

## **Incoming Sustainability Science Fellows 2009-2010**

The incoming group of Sustainability Science Fellows for 2009-2010 includes 16 fellows: 8 doctoral, 4 post-doctoral, 2 mid-career fellows and 2 fellows pursuing masters degrees. Brief biographies and research abstracts follow below.

**Amrita Ahuja**, Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science

*Building Distribution Systems for Safe Drinking Water*

**Kamal Bawa**, Giorgio Ruffolo Mid-career Fellow in Sustainability Science

*Conservation, Livelihoods and Agriculture*

**Manfredi Caltagirone**, Empedocle Maffia Fellow

Student in Master in Public Administration Program

**Eliana Carranza**, Doctoral Fellow

*Does Energy Efficiency Save Energy? Evidence from an Experiment in Residential Electricity Consumption in a Developing Country*

**Lorenzo Casaburi**, Doctoral Fellow

*The Kenya Small Scale Cash Crop Longitudinal Study: Understanding the Impact of Environmental Stress on Agricultural Dynamics in Sub-Saharan Africa*

**Jon Marco Church**, Giorgio Ruffolo Doctoral Fellow in Sustainability Science

*Functioning Regional Environmental Agreements: The Case of the Alpine and Carpathian Conventions*

**James Habyarimana**, Giorgio Ruffolo Research Fellow in Sustainability Science (deferring to 2010-11)

*Evaluating the Impact of the Expansion of Piped Water into the Urban Slums and Peri-Urban Areas of Kampala, Uganda*

**Brooke Kelsey Jack**, Doctoral Fellow

*Alternative Allocation of Incentive Contracts: Tree Planting in Malawi*

**Pinar Keskin**, Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science

*Groundwater Scarcity and Female Labor Force Participation in Rural India*

**Rocco Macchiavello**, Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science

*Environmental Sustainability of Non-Traditional Agriculture Exports in Developing Countries: The Case of the Kenya Flower Industry*

**Robyn Meeks**, Doctoral Fellow

*Community Water Resources: Assessing the Impacts on Health, Willingness-To-Pay, and the Relationship between Trust and Contributions to Common Pool Resources*

**Suerie Moon**, Doctoral Research Fellow

*Re-Embedding Neoliberalism in the Global Public Domain: Reforming the Global Intellectual Property Regime for Health and Human Rights*

**Prateep Nayak**, Giorgio Ruffolo Doctoral Fellow in Sustainability Science

*Sustainability as Connectedness: Conceptualizing the Human-Environment Connections in Chilika Lagoon, India*

**Chiara Salghini**, Empedocle Maffia Fellow

Student in Master in Public Administration Program

**Ryan Sheely**, Giorgio Ruffolo Post-doctoral Fellow in Sustainability

*Institutions, Public Goods, and Sustainable Development in Africa and Beyond*

**Marta Vicarelli**, Giorgio Ruffolo Doctoral Fellow in Sustainability Science

*Climate Variability and Risk-Coping Strategies in Rural Mexico: Evidence from a Randomized Experiment*

**Amrita Ahuja** will be a Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science. Her work explores how incentive contracts and relationships between trading parties affect business outcomes in retail distribution in India. She received a PhD in Business Economics from Harvard University in 2009. Her research interests include understanding how to build reliable systems to market and distribute goods and services that fulfill basic human needs across dispersed geographies using both market and non-market channels. Amrita worked as a management consultant with [The Monitor Group](#) in Europe, the US and India from 1998-2003. She developed expertise in understanding individual's attitudes and behaviors with respect to decisions around product purchase and use. She has also volunteered with and worked as an advisor to non-profit organizations working on child health and education. Her faculty hosts at Harvard are [Asim Khwaja](#) and [Michael Kremer](#).

***Building Distribution Systems for Safe Drinking Water***

Understanding the structure of incentive and monitoring systems that need to be in place to ensure delivery of safe drinking water to households in rural Kenya is the focus of Amrita's research. Contaminated drinking water is a leading cause of diarrhea, which kills about 2 million children a year. Chlorination of household drinking water significantly reduces diarrhea morbidity and mortality, but driving adoption has proved difficult. A new technology – chlorine dispensers located at water sources – has had very high uptake and low costs in pilot studies. This project is directed at scaling up this new technology. The primary focus is to understand the optimal design of incentives and the structure of monitoring for participants in the supply chain for chlorine, so as to design a distribution system in which participants are motivated to keep dispensers functioning and reliably stocked with chlorine. Amrita takes an integrative role and collaborates with other researchers on a range of activities related to scale-up of dispensers. If successful, this project could have a significant impact on the health of children in the developing world. Additionally, it has broad relevance to the distribution and management of a wide range of public goods across dispersed geographies.

**Kamal Bawa** will be a Giorgio Ruffolo Mid-career Fellow in Sustainability Science, a [Bullard Fellow](#) at the [Harvard Forest](#), and a [Distinguished Professor of Biology](#) at the [University of Massachusetts at Boston](#). His work explores the role of institutions and market-based approaches to conservation. He is specifically interested in the relationships among poverty, institutions and community-based conservation. Kamal has been a [Guggenheim Fellow](#) as well as a Pew Scholar in Conservation and the Environment. He has published more than 180 papers, and edited eight books, monographs or special issues of journals. He is the editor-in-chief of [Conservation and Society](#), an interdisciplinary journal in conservation, and also serves on the editorial boards of several other journals. He has served on many national and international advisory panels. He has been the President of the [Association for Tropical Biology and Conservation](#), and a member of the governing board of several foundations and non government organizations. He is the Founder-President of the [Ashoka Trust for Research in Ecology and the Environment](#) (ATREE), a non-governmental organization devoted to research, policy analysis, and education in India. He is a recipient of the highest awards from the two main professional societies in his field. In 2003, the [Association for Tropical Biology and Conservation](#) bestowed

on him its highest honor by electing him as an Honorary Fellow. The [Society for Conservation Biology](#) awarded him its Distinguished Service Award in 2009. His faculty hosts at Harvard are [William Clark](#) and [Missy Holbrook](#).

### ***Conservation, Livelihoods and Agriculture***

Sustainable livelihoods and land use change, agriculture and livelihoods are the focus of Kamal's work. There is considerable debate about the success of integrated conservation and development projects in meeting the twin goals of conservation and poverty reduction. Work on sustainable livelihoods at several sites in the Eastern Himalayas tests whether conservation of biodiversity can be enhanced while alleviating poverty. Kamal's approach is to quantify changes in economic, social and economic parameters resulting from economic and institutional interventions. Data will be analyzed and findings integrated with results from other similar projects both within and outside South Asia. This work builds on efforts of the [Human Dimensions of Biodiversity Change Program](#) that Kamal's directs for the [International Union of Biological Sciences](#). He will examine the role of small scale agriculture, institutions, and development on land use change and ecosystem services, including water, and how these drivers are being impacted by climate change. This analysis will further contribute to the test and development a model of conservation that integrates livelihoods and conservation. Kamal also plans to complete three books: *Mountains of Life: People, Life, and Prospects of Conservation in the Eastern Himalayas Biodiversity Hotspot*; *Contested Domains: Conflict and Reconciliation in Protected Areas*; and *Reproduction in Tropical Forest Trees*.

**Manfredi Caltagirone** will be an [Empedocle Maffia Fellow](#) in the [Master in Public Administration](#) Program at [Harvard's Kennedy School](#). From 2004 to 2009 he served as an expert in the Department of Environmental Research and Development at the [Italian Ministry of Environment Land and Sea](#) where he was part of the team established to follow [environmental activities](#) of the [Italian G8 Presidency](#). Manfredi worked on issues related to climate change with a focus on technology transfer in the context of the [UN Framework Convention on Climate Change](#) negotiations and on bioenergy and biofuels policy development both in developing and developed countries. He has been a Research Fellow at the [International Bioenergy Initiative](#) of the [United Nations Foundation](#) and coordinator of the Italian Ministry for the Environment offices in Albania and Macedonia where he was responsible for the cooperation on Kyoto Protocol implementation. He also worked in Brussels at the Italian Ministry for the Environment-European Union liaison office dealing with energy and environmental projects in the Balkan region. Manfredi holds a Law degree from the [University of Rome "Tor Vergata"](#) and speaks Italian, English and French.

**Eliana Carranza** is a Doctoral Fellow and a PhD candidate in the [Program in Political Economy and Government](#), which is jointly supported by the [Kennedy School of Government](#), the [Economics Department](#), and the [Government Department](#). She holds an [MPA in International Development](#) from Harvard University and a Licentiate degree in Economy from the [Universidad del Pacífico](#) in Peru, where she was a professor in the Department of Economics. She is an author of studies on social protection systems in Peru. Her research interests include political economy of development, particularly the links among inequality, social expenditure, investment in human capital, and social mobility. She is a recipient of the [Giorgio Ruffolo Doctoral Fellowship in Sustainability Science](#) (2008) and the [Norberg-Bohm Fellowship](#) (2008).

With [Eduardo Moron](#), she contributed a chapter analyzing pension reform in Peru in *Lessons from Pension Reform in the Americas*, (Sinha and Kay, eds, Oxford, 2007). Her faculty hosts at Harvard are [Sendhil Mullainathan](#) and [Rohini Pande](#).

***Does Energy Efficiency Save Energy? Evidence from an Experiment in Residential Electricity Consumption in a Developing Country***

The study will provide experimental evidence to the traditional academic debate on the rebound: whether improvements in energy efficiency lead to energy conservation or to greater energy consumption. Methodologically, the study will offer a more accurate definition and measure of the rebound than previous estimates. In addition to the classical direct effect of energy efficiency, this study will look at indirect sources of rebound ignored in the literature. The implementation of the experiment in a low-to-middle income economy will offer insights on the limits to strategies that emphasize the adoption of energy efficient technologies in order to meet the energy needs for economic development.

**Lorenzo Casaburi** is a Doctoral Fellow and a doctoral candidate in the [Economics Department](#) at Harvard University. His main fields of interest are development economics and international trade. His current research focuses on the impact of environmental stress on farmers' decision making in Western Kenya. Other areas explored include technology diffusion in social networks and a lab experiment on the determinants of public good provision. Lorenzo is a recipient of the [Giorgio Ruffolo Doctoral Fellowship in Sustainability Science](#) (2007) and a doctoral fellowship in the [Multidisciplinary Program in Inequality and Social Policy](#) at Harvard. Before coming to Harvard he worked as a research evaluation consultant at the [Poverty Action Lab](#) at the [Massachusetts Institute of Technology](#) and for several nongovernmental organizations in Kenya focusing on the evaluation of health and education interventions in rural areas. Casaburi holds a degree in Economics magna cum laude from the [University of Bologna](#) (2004) and was a visiting student at the Department of Economics at the [University of California at Berkeley](#) in 2003-04. His faculty host at Harvard is [Michael Kremer](#).

***The Kenya Small Scale Cash Crop Longitudinal Study: Understanding the Impact of Environmental Stress on Agricultural Dynamics in Sub-Saharan Africa***

The 2008 World Development Report points out at the importance of climate change and demographic pressure for farmers' welfare in developing countries. Improving our understanding of the effects of environmental stress on farmers' choices in these settings is therefore a key challenge for sustainability science, yet the scarcity of longitudinal databases has been a major constraint to research progress. The project aims to shed new light on farmers' decision making by creating a unique database of sugar cane growers from a large sugar company in Kenya. Available information includes cane harvest, soil fertility, farming inputs, upkeep of farmers' plots, and contracts between the company and their farmers. Data will be used to assess the impact of climate change and demographic pressure on land ownership, plots' management and labor choices.

**Jon Marco Church** will be a Giorgio Ruffolo Doctoral Fellow in Sustainability Science and doctoral candidate in Political Science at the [Université de Paris 1 – Panthéon-Sorbonne](#). His work focuses on linking social science and environmental policymaking for effective implementation of global agreements at the regional level, exploring, in particular, regional

environmental agreements such as the [Alpine Convention](#) and the [Carpathian Convention](#). He holds an MPhil in International Relations from the [University of Cambridge, Queens' College](#), and received the [Radici del Brasile](#) award from the Brazilian Embassy in Rome for a monograph on the roots of Brazilian society. His research interests include international organization, environmental policy, and Latin America. Jon Marco is a doctoral member of the [Centre de recherches politiques de la Sorbonne](#), where he is pursuing his PhD under the supervision of Dr. Yves Viltard. He has lectured in international relations at the [American University of Paris](#), and collaborated with the [European Academy of Bolzano](#), consulting for the [Italian Ministry of the Environment](#) and the [United Nations Environment Programme](#) on the Alpine, Carpathian and (future) Balkan Conventions. Recent publications include [A Collection on the Carpathian Convention](#) (editor, EURAC, 2008); [La crisis del Canal de Beagle](#) (*Estudios Internacionales*, 2008); [Carpathian Convention: One Step Ahead. Three Steps Back?](#) (with Broggiato, *Environmental Policy and Law*, 2008). He is also the main author of the recent report [Alpine Sites and the UNESCO World Heritage](#). His faculty host at Harvard is [Calestous Juma](#).

### ***Functioning Regional Environmental Agreements: The Case of the Alpine and Carpathian Conventions***

This research project focuses on linking social science and environmental policymaking for the functioning, effective implementation of global agreements at the regional level, exploring in particular regional environmental agreements such as the Alpine Convention and the Carpathian Convention. Political scientists have studied in depth the dynamics of the security regime between the United Nations and the North Atlantic Treaty Organization and of trade negotiations between the World Trade Organization and the European Union for decades. Do regional arrangements function in the issue-area of environmental protection as they do in trade or security? Can the analyses produced by political scientists in these contexts be analogously applied or appropriately adapted to regional environmental governance? Climate science shows the urgency of ensuring effective implementation of global agreements such as the Framework Convention on Climate Change, and the Alpine Convention has just adopted an Action Plan on Climate Change. Are simple regional environmental agreements such as the Alpine and Carpathian conventions functioning as effective implementation mechanisms of complex global agreements? The European Union is certainly acting as such. However, the European Union is an international arrangement among nation-states, including several ecoregions, while the Alpine or Carpathian conventions include only one. Do single ecoregional agreements function any differently than more complex regional processes such as the European Union? How do the Alpine and Carpathian Conventions interact with European institutions? Since the 1970s French political thinkers have defined concepts such as “biopolitics”, “ecopolitics”, or “ecopower”. Some critical geographers have tried to apply them to the Alpine area. Does theoretical environmental uniformity produce practical political integration? This research project will address these topics, including the analysis of the role of science experts in policymaking in the concrete cases of the Alpine and Carpathian conventions.

**James Habyarimana** will be a Giorgio Ruffolo Research Fellow in Sustainability Science (deferred until Spring 2011). He is an [assistant professor of economics](#) at the [Georgetown Public Policy Institute](#). His main research interests are in development economics and political economy. He has conducted applied microeconomic research in the areas of private sector development and banking, the impact of HIV and antiretroviral therapy treatment on firms and

households, the scope for government in improving schooling outcomes in Africa, and the impact of ethnic diversity on collective action. His current research projects include an evaluation of a road safety intervention in Kenya, income support for antiretroviral therapy patients in Uganda, the impact of clean water in Uganda, and the impact of cell phone messages on adherence to antiretroviral therapy drugs in Kenya. He is a visiting fellow at the [Center for Global Development](#) in Washington DC. His faculty hosts at Harvard are [Asim Khwaja](#), [Michael Kremer](#), and [Lant Pritchett](#).

### ***Evaluating the Impact of the Expansion of Piped Water into the Urban Slums and Peri-Urban Areas of Kampala, Uganda***

Access to clean piped water remains scarce in many of the fast-growing cities in the developing world. The resulting gastro-intestinal disease burden in these settings constrains school attendance and impinges on the long-term health of residents of these under-served areas. The impact of the expansion of piped water into the urban slums and peri-urban areas of Kampala, Uganda will be evaluated. A total of 19,000 yard tap connections that will each provide access to clean drinking water for three families are planned. In addition, 800 public water points will be set up and are each expected to provide water to 30 families. The proposed study consists of two main objectives. Firstly, to estimate the impact of the introduction of piped water on the sanitary behavior, health and well-being of beneficiaries. Secondly, to estimate the impact of ethnic diversity and commitment devices on the management and sustainability of a common pool resource.

[Brooke Kelsey Jack](#) is a Doctoral Fellow and a doctoral candidate in the [Public Policy Program](#) at Harvard's [Kennedy School of Government](#). She is interested in market-oriented approaches to encourage the private provision of public goods. She has conducted fieldwork on auctions for the allocation of conservation contracts in Indonesia and Malawi, on incentives for the promotion of public health products in Zambia and conducted experiments in "field labs" in Kenya and Indonesia. Her research draws on experimental economics, contract theory and behavioral economics in examining individual decision-making. Jack is a fellow of the Harvard Environmental Economics Program and the Center for International Development. She is a recipient of the [Giorgio Ruffolo Doctoral Fellowship in Sustainability Science](#) (2007) and the Norberg-Bohm Fellowship (2006). Prior to graduate school, she worked in Lao PDR for [The World Conservation Union \(IUCN\)](#) for two years. Jack received her undergraduate degree in public and international affairs from Princeton University's [Woodrow Wilson School](#). Her faculty hosts at Harvard are [Nava Ashraf](#), [Chris Avery](#), and [Iris Bohnet](#).

### ***Alternative Allocation of Incentive Contracts: Tree Planting in Malawi***

Incentive based approaches to sustaining environmental service provision from private land is an increasing policy priority in developing countries, however, a lack of experience hinders policy design. In particular, translation of developed country policy mechanisms to developing country contexts requires assumptions about individual responses to the intervention. This research investigates behavioral response to alternative allocation mechanisms for tree planting contracts in Malawi. Specifically, a uniform price auction and a posted offer mechanism are directly compared in a field experiment that holds constant the contract content and the contract price. Though the two mechanisms should, in theory, yield similar levels of supply and selection, data collection to date indicates very different individual response to the mechanisms. Data collection

and analysis aimed at identifying the mechanisms behind the observed differences in behavior will be conducted. These results will help inform future policy design for environmental services programs in developing countries.

**Pinar Keskin** will be a Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science. She holds a PhD in Economics from [Yale University](#) (2009) and a BA in Economics from [Bilkent University](#), Turkey (2003). Her research focuses on the economic analysis of the determinants and consequences of groundwater depletion and on the institutional context of the rapidly-growing groundwater markets in developing countries. Her recent work *Thirsty Factories, Hungry Farmers: Intersectoral Impacts of Industrial Water Demand* examines how rising industrial demand aggravates groundwater scarcity, and ultimately affects a country's ability to achieve food security. Her analysis will be extended to the micro-level consequences of groundwater depletion, with a particular focus on its role on female labor force participation in rural India. During her studies at Yale, Pinar was awarded a Ryoichi Sasakawa Fellowship. Under this fellowship, she visited the [Centre for Micro Finance](#) in Chennai, India, and conducted qualitative field interviews to investigate the structure of groundwater markets. Based on her field experience, she contributed a detailed module on *Groundwater Use in Agriculture and Groundwater Trade* to the Tamil Nadu Household Panel Survey administered by the [Economic Growth Center](#) at Yale. Her faculty hosts at Harvard are [Michael Kremer](#) and [Rohini Pande](#).

#### ***Groundwater Scarcity and Female Labor Force Participation in Rural India***

Underrepresentation of women in market-oriented activities is a widely discussed policy issue both in developing and developed countries. The high time cost of unpaid housework is argued to be one of the potential explanations for gender differentials in labor force participation. In many developing countries, women spend several hours everyday in the collection of natural resources, such as drinking water. In particular, over 69% of rural Indian households had to collect water for drinking water purposes in 1999. The data also suggests that those fetching water were predominantly women; and that on average, these people spent the equivalent of approximately one working day per week in water collection. This research project investigates whether groundwater scarcity decreases the productivity of time spent on home production of water and forces women to divert time from income earning market activities. The analysis uses a theoretical model of female labor market participation decision under groundwater scarcity that implies a simple empirical test to determine the micro level effects of groundwater depletion on labor force participation. The empirical analysis uses the India Rural Economic and Demographic Survey from 1999.

**Rocco Macchiavello** will be a Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science and will be on leave from the [Department of Economics](#) at [Warwick University](#) where he will be an Assistant Professor. His research interests are in the economics of developing countries. He received his degrees from the [University of Genoa](#) in Economics and Management (BSc, 2000), [Département et Laboratoire d'Economie Théorique et Appliquée](#) (DELTA) at the [École Normale Supérieure](#) in Paris (MSc in Economics, 2003), and [London School of Economics](#) (PhD in Economics). He then completed a post-doctoral fellowship in [Nuffield College](#) at the [University of Oxford](#). Rocco's PhD thesis studied the impact of credit markets imperfections on the organization of firms and industries in developing countries, from both a theoretical and empirical angle. His current work studies the formation and maintenance of reputations in export

markets, the impact of civil conflict on firms as well as the economics of microcredit programs. During his period at Harvard he will work on evaluating the environmental sustainability of floriculture, a water intensive and export oriented industry, in Kenya. His faculty hosts at Harvard and MIT are [Asim Khwaja](#), [Rohini Pande](#), and [Tavnit Suri](#).

***Environmental Sustainability of Non-Traditional Agriculture Exports in Developing Countries: The Case of the Kenya Flower Industry***

Sustained economic growth is likely to be a necessary ingredient in the fight against poverty in Africa. Historically, episodes of sustained economic growth have been accompanied by a structural transformation through which economies shifted resources out of traditional sectors and diversified their export base. A development strategy based on export-oriented sectors in non-traditional agriculture, however, can put enormous pressure on natural resources such as land and water. In order to assess the sustainability of those development paths, as well as the overall impact on the welfare of the local population, it is necessary to look beyond export and employment performance and map the spillovers generated by the non-traditional sector. These issues are of particular relevance in the context of assessing the distributional consequences in general, and the poverty impact in particular, of export oriented industries in developing countries. My research studies the environmental impact of the Kenya flower industry by developing an original methodology that can lead to empirically grounded recommendation for public policy and local community management directed at promoting sustainable economic development. The proposed methodology addresses the main challenges to perform a quantitative analysis of the impact of the export oriented industries on local populations: need to convincingly address the issue of causation; disentangling the multiple channels through which the industry affects the local populations; and establishing the heterogeneity of those impacts across various socio-economic groups.

**Robyn Meeks** is a Doctoral Fellow, a doctoral candidate in the [Public Policy Program](#) at Harvard's [Kennedy School of Government](#), and a fellow in the [Harvard Environmental Economics Program](#). Her research focuses on decentralized water resource management, transboundary issues, and access to drinking water supplies and sanitation. Robyn is a recipient of the [Taubman Center Urban Dissertation Fellowship](#) (2009), the [Giorgio Ruffolo Doctoral Fellowship in Sustainability Science](#) (2008), the [Norberg-Bohm Fellowship](#) (2007), and the Crump Fellowship (2007-2008). She taught environmental studies as a [Peace Corps](#) volunteer in Kazakhstan and researched tariff collection for rural water supply systems in the Kyrgyz Republic as a recipient of a Fulbright fellowship. She consulted for the [Water Governance Programme](#) within the Energy and Environment Group of the United Nations Development Programme. Robyn received a B.A. in political science from [Brown University](#) and a Master's in Environmental Management, concentrating in water, science and policy, from [Yale University](#), where she was awarded the Foreign Language and Area Studies fellowship for study of the Russian language. While at Yale, she interned at [Resources for the Future](#), served as the editor of UNDP's newsletter on [Public-Private Partnerships in the Urban Environment](#), and conducted research for the United Nations Framework Convention on Climate Change Secretariat in preparation for the 2005 Conference of the Parties. Her faculty hosts at Harvard are [Michael Kremer](#) and [Rohini Pande](#).

***Community Water Resources: Assessing the Impacts on Health, Willingness-To-Pay, and the Relationship between Trust and Contributions to Common Pool Resources***

This research assesses the impacts and behavioral aspects of community-managed public water supply systems, which are promoted by international and multilateral organizations as a form of decentralization and a cost-effective method of providing communities with piped drinking water. First, using a regression discontinuity design, the impacts of improved water provision are investigated via communal standpipes on health outcomes in approximately two hundred and ten rural Kyrgyz villages. To estimate the benefits from the new water supply systems, the population's willingness-to-pay (WTP) for the infrastructure is calculated, in addition to WTP per disability-adjusted life year averted. Second, methods from experimental economics are used to test hypotheses as to why some villages have a higher percentage of individuals contributing to this common pool resource than other villages. Specifically, the relationship between actual village water tariff payment rates with average community outcomes from two sets of experimental games will be analyzed, including the voluntary contribution mechanism and the trust game. This research will inform water policy in developing countries by clarifying: the health benefits of piped communal water, communities WTP for those benefits, and community behavioral characteristics that are associated with different levels of WTP.

**Suerie Moon** is a Doctoral Fellow and a PhD candidate in the [Public Policy Program](#) at Harvard's [Kennedy School of Government](#). Her research focuses on international relations and global governance, specifically North/South relations, the evolution of international norms, global civil society networks, global health and human rights. She also works on analyzing the relationship between access to medicines, innovation and intellectual property rights policies, and the implications for equity in public health in the developing world. Suerie is currently a contributor to the [Institutional Innovations for Linking Knowledge with Action in Global Health Project](#) funded by the KSG Dean's Acting in Time initiative. The project takes as a case study the historical and contemporary international responses to malaria, in order to draw broader conclusions about effective global health institutional arrangements with applicability to other health areas. She is a recipient of the [Giorgio Ruffolo Doctoral Fellowship in Sustainability Science](#) (2008) and [Norberg-Bohm Fellowship](#) (2007) and two Research Fund grants from the [Hauser Center for Nonprofit Organizations](#) (2007, 2008), which have enabled her to carry out field research in China, Switzerland and Thailand. She is also a research assistant to Professor [Alnoor Ebrahim](#) on a project examining the negotiation of accountability relationships between civil society, national governments, and international financial institutions in six developing countries. Prior to coming to Harvard, she was a campaigner, researcher, and writer for the [Médecins Sans Frontières/Doctors Without Borders](#) (MSF) international [Campaign for Access to Essential Medicines](#), where she focused on intellectual property rights, equity prices for medicines, and research and development into neglected diseases. She received a Masters in Public Affairs with Distinction from the [Woodrow Wilson School](#) at Princeton University, and graduated cum laude with a BA in history from [Yale University](#).

***Re-Embedding Neoliberalism in the Global Public Domain: Reforming the Global Intellectual Property Regime for Health and Human Rights***

One of the central challenges of economic globalization is the relative loss of state autonomy to protect societies from the undesirable effects of a liberalized global market economy. International rules that serve the interests of global business can restrict governments' ability to

enforce labor standards, protect the environment, promote public health and meet other expectations of a nationally-negotiated social contract. In other words, the grand compromise of embedded liberalism that characterized the post-WWII international economic order has been unraveling. Nevertheless, over the past decade there has been strong societal reaction against the sharpest angles of these global regimes, and in some cases, the regimes themselves have been reformed. One of the few recent examples of the successful embedding of a neoliberal economic regime in the broader global public domain is the greater relative weight given to the right to health and access to medicines in the formal rules and informal norms and expectations that comprise the global intellectual property rights (IPR) regime. Specifically, World Trade Organization members have amended the Agreement on Trade-Related Aspects of Intellectual Property Rights to facilitate access to lower-cost generic medicines in developing countries, and have clarified the right of governments to set aside patents when they block efforts to protect public health. After some hesitation, developing countries are increasingly making use of these policy options. Furthermore, patent-holding pharmaceutical companies are expected to make their medicines affordable in developing countries, including allowing for flexible management of their IPR. These flexibilities and understandings are only now beginning to solidify after a decade of intense political contestation that involved civil society organizations, intergovernmental organizations, drug companies, governments and experts. The research examines how this range of actors influences the evolution of global economic regimes and explores the potential to embed such regimes so that they are more responsive to societal demands.

**Prateep Nayak** will be a Giorgio Ruffolo Doctoral Fellow in Sustainability Science and a PhD candidate at the [Natural Resources Institute](#) at the [University of Manitoba](#), Canada. His work explores the multi-level drivers and processes of alienation of fishing communities from the resource-base in India's Chilika Lagoon, and aims to determine the implications of such disconnect for social-ecological sustainability. Prateep is a [Trudeau Scholar](#), and recipient of the [Pierre Elliott Trudeau Foundation Doctoral Scholarship](#) in Humanities and Social Sciences. His research interests include understanding society-nature connections using conceptual elements from social-ecological systems, complex commons, environmental justice and political ecology. As a development professional, Prateep has worked for over a decade on issues concerning community-based governance of land, water and forest resources in India, focusing specifically at the interface of research, implementation and public policy. His recent publications include [Politics of Co-optation: Community forest management vs. joint forest management in Orissa, India](#) (with Berkes, 2008); [How to keep commons as commons in the long run: Formation and distortions of property regimes in Chilika Lagoon, India](#) (with Berkes, 2008). His faculty hosts at Harvard are [William Clark](#) and [Missy Holbrook](#).

### ***Sustainability as Connectedness: Conceptualizing the Human-Environment Connections in Chilika Lagoon, India***

Disconnection in the relationship between people and their natural surroundings is related to the question of sustainability. This research explores how the pursuit of sustainability in resource-based communities is linked to the level of people's connection or disconnection with the resource. The research focuses on the multi-level drivers and processes of alienation of fishing communities in India's Chilika Lagoon, a Ramsar wetland site and the largest brackish water lagoon in Asia, to determine implications of such disconnection for social-ecological

sustainability. It considers that the key question is not sustainability per se but the challenge of keeping people connected or reconnecting them to the resource-base. The research theorizes that: livelihood analysis is central to this connection; resource access, entitlements and control of people over their environment are essential determinants; attention to issues of power, equity and justice offers key foundation; and a promising approach is community-based management with attention to institutions, linkages and partnerships. Elements from a set of four conceptual areas – social-ecological systems, political ecology, environmental justice, and commons governance – along with empirical data collected through two years (2007-2009) of doctoral fieldwork in Chilika will be used to analyze sustainability in the context of human-environmental systems. The research outcome will be a framework that explains ‘what holds humans and environment together’ with specific reference to resource dependant poor in coastal and lagoon environments, both in Chilika as well as elsewhere.

**Chiara Salghini** will be an [Empedocle Maffia Fellow](#) in the [Master in Public Administration](#) Program at [Harvard’s Kennedy School](#) and joint Master in Business Administration candidate at the [Wharton School](#) at the [University of Pennsylvania](#). She graduated with Merit from the [London School of Economics](#) with an MSc in Law and Accounting (2005) and from [Bocconi University](#) in Italy with a BA in Law where she graduated *cum laude* (2004). Chiara was a financial analyst at [UBS Investment Bank](#) where she worked on several transactions in the utilities and renewable energy industries, including the merger of Enel and Endesa as well as the initial public offering of the Greek renewable energy company Terna Energy.

**Ryan Sheely** will be a Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science and will join the faculty as an Assistant Professor at Harvard’s [Kennedy School of Government](#). His research focuses on public goods provision and state capacity in Sub-Saharan Africa. He has conducted randomized evaluations and extensive archival and ethnographic fieldwork in several pastoralist communities in the Laikipia Region of Kenya. He is also the co-founder of the Sanitation Activities Fostering Infrastructure, the [SAFI Project](#), a nonprofit organization that coordinates waste management and recycling activities in northern Kenya. His research has been supported by the [International Livestock Research Institute](#), the [Yale Institution for Social and Policy Studies](#), the [MacMillan Center for International and Area Studies](#), and the [Program on Order, Conflict, and Violence](#). He holds a BA in Ethics, Politics, and Economics from Yale University, and a PhD in Political Science, also from Yale. His faculty hosts at Harvard are [Rohini Pande](#) and [Asim Khwaja](#).

### ***Institutions, Public Goods, and Sustainable Development in Africa and Beyond***

This research builds on a randomized program evaluation in which villages receiving a grassroots waste management program in Northern Kenya were randomly assigned to one of three different types of governance institutions: decentralized informal monitoring of littering behavior by civic organizations, enforcement of an anti-littering law by government administrators, and enforcement of the anti-littering law by local elders, or to a control group (no waste management program). The research has three specific components: planning and implementing replications of this sanitation/littering experiment in different contexts, both in other parts of Kenya, and in several other developing countries; collaborating on a set of parallel experiments that investigate the effect of governance institutions on the maintenance of other types of public goods, such as public toilets, clean water, health facilities, and common grazing

lands; and evaluating the effect of different types of local-decision making institutions on the use of the revenues generated by recycling activities in the set of villages included in the waste management project.

**Marta Vicarelli** will be a Giorgio Ruffolo Doctoral Fellow in Sustainability Science and a doctoral candidate in the [Sustainable Development Program](#) at Columbia University. She will explore the strategies available to poor rural households facing climatic risks by integrating socio-economic data from a controlled randomized anti-poverty program with local hydro-climatic data. Marta's research interests focus on the impacts of climate variability and change, as well as on the design of risk reducing instruments such as weather-indexed insurance programs. Since 2004, Marta has been working as research fellow at the National Aeronautic and Space Administration [Goddard Institute for Space Studies](#) investigating observed impacts and responses to climate change in natural and managed systems. She is contributing author to the [Intergovernmental Panel for Climate Change \(IPCC\) Fourth Assessment Report, Working Group II](#), on impacts, adaptation and vulnerability. Marta is recipient of the [Peccei Fellowship](#) (2007) awarded by the [International Institute for Applied Systems Analysis](#) in Vienna for her work on integrating inter-annual climate variability forecasts into weather-indexed crop insurance. She holds a B.S. in Earth and Atmospheric Sciences from the [École Normale Supérieure in Paris](#), a Master of Environmental Economics from [École Polytechnique](#) and a [Master of International Affairs from the School of International and Public Affairs](#) of Columbia University. Her faculty hosts at Harvard are [Rema Hanna](#) and [Shaw Cole](#).

### ***Climate Variability and Risk-Coping Strategies in Rural Mexico: Evidence from a Randomized Experiment***

This research project explores the strategies available to poor households to cope with climatic risks in Mexican rural areas targeted by [PROGRESA - Programa de Educación, Salud y Alimentación](#) (The Education, Health, and Nutrition Program of Mexico) controlled randomized anti-poverty program. Agriculture is the dominant activity for rural households, whose welfare is therefore strongly dependent on rainfall and temperatures. With monthly cash transfers close to 20% of the households monthly pre-intervention consumption, the PROGRESA program is likely to represent a consumption smoothing mechanism in the event of climatic shocks. Using spatial analysis tools, three rounds of PROGRESA panel data (covering 506 villages and 24,000 households in rural Mexico between October 1998 and November 1999) will be joined with local climatic data series to examine: the extent to which consumption of rural households is affected by climate variability; and how the introduction of a safety net represented by a conditional cash transfer program such as PROGRESA could reduce household vulnerability and smooth consumption in the event of a climate shock. This research integrates socio-economic data (PROGRESA) with local hydro-climatic data. The results of this study will be useful to design weather-indexed insurance programs. Such programs might also represent a climate change mitigation strategy, in a region where global warming is projected to cause severe drying.