

## **Payal Shah**

Science and Technology Group Associate  
Curriculum Vitae

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## **Education**

Ph.D., Agricultural and Applied Economics, University of Illinois at Urbana-Champaign, Urbana, Illinois. May 2013.

Dissertation: Three essays on conservation in settings with uncertainties and market interaction effects.

M.S., Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, Urbana, Illinois. May 2009.

M.B.A, Finance, Management Development Institute, Gurgaon, India. March 2004.

B. Commerce, Accountancy, Maharaja Shayajirao University, Vadodara, India. April 2002.

## **Accreditation**

Chartered Financial Analyst (CFA). Completed level III, June 2007.

## **Academic Experience**

Science and Technology Associate, Okinawa Institute of Science and Technology, Okinawa, Japan, March 2013 – Present.

Research Scientist, Colby College, Maine, USA, September 2016 – August, 2017.

Research Assistant, University of Illinois at Urbana-Champaign, USA, August 2012 – March 2013.

Course Instructor for Microcomputer Applications, University of Illinois at Urbana-Champaign, USA, Summer 2009, 2010, 2011, 2012.

Teaching Assistant, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, USA, August 2007 – May 2009.

## **Industry Experience**

Research Analyst, Construction Engineering Research Lab. , US Army Corps of Engineers, Champaign, IL, August 2010 - May 2012.

Equity Research Analyst, JPMorgan Services India Pvt. Ltd., Mumbai, India. October 2004- October 2006.

Mutual Funds Research Analyst, IDBI Capital Markets Ltd., Mumbai, India, May 2004- September 2004.

## **Published Manuscripts**

Popov, Valentin, Shah, Payal, Runting, Rebecca K., and Rhodes, Jonathan R. 2021. Managing risk and uncertainty in systematic conservation planning with insufficient information. *Methods in Ecology*

*and Evolution.*

Shah, Payal, Baylis, Kathy, Busch, Jonah and Engelmann, Jens, 2021. What determines the effectiveness of national protected area networks? *Environmental Research Letters*.

Yamaguchi, Rintaro and Shah, Payal. 2020. Spatial Discounting of Ecosystem Services. *Resource and Energy Economics*, 101186.

Shah, Payal, Dissanayake, Sahan, T. M., Fujita, Yoko, Nunes, Paulo, A. L. D. 2019. Impact of a local, coastal community based management regime when defining marine protected areas: Empirical results from a study in Okinawa, Japan. *PLOS One*. <https://doi.org/10.1371/journal.pone.0213354>

Mcclenachan, Loren, Matsuura, Ryunosuke, Shah, Payal and Dissanayake, Sahan, T. M. 2018. Shifted historical baselines reduce willingness to pay for conservation. *Frontiers in Marine Science*, 5, p.48.

Schwanitz, Jana Valeria, Wierling, August and Shah, Payal. 2017. Assessing the impact of renewable energy on regional sustainability - A comparative study of Sogn og Fjordane (Norway) and Okinawa (Japan) focusing on the energy, food and water nexus. *Sustainability*. doi:10.3390/su9111969.

Shah, Payal, Mallory, Mindy, Ando, Amy W., and Guntenspergen, Glenn. 2017. Fine-resolution conservation planning with limited climate-change information. *Conservation Biology*.

Shah, Payal and Ando, Amy W. 2016. Permanent and Temporary Policy Incentives for Conservation under Stochastic Returns from Competing Land Uses. *American Journal of Agricultural Economics*, 98(4), 1074-1094.

Ando, Amy, W. and Shah, Payal. 2016. The Economics of Conservation and Finance: A Review of the Literature. *International Review of Environmental and Resource Economics*, 8(3-4), 321-357. <http://dx.doi.org/10.1561/101.00000072>

Shah, Payal and Ando, Amy W. 2015. Downside vs. symmetric risk in natural resource portfolio design to manage climate-change uncertainty. *Land Economics*, 91(4), 664-687.

Shah, Payal and Baylis, Kathy. 2015. Evaluating Heterogeneous Conservation Effects of Forest Protection in Indonesia. *PLoS ONE* 10(6): e0124872. doi:10.1371/journal.pone.0124872

Ando, Amy W. and Shah, Payal. 2010. Demand-side factors in optimal land conservation choice, *Resource and Energy Economics*, 32, 203-221.

## **Manuscripts in Preparation**

Sims, Charles, Shah, Payal, and Ando, Amy. Multidimensional risk diversification for invasive species management. In preparation.

Ishihama, Fumiko and Shah, Payal. Systematic conservation planning using Marxan and portfolio theory for Mt. Daisetsu National Park. In preparation.

Shah, Payal, Dudley, Kenneth and Economo, Evan. Coupled Terrestrial Runoff and Ocean Systems Model for Land-to-sea Sediment Distribution in Okinawa. In preparation.

Mieno, Taro, Tanaka, Kenta, Shah, Payal. Optimal timing of irreversible land use conversion under

uncertainty: an experimental approach. In preparation.

Ando, Amy W., Mallory, Mindy, and Shah, Payal. Portfolio analysis with spatial targeting and projects to reduce effects of climate change. In preparation.

Rhodes, Jonathan R., Armsworth, Paul, Bryan, Brett, Iacona, Gwenllian, Gordon, Ascelin, Runting, Rebecca, Shah, Payal, and Wilson, Kerrie. Flexible Conservation Decisions for Climate Adaptation. In preparation.

## **Book Chapter**

Shah, Payal, Dissanayake, Sahan, T.M., Carlson, Nils, Fujita, Yoko, and Nunes, Paulo A.L.D. 2017. Preferences for marine protection in Okinawa: A comparison of management options and two groups of beneficiaries. Forthcoming in Handbook on the Economics and Management for Sustainable Oceans, UN Environmental Programme and Edward Elgar Publishing House, UK.

## **Technical Reports**

Loechl, Paul, M., Kemme, Michael, R., Shah, Payal, S., & Goran, William, D. 2012. Resource Efficiency in the US Army Corps of Engineers: Examination of Strategies to Reduce Energy Use and Greenhouse Gas Emissions (No. ERDC/CERL-TR-12-17). Engineer Research and Development Center Champaign IL Construction Engineering Research Lab.

## **Invited Presentations**

January 2022: “How to design and evaluate conservation policy for a changing world”. Invited seminar at Amity University, Rajasthan, India.

November 2021: “Application of portfolio theory to conservation planning with climate change uncertainty”. Invited seminar at Japan-Tokyo Resource and Environmental Economics (J-TREE) Seminar Series.

November 2020: “How to design and evaluate conservation policy for a changing world”. Invited presentation at the Faculty Seminar Series at the Okinawa Institute of Science and Technology Graduate University.

July 2020: “Application of portfolio theory to conservation planning with climate change uncertainty”. Invited seminar at the National Institute of Environmental Studies, Tsukuba, Japan (via zoom).

October 2017: “Environmental Economics at OIST”. Invited presentation at Environmental Sciences Symposium at the Okinawa Institute of Science and Technology Graduate University.

November 2016: “Evaluating Conservation Effects of Forest Protection in Indonesia”. Invited seminar at Kyushu University, Japan.

July, 2015: Evaluating Heterogeneous Effects of Forest Protection and Measuring Consumer Preferences for Marine Protection”. Invited seminar at National Institute for Environmental Studies, Tsukuba, Japan.

December 2013: “What Drives Forest Leakage”. Invited workshop presentation at Evaluating Forest Conservation Initiatives: New Tools and Policy Needs, Barcelona, Spain.

September 2013: “What Drives Forest Leakage”. Invited seminar at the Graduate School of Economics, Kobe University, Kobe, Japan.

### **Selected Conference Presentations**

May 2019: Determinants and Implications of Global Protected Area Effectiveness (with Kathy Baylis, Jonah Busch and Jens Engelmann) given at the Association of Environmental and Resource Economists Workshop, Nevada, USA.

September 2018: Determinants and Implications of Global Protected Area Effectiveness (with Kathy Baylis, Jonah Busch and Jens Engelmann) given at the Heartland Workshop, Illinois, USA.

October 2017: Determinants and Implications of Global Protected Area Effectiveness (with Kathy Baylis, Jonah Busch and Jens Engelmann) given at the FLARE 2017 Conference, Stockholm.

August 2017: Determinants and Implications of Global Protected Area Effectiveness (with Kathy Baylis, Jonah Busch and Jens Engelmann) given at the East Asian Association of Environmental and Resource Economists, Singapore.

February 2017: “A brief introduction to environmental economics: policy design, risk management and impact evaluation” given at the STG Research Colloquium, Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan.

November 2016: “Environmental Economics” given at the Kyushu University-OIST Women Scientists Networking Workshop held at Kyushu University, Japan.

June 2016: “Evaluating heterogeneous conservation effects of forest protection in Indonesia” (with Kathy Baylis) given at the Conservation Asia Conference, Singapore.

June 2015: “Evaluating Heterogeneous Conservation Effects of Forest Protection in Indonesia” (with Kathy Baylis) given at the Association of Environmental and Resource Economists Annual Meeting, San Diego, California.

June 2014: “Downside vs Symmetric Risk in Conservation Portfolio Design to Manage Climate Change Uncertainty” (with Amy W. Ando) given at the World Congress of Environmental and Resource Economists, Istanbul, Turkey.

July 2013: “What Drives Forest Leakage” (with Kathy Baylis and Don Fullerton) given at the European Association of Environmental and Resource Economists Annual Meeting, Toulouse, France.

June 2013: “What Drives Forest Leakage” (with Kathy Baylis and Don Fullerton) given at the Association of Environmental and Resource Economists Annual Meeting, Banff, Canada.

January 2013: “Empirically Testing the Determinants of Leakage in a General Equilibrium Model of Deforestation” (with Kathy Baylis and Don Fullerton) given at the American Economics Association’s Annual Meeting, San Diego, California.

June 2012: “Real Options Analysis of Conservation under Multiple Uncertainties” (with Amy W. Ando) given at the Association of Environmental and Resource Economists Summer Meeting, Asheville, North Carolina.

March 2012: “Real Options Analysis of Conservation under Multiple Uncertainties” (with Amy W.

Ando) given at the Midwest Economics Association Annual Meeting, Evanston, Illinois.

July 2009: “Demand-Side Factors in Optimal Land Conservation Choice” (with Amy W. Ando) given at the Annual meeting of Agricultural and Applied Economics Association, Milwaukee WI.

## **Selected Service**

OIST OKEON Steering Committee, April 2018 – ongoing.

OIST Sustainable Development Goals Working Group, April 2020-ongoing.

OIST Strategy Working Group, April 2018-December 2018.

Lead organizer of OIST Science and Technology Group Research Colloquium, February 2017, Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan.

Lead organizer of OIST Mini Symposium, “Ecological and socio-economic impacts of marine and terrestrial conservation policy”, March 2016, Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan.

Science and Technology Group Representative, January 2016 to December 2016.

Reviewer: Environmental and Resource Economics, Journal of Environmental Economics and Management, American Journal of Agricultural Economics, Resource and Energy Economics, Ecosystem Services, Ecological Economics, South African Journal of Economics, PLOS One, Conservation Letters, Environmental Research Letters.

Conference Organization, AERE Summer Conference 2012, Asheville, NC

Workshop Organization, Heartland Environmental and Resource Economics Workshop, Urbana, Illinois, November 2012.

## **Grants**

Kakenhi Early Career Scientist I (April 2018- March 2020)

Project: Determinants and implications of global protected areas

Kakenhi Early Career Scientist I (April 2020 – March 2022)

Project: Multidimensional risk diversification for conserving coastal wetlands under climate change uncertainty

JICA Grant (April 2022 – March 2026)

Project: Empirical research on the effects of the SHEP approach on small-scale farmers in Ethiopia

## **Additional Skills**

**Languages:** English (native speaker); Gujarati (native speaker); Hindi (fluent); Italian (conversational); Japanese (advanced intermediate – passed JLPT 3 in June 2019)

**Computer skills:** Matlab, R, Stata, ArcGIS, Microsoft Excel, Microsoft Access, Microsoft Powerpoint

## **Awards and Recognition**

Outstanding PhD Dissertation Award, Department of Agricultural and Consumer Economics, University of Illinois, Urbana-Champaign. May 2014.

Association of Environmental and Resource Economics Graduate Student Sponsored Session Travel Grant, AERE Summer Conference. June 2012.

Outstanding Student Award, Department of Agricultural and Consumer Economics, University of Illinois, Urbana-Champaign. May 2009.

Listed on Teachers Ranked as Excellent by Students, University of Illinois at Urbana-Champaign. Fall 2007, Spring 2008, Fall 2009, Spring 2009.