

SUDATTA RAY

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ACADEMIC APPOINTMENTS

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| Assistant Professor | Yale-NUS College | January 2022 - |
| | Department of Environmental Studies | |
| Assistant Professor | National University of Singapore (NUS) | January 2022 - |
| (Joint Appointment) | Department of Geography | |

EDUCATION

| | | |
|-------|--|------|
| PhD | Stanford University | 2021 |
| | Emmett Interdisciplinary Program in Environment and Resources (E-IPER) | |
| | Dissertation: Impact of Rural Electrification on Food Security of Smallholder Farmers in India | |
| MSPPM | Carnegie Mellon University | 2014 |
| | H. J. Heinz III College, School of Public Policy and Management | |
| | Master of Science in Public Policy and Management – Data Analytics Track | |
| MS | University of Delhi | 2009 |
| | St. Stephen's College | |
| | Master of Science in Chemistry | |
| BS | University of Delhi | 2007 |
| | Sri Venkateswara College | |
| | Bachelor of Science in Chemistry | |

PUBLICATIONS

ACADEMIC MANUSCRIPTS

Ray, S., Falcon W. & Naylor, R. "Rural Electrification in Agricultural Intensification Across India."

Ray, S. "Beyond Lights: The Diminishing Role of Rural Electrification in Indian Agriculture."

Ray, S. & Benson, S. "Least-Cost Pathways of Groundwater Expansion in Odisha."

Ray, S. & Jo, C. "Productive Power: Estimating the Potential for Productive Load Uses in Zimbabwe."

Agarwal, A., **Ray, S.** & Pandey, R. "Inequitable Impacts of COVID-19 Lockdown on Household Electricity Consumption."

POLICY REPORTS

Jain, A., **Ray, S.**, Ganesan, K., Aklin, M., Cheng, C. & Urpelainen J. (2015). "[Access to Clean Cooking Energy and Electricity, Survey of States](#)." *Columbia University and Council on Energy, Environment and Water Report*.

Ray, S., Chaturvedi, V., Ganesan, K. & Ghosh, A. (2015). "[India's Intended Nationally Determined Contributions: Renewable Energy and Pathway to Paris](#)." *Council on Energy, Environment and Water Policy Brief*.

Ghosh, A. & **Ray, S.** (2015). "[Fixing Climate Governance through Effective Technology Partnerships](#)." *Fixing Climate Governance Series, Paper No. 3*. Centre for International Governance Innovation.

Ghosh, A., Vijayakumar, A. & **Ray, S.** (2015). "[Climate Technology Partnerships: Form, Function and Impact](#)." *Fixing Climate Governance Series, Paper No. 2*. Centre for International Governance Innovation.

Ray S. (2015). "[Electricity Trading in its Infancy in South Asia](#)." *India Climate Dialogue* Web Article.

Ganesan, K., Jain, A., Ray, S., Sharma, M. & Ghosh, A. (2014). "[Agenda for a Reformed Power Sector in India: Risk, Resource, Relay and Restructuring](#)." *Council on Energy, Environment and Water Policy Brief. Black Carbon Research Initiative – National Carbonaceous Aerosols Programme (NCAP)*, Ministry of Environment & Forests, March 2011 – Editorial Team.

[Climate Change & India - A 4x4 Assessment, A Sectoral and Regional Analysis for 2030s](#), Ministry of Environment & Forests, November 2010 – Editorial Team.

[India: Greenhouse Gas Emissions 2007](#), Ministry of Environment & Forests, May 2010 – Editorial Team.

PRESENTATIONS & CONFERENCE ACTIVITY

CONFERENCE ACTIVITY

Ray, S. (2020). "Beyond Lights: The Changing Impact of Rural Electrification in Indian Agriculture." *Association for Public Policy Analysis & Management (APPAM)*. Presentation, (Online due to COVID).

Ray, S. (2020). "Beyond Lights: The Changing Impact of Rural Electrification in Indian Agriculture." *Sustainable Energy Transition Initiative (SETI) Annual Conference, Duke University*. Presentation, (Online due to COVID).

Ray, S. (2020). "Beyond Lights: The Changing Impact of Rural Electrification in Indian Agriculture." *Agricultural & Applied Economics Association, Annual Meeting*. Presentation, (Kansas City, USA-Online due to COVID).

Ray, S. (2020). "Beyond Lights: The Changing Impact of Rural Electrification in Indian Agriculture." *Online Summer Workshop in Environment, Energy, and Transportation (Economics)*. Presentation, (Online).

Ray, S. (2020). "Beyond Lights: The Changing Impact of Rural Electrification in Indian Agriculture." *Association of Environmental and Resource Economist, Annual Summer Conference*. Presentation, (Miami, USA-Online due to COVID).

Ray, S. (2019). "Rural Electrification in Agricultural Intensification Across India." *American Geophysical Union, Fall Meeting 2019*. Poster, (San Francisco, USA).

Ray, S. (2019). "The Evolving Role of Rural Electrification in Indian Agriculture." *The University of Michigan Ann Arbor, Sustainability & Development Conference 2019*. Presentation, (Michigan, USA).

Ray, S. (2018). "Beyond Tube-wells: Bringing Irrigation to Oriya Smallholder Farmers." *IWMI- Tata's Partners' Meet 108, Building Climate Resilience for Doubling Farmers' Income – Innovations in Water, Land, Energy and Ecosystems*. Presentation, (Gujarat, India).

Ray, S. (2015). "Analysing Climate Actions and their Global Consequences." *World Resources Institute (WRI) Technical Practitioner's Workshop for Analyzing Mitigation INDCs*. Presentation, (Bonn, Germany).

Ray, S. (2015). "India's INDC: Renewable Energy and the Pathway to Paris." *Council of Energy, Environment and Water (CEEW) Climate Day, Negotiating the Climate Cliff*. Presentation, (New Delhi, India).

INVITED TALKS

Ray, S. (2020). "Seeing the Light: Harnessing Rural Electrification to Boost Development" *Hard Earth Lecture Series*. Stanford University, California.

Ray, S. (2019). "Energy Access for Development: Scope and Need for Productive Uses of Electricity." *Global Climate and Energy Project, Student Lecture Series*. Stanford University, California.

Ray, S. (2019). "State of Energy Access in India." *Energy Access Panel, Stanford Energy Club*. Stanford University, California.

Ray, S. (2016). "Impact of Energy Policies on Resources Use and Food Security in India." *Enhancing Diversity in Graduate Education, Cross Talks*. Stanford University, California.

RESEARCH EXPERIENCE

Graduate Research Student and Instructor, **Stanford University**

2015-2021

- Estimated the impact of rural electrification policy change on the growth in groundwater irrigation between 1986 and 2013 for 323 districts in India.
- Modeled the impacts of different energy provision schemes on smallholder farmer income, groundwater sustainability and carbon emissions for 30 districts in Orissa, India.
- Surveyed and analysed electricity use for 500 households across 5 urban informal settlements in Harare, Zimbabwe.
- Taught "Capstone Project Seminar in Environment and Resources" (28 students across 2 years).
- Developed course curriculum and taught "Achieving Universal Energy Access by 2030: Can it be Done?" (15 students).

Junior Research Associate, **Council on Energy, Environment and Water (CEEW)**

2014-2015

- Surveyed and analysed the state of energy access in 8,566 rural households across 6 states in India.
- Developed integrated plans in agriculture, energy and water for tribal districts in Madhya Pradesh, India.
- Analysed and recommended steps for reforming the Indian power sector to the Office of the Prime Minister of India.
- Estimated the financial implications of India's Intended Nationally Determined Contribution to the UNFCCC.

Climate Corp Fellow, **Environmental Defense Fund**

2013 Summer

- Developed energy efficiency projects for Maricopa County Community Colleges and facilitated annual cost savings of \$220,000 and GHG emissions savings of 1,520 CO₂ eq.

POLICY EXPERIENCE

Senior Programme Officer, **World Wide Fund for Nature – India**

2011-2012

- Led analyses of international climate change negotiations as part of the Global Climate Energy Initiative.
- Analysed the State Action Plans on Climate Change for five Indian Himalayan states.
- Developed a framework to track the efficacy of low carbon policies of ten states across India.

Technical Officer, **Government of India, Ministry of Environment, Forests and Climate Change**

2009-2011

- Negotiated India's stand at 2 Conference of Parties and 2 Intersessional Meetings of United Nations Framework for Climate Change Convention (UNFCCC) Climate Change talks on issues of HFC mitigation and market mechanism.
- Wrote briefs and responses to climate change related questions raised in the parliament.
- Led a nation-wide initiative for the development of State-level Action Plans on Climate Change.

GRANTS

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| EIPER Collaboration Research Grant (\$10,000) | 2019 |
| McGee Grant (\$3,000) | 2018 |
| EIPER Summer Graduate Research Grant (2,110) | 2018 |
| EIPER Summer Graduate Research Grant (\$2,500) | 2017 |
| McGee Grant (\$3,790) | 2016 |
| Enhancing Diversity in Graduate Education (EDGE) Travel Grant (\$863) | 2015 |

FELLOWSHIPS & AWARDS

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| School of Earth, Energy and Environmental Sciences Certificate for Outstanding Mentoring | 2020 |
| Kimmelman Family Fellowship | 2015- 2019 |
| Enhancing Diversity in Graduate Education Fellowship (EDGE-STEM) Fellow | 2015-2017 |
| Fulbright- Nehru Master's Fellowship in Leadership and Development | 2012-2014 |
| HEINZ MSPPM Merit Based Scholarship | 2012-2014 |
| Second Prize, Annual Social Innovations Challenge, Carnegie Mellon University | 2013 |

TEACHING EXPERIENCE

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| <i>Powering the Planet</i> , Yale-NUS College | 2022 |
| <i>Capstone Project Seminar in Environment and Resources</i> , Stanford University | 2020 & |
| Course Assistant | 2021 |
| <i>Topics in Environment and Resources</i> , Stanford University | 2019 & |
| Guest Lecturer | 2017 |
| <i>Achieving Universal Energy Access by 2030: Can it be done?</i> , Stanford University | 2018 |
| Course Developer and Assistant | |

DEPARTMENT & UNIVERSITY SERVICE

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| Stanford University's Founders Circle Day Presenter | 2019 |
| Enhancing Diversity in Graduate Education (EDGE) Mentor | 2017-2018 |
| E-IPER Admissions Committee | 2017 |