven "The Best of 2017" contributions of the year (<http://mailchi.mp/indiawaterportal/the-best-of-2017?e=ddf4dcbf44>)

Also: *Counter Currents* (11/14/2017). <http://www.countercurrents.org/2017/11/14/photo-essay-where-there-are-no-sewers-the-toilet-cleaners-of-lucknow/>;

*The Wire* (11/19/2017). <https://thewire.in/198241/where-there-are-no-sewers-the-toilet-cleaners-of-lucknow/>;

*Athena Infonomics* (11/21/2017). <https://www.athenainfonomics.in/2017/11/21/lucknow-toilet-cleaners/>

[The 2017 and 2018 essays were collected into a booklet and launched by GIZ and the Sustainable Sanitation Alliance on World Toilet Day 2018 | *Where there are no sewers: Photo-essays on Sanitation Work in Urban India* | <https://www.susana.org/en/knowledge-hub/resources-and-publications/library/details/3477> ]

**Isha Ray** (2017). Public Spaces, Private Acts: Toilets and Gender Equality. *ITEMS* | Launching paper for *Just Environments* series | May 30: <http://items.ssrc.org/public-spaces-private-acts-toilets-and-gender-equality/>

Co-Chair and Lead Author *Report of the Expert Group Meeting on the CSW 60 Priority Theme: Women's Empowerment and the Link to Sustainable Development* (2015). New York: UN Women. <http://www2.unwomen.org/~media/headquarters/attachments/sections/csw/60/csw60%20egm%20report.pdf?v=1&d=20160128T152130>

**Isha Ray** (May 30 2015). India's emergency in slow motion. *CNN.com Opinions*: <http://www.cnn.com/2015/05/29/opinions/ray-india-heatwave-emergency/index.html>

Contributing Author to *Gender Equality and Sustainable Development: World Survey on the Role of Women in Development* (2014). New York: UN Women. [http://www.unwomen.org/~media/headquarters/attachments/sections/library/publications/2014/un\\_women\\_surveyreport\\_advance\\_16oct.pdf](http://www.unwomen.org/~media/headquarters/attachments/sections/library/publications/2014/un_women_surveyreport_advance_16oct.pdf)

**Isha Ray**. (2013). 'Challenges and Achievements in Millennium Development Goals for Water and Sanitation for Women and Girls'. *UN Women Expert Group Briefing Paper*. <http://www.unwomen.org/~media/Headquarters/Attachments/Sections/CSW/58/EP11-IshaRay%20pdf.pdf>

Contributing Author to Report on Structural and Policy Constraints in Achieving the MDGs for Women and Girls (2013). *58<sup>th</sup> United Nations Commission on the Status of Women*, New York <http://www.unwomen.org/~media/Headquarters/Attachments/Sections/CSW/58/CSW58-2013-EGM-Report-en.pdf>

**Isha Ray**. 2008. 'Women and water in the developing world.' March 20, 2008. In: *Encyclopedia of Earth*, Cutler J. Cleveland (ed). Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment. <http://www.earthportal.org/?p=714>  
[Based on Ray 2007 in *Ann. Rev. Envir. Res*]

Renee Kuriyan, **Isha Ray** & Daniel Kammen (2008). 'How to use technology to spur development.' *Issues in Science and Technology*, Winter 2008: 70 – 74.

Giorgos Kallis, Michael Kiparsky, Anita Milman & **Isha Ray** (2006). 'Glossing over the complexity of water.' *Science Letters* 314: 1387 – 1388, 1 December 2006.

### **Courses taught**

#### **1. Social Science Research Methods**

Epistemology, Sampling, Surveys, Interviewing, Content Analysis, Participant Observation, Comparative Method, Case Study Method, Ethics.

#### **2. Water and Development**

The Politics, Economics and Policy of Water and: health, sustainable development, participatory development, gender, financing, privatization, transboundary cooperation.

#### **3. Environmental Classics**

From Rachel Carson to Michael Pollan: non-academic books and papers that have framed our thoughts on nature, culture and resources.

#### **4. Community-Driven Development**

Theory and case studies of community-based and participatory development approaches in the developing world

### **PhD students graduated**

Anushah Hossain, 2022 (Postdoc, Stanford University)

Sophie Major, 2022 (Independent researcher)

Yoshika Crider, 2021 (Postdoc, King Center on Global Development, Stanford University)

Christopher Hyun, 2020 (Senior Environmental Scientist | CA State Water Board)

Veronica Jacome, 2020 (Assistant Professor | Temple University)

Jessica Joan Goddard, 2019 (Chief Science Officer | SimpleWater)

Kripa Jagannathan, 2019 (Research Scientist | Lawrence Berkeley National Laboratory)

CS Sharada Prasad, 2018 (Senior Principal | Sustainability Practice Unit | Infosys | Bangalore, India)

Alasdair Cohen, 2016 (Assistant Professor | Virginia Polytechnic Institute, Blacksburg)

Zachary Burt, 2015 (Senior WASH Specialist | USAID)

Julian Fulton, 2015 (Assistant Professor | California State University, Sacramento)

Cleo Woelfle-Erskine, 2015 (Assistant Professor | University of Washington, Seattle)

Fermin Reygadas Gil Robles, 2014 (Ashoka Fellow | Co-Founder, Fundación Cántaro Azul, Mexico)

Deborah Cheng, 2013 (Colin Powell School | City College of New York)

Carolina Balazs, 2012 (Research Scientist | OEHHA | US Environmental Protection Agency)

Gabrielle Wong-Parodi, 2011 (Assistant Professor | Stanford University)

Anita Milman, 2010 (Professor | University of Massachusetts-Amherst)

Ashley Muspratt, 2009 (Founder | PIVOT, Inc; Rwanda)

Renee Kuriyan Wittemyer, 2009 (Lead, Women & Technology | Executive Office of Melinda Gates)

Jaquelin Cochran, 2008 (Senior Energy Analyst | National Renewable Energy Laboratory)

Renata Andrade, 2006 (Faculty | Catholic University of Brasilia, Brazil)

### **Invited Talks**

'The work of water.' London School of Hygiene and Tropical Medicine. February 2023.

'Gender and WASH.' London School of Hygiene and Tropical Medicine & *The Lancet*, London. August 2022.

'Towards Safe Drinking Water.' Gender and Climate Series, US Department of State, Washington DC. June 2022.

'Safe Drinking Water for All.' Indian Institute of Technology-Bombay. Mumbai. December 2021.

'Approaching Sustainability' Speaker Series. Stanford University. May 2021.

'Affordability and the Human Right to Water in California.' Stanford University. January 2021.

'Towards Safe Drinking Water for All.' Oxford Water Network, Oxford University. October 2020.

'Access and Accountability: Reflections on Safe Water.' Virginia Tech. Blacksburg. October 2019.

'Water is Another Word for Life.' Masters of Development Practice Special Lecture. Berkeley. April 2019.

'Reimagining Health, Empowerment & Sovereignty in Bangladesh.' Chowdhury Center- London School of Economics Bangladesh Summit. February 2019.

'From Intermittent to Continuous Water Supply.' Center for South Asia & The Woods Institute, Stanford University. February 2019.

'Gender Equality & Sanitation.' Tesla Headquarters, Palo Alto. October 2018.

'Agency, Education and Sanitation: Adolescent Girls in Rural India.' University of Illinois. Chicago, September 2018.

'Water and Sanitation for Sustainable Cities and Communities'. United Nations Africa Headquarters, Nairobi, June 2018.

'The Sanitation Goal in the SDGs'. *Sustainable Development Expert Group Meeting* in preparation for *High-Level Policy Forum* 2018. United Nations Headquarters, New York, January 2018.

'At the Two-year Mark for *Swachh Bharat*: A Tale of Two Scavengers' (with C. Sharada Prasad). Institute for South Asia Studies, UC Berkeley, October 2017. <https://southasia.berkeley.edu/swacch-bharat>

'Gender Equality: A View from the Loo'. *Homecoming Lecture*; UC Berkeley, October 2016

*Graduation Speaker*, Global Poverty and Practice Minor, University of California, Berkeley. May 2016.

'Towards Gender Equality through Sanitation Access'. *Emerging Issues in Gender and WASH*. United Nations 60<sup>th</sup> Meeting of the Commission on the Status of Women. New York, March 2016.

'Gender Equality: A View from the Loo'. *TEDx Berkeley*. UC Berkeley, February 2016. <https://www.youtube.com/watch?v=CvE8AWl8Wb4>

'Sustainable Development and Gender Equality: A Post-2015 Perspective.' *Reducing Inequality in a Sustainable World*. UC Berkeley, March 2015.

'Household Welfare and Political Impacts of Increasing Service Predictability' (paper with Tanu Kumar and Alison Post). *Urban Poverty Workshop*. Duke University, December 2014.

'Socially Transformative Investments for Sustainable Development and Gender Equality.' *UN Women Expert Group Meeting*. FAO: Rome, Italy. February 2014.

'Water, Sanitation and the Millennium Development Goals,' *Economic Commission for Latin America and the Caribbean*. Mexico City, Mexico. October 2013.

United Nations Women Concepts and Methods Workshop for the *World Survey on the Role of Women in Development*. UN Women, New York. September 2013.

'Shared Rivers: Conflict and Cooperation on the Ganga-Brahmaputra-Meghna Basin'. International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal. August 2013.

'Safe Drinking Water: Access, Affordability, Acceptance'. Laboratoire d'étude des Transferts en Hydrologie et Environnement (LTHE), Grenoble, France. July 2013.

'Access, Vulnerability and Drinking Water.' NSF-UC Santa Cruz Workshop on *Equity and Water Governance*, Santa Cruz, California. February 2013.

'The Persistence of the Informal Within the Formal' (paper with Zachary Burt). UNESCO-IHE workshop on *Informal Spaces in the Urban Waterscape*, Delft, The Netherlands. December 2012.

'Access to Basic Amenities: Goals, Payments and Accountability.' The World Bank's *6th Urban Research and Knowledge Symposium (URKS6)*. Rethinking Cities: Framing the Future, Barcelona, Spain. October 2012.

'Social Disparities in Drinking Water Quality in California's San Joaquin Valley' (paper with Carolina Balazs, Alan Hubbard and Rachel Morello-Frosch). Inaugural Water and Society Session on *The Evolution of Water Management Paradigms*, American Geophysical Union (AGU), San Francisco. December 2011.

'Waste not, want not' (paper with Ashley Murray). *India Cities Conference*, New Delhi, India. March 2011.

'Development Research and the Social Sciences.' *Microsoft Research India / Indian Institute of Science Summer School on Technology for Socio-Economic Development*, Bangalore, India. June 2010.

'Women, Water and the Millennium Development Goals.' *109<sup>th</sup> General Meeting of the American Society of Microbiologists*, Philadelphia. May 2009.

'Water and Development in India.' *Perspectives on an Evolving India*, UC Berkeley. April 2009.

'Irrigation Water Prices: Implications for Equity and Efficiency.' *4<sup>th</sup> World Conference on the Future of Science*, Venice, Italy. September 2008.

'Conflict and Cooperation Over "Shared" Waters: What Does History Tell Us?' *Water and the Developing World*, Stanford University. April 2008.

'Equity and Water in Smallholder Agriculture.' *17<sup>th</sup> Annual Global Health Education Consortium Convention*, Sacramento. April 2008.

'Water, Technology and Development: The Tale of the Hand-Pump'. *CITRIS-Europe Conference*, London, UK. July 2007.

'Household Water Delivery Options in Rural and Peri-urban India' (with David McKenzie). Stanford Center for International Development, *Fifth Annual India Conference*, Stanford University. June 2004.

### **Invited Panels & Podcasts**

*Technology and Health: Ethics, Responsibility, Opportunities*. Conference launching the Center for Contemporary India, UC Berkeley. September 2022.

*Between Two Baobab Trees*, Climate and Health Podcasts, March 2022, USAID

[https://www.usaid.gov/e-learning/global-health/between-two-baobab-trees/#/lessons/T6h2JRulxZr0Z0\\_87lkbOWYqHjTn169b](https://www.usaid.gov/e-learning/global-health/between-two-baobab-trees/#/lessons/T6h2JRulxZr0Z0_87lkbOWYqHjTn169b)

*Global Gender Environment Outlook II*, Expert Group Meeting, April 2021. United Nations Women, New York and Reykjavik (virtual meeting)

*Water Science and Environmental Justice*. National Academies Water Science and Technology Board, October 2020.

Global Journalist: *India's Toilet Boom*

<https://www.youtube.com/watch?v=Ov2w4d1pOuk&t=1273s>

National Public Radio Podcast: *India's Toilet Boom*

<https://www.npr.org/podcasts/596449301/global-journalist>

*Empowering Rural Women and Girls*. Multi-Stakeholder Forum for the Commission on the Status of Women (CSW62). United Nations Headquarters, New York, January 2018.

*Water: California in a Global Context*. American Academy of Arts and Sciences. Stanford, February 2016.

<https://www.youtube.com/watch?v=CAI3VNtPMU>

World Affairs Council Podcast: *What's it like to worry about every drop?*

[https://soundcloud.com/world\\_affairs/access-to-water-whats-it-like-to-worry-about-every-drop](https://soundcloud.com/world_affairs/access-to-water-whats-it-like-to-worry-about-every-drop)



*On The Same Page* with Katherine Boo (“Behind the Beautiful Forever”). UC Berkeley, September 2015.  
<http://onthesamepage.berkeley.edu/event-videos>

*Clean India: Stimulating Behavior Change and Usage*. University of Chicago. New Delhi, April 2015.

UC Berkeley visit of UN Women Executive Director, Dr. Phumzile Mlambo-Ngcuka, on *Gender for a New Century*. UC Berkeley, December 2014.

*World Survey on the Role of Women in Development*, 2014, official release. UN Headquarters, New York. October 2014. <http://m.webtv.un.org/meetings-events/watch/role-of-women-in-development-world-survey—panel-discussion/3849714459001>

Belmont Forum Freshwater Security Panel of Experts Meeting (II), *National Science Foundation (USA) and Natural Environment Research Council (UK)*, Washington, DC. March 2013.

Belmont Forum Freshwater Security Panel of Experts Meeting (I), *National Science Foundation (USA) and Natural Environment Research Council (UK)*, London, UK. September 2012.