



WELCOME...

The South Asian Network for Development and Environmental Economics brings together researchers and decision – makers from Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka to address development – environment problems, strengthen research and writing skills and promote dialogue and discussion on evidence – based solutions. This newsletter provides information on SANDEE activities during the last six months. Please read on and, and always, we would love to hear from you.

Dear Friends and Colleagues:

In preparation for the 21st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21) to be held in Paris, SANDEE has released a series of Working Papers and Briefs on climate change in South Asia.

One of SANDEE’s new studies gives further important evidence on the effects of rising temperatures on groundwater in Tamil Nadu, India. Research in Nepal on Reducing Emissions from Deforestation and Forest Degradation (REDD+) has yielded a series of papers on REDD+’s policy, management and implementation obstacles and successes. Climate is clearly having a significant influence on agriculture and manufacturing in our region. For an overview of these outcomes, please see ‘The Implications of Climate Change in South Asia’ in our Focus section below.

SANDEE welcomes our new Executive Director E. “Som” Somanathan and Board Member Saman Kelegama. Som has been with SANDEE since 2002, serving as researcher, resource person and Advisor. He is the Editor of *Environment and Development Economics* and a professor in the Economics and Planning Unit of the Indian Statistical Institute. Saman is the Executive Director of the Institute of Policy Studies of Sri Lanka and has published extensively on Sri Lankan national and regional economics issues. Please join us in welcoming them into their new roles in the SANDEE family.

With best wishes,
Your SANDEE Secretariat

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Research

Research Grants

SANDEE's research is thematically focused on three areas: economics of climate change, ecosystems management, and policies and programmes for greener development. The vast majority of research grants are awarded within these themes. After the 30th Biannual Research and Training workshop in Sri Lanka held June 29 - July 3, 2015, SANDEE received 84 research concept notes. Three full grants and one study grant were approved.

Research Grants Supported in the Summer 2015 Cycle

- **Adiqa Kiani, Pakistan**, Coping with Erratic Water Supplies and Willingness to Pay for Improved Water Quality of Rawalpindi City, Punjab, Pakistan
- **Badra Sriyani Herath**, Sri Lanka, Degradation and Transformation of Home Gardens in Wet Zone of Sri Lanka (Study Grant)
- **Eshita Gupta**, India, The Impact of Solar Water Pumping Systems on the Welfare of Farmers in India
- **Shamen Vidanage**, Sri Lanka, Contribution of Small Tank Cascade Systems to Rural Economy of Sri Lanka: Capturing Non-Market Values

Environment and Development in Sri Lanka and Beyond

SANDEE launched its 30th Research and Training workshop in Negombo with a panel discussion on environment and development in Sri Lanka. **Professor Shantha K. Hennayake**, Deputy Vice-Chancellor at the University of Peradeniya, presented a broad picture of the environmental challenges Sri Lanka faces. While green cover is increasing, so are industrial and agricultural pollution. The recent rise in chronic kidney disease among farmers may have environmental origins related to water pollution. **Dr. Sanjay Rathnayake**, Director of the Environmental Pollution Unit of the Central Environmental Authority, underscored Prof. Hennayake's concerns about the connections between pollution and health, pointing to the need for stronger research-policy interactions.

Dr. Athula Senaratne, Head of Environmental Economics Policy Research, Institute of Policy Studies, discussed Sri Lanka's National Adaptation plan and the need for Climate Information Products to reduce uncertainties associated with climate risks. Increasing the supply of such public goods will require strengthening the capacity of Sri Lanka's Meteorological Department. Speaking more broadly to the sustainability challenges in South Asia, **Ms. Neelima Khetan**, Director of Corporate Social Responsibility & Sustainability at Coca-Cola (India and South West Asia), clarified the difference between a corporation's interest in CSR and sustainability. She spoke about the CSR bill in India, which advises Indian companies to spend 2% of their revenue on CSR activities. The voluntary sector is changing, becoming more dependent on the corporate sector, which raises new challenges for financing sustainable development and underscores the need for dialogue among the various stakeholders in the coming years.



Policy makers and practitioners discuss environmental challenges in Sri Lanka and elsewhere, SANDEE Research and Training Workshop, Negombo, Sri Lanka, June 29 - July 3, 2015

Working Papers

Are Community Forestry Institutions Appropriate for Implementing REDD+ Lessons from Nepal?

Bishnu Sharma, Subhrendu Pattanayak, Mani Nepal, Priya Shyamsundar and Bhaskar S. Karky (WP 94-15)

This paper examines the role of national and sub-national institutions in managing carbon sequestration and trade in Nepal. Is it feasible and advantageous to implement REDD+ in Nepal's community managed forests? At the sub-national level, available evidence suggests that REDD+ activities can be successfully implemented, if, in addition to rent, communities receive technical mentoring that contributes to institutional strengthening.

REDD+ Impacts: Evidence from Nepal

Bishnu Sharma, Subhrendu Pattanayak, Mani Nepal, Priya Shyamsundar and Bhaskar S. Karky (WP 95-15)

Policy makers are clear to begin the process of scaling up REDD+ with a strong emphasis on supporting communities in the shift to bio-gas as an alternative to fuelwood. One of the first rigorous analyses from two years of REDD+ incentive payments indicate that there are positive signs of improved forest condition for carbon additionality and livelihood improvements, while no harm has been done to local livelihoods.

Climate Sensitivity of Groundwater Systems Critical for Agricultural Incomes in South India

R. Balasubramanian (WP 96-15)

India is the largest user of groundwater in the world. In Tamil Nadu, lack of regulations regarding sinking of wells in the same aquifer, growth of water-intensive commercial crops and subsidized electricity for pumping water have led to over-exploitation of groundwater (see Figure 1). Rising temperatures will affect ground water availability with serious and negative implications for agriculture, particularly for the smaller and poorer farmers. Two adaptation measures – dissemination of drought-tolerant seed varieties and regulation of deep-bore wells – will contribute to better conservation.

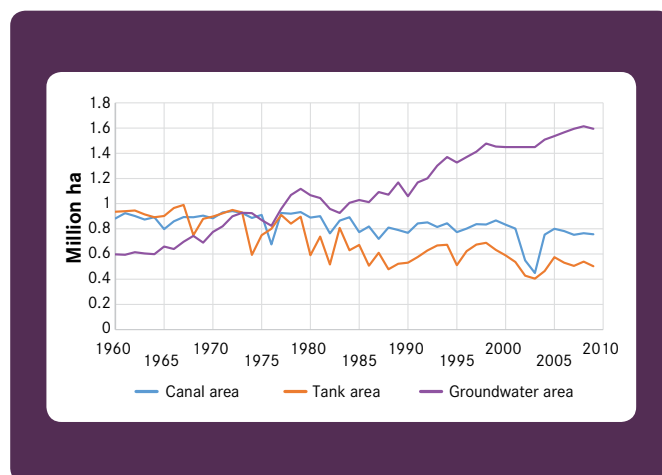


Figure 1: Tamil Nadu has seen a decline in tank and canal irrigation and an increase in ground water use in agriculture during the last 50 years.

Demand for Piped Drinking Water and a Formal Sewer System in Bhutan

Ngawang Dendup and Kuenzang Tshering (WP 97-15)

Bhutan is a growing country that is inadequately served by its existing water and sanitation infrastructure (see Figure 2). Data indicates the Bhutanese are willing to pay for these services. Municipalities in Bhutan can invest in water and sanitation infrastructure, cover necessary costs, and, simultaneously, increase revenues.

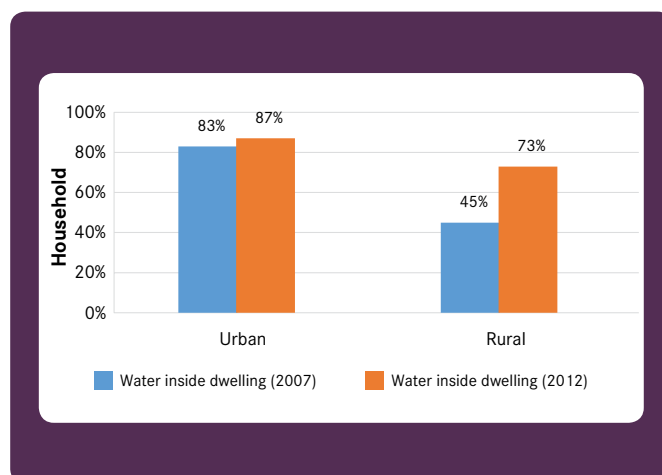


Figure 2: Access to Piped Water (2007 and 2012) in Bhutan

Environmental Regulations and Compliance in the Textile Processing Sector in Pakistan

Ghulam Samad, Waseem Gulzar, Vaqar Ahmed (WP 98-15)

Three strategies will encourage environmental compliance in the largest manufacturing industry and the second largest employment generating sector in Pakistan: installation of effluent treatment technology matched with improved monitoring, creating a rating system to trigger competition among firms, and offering firms training and information services at the district-level. Non-regulatory pressures from international customers and competitors are also a major source of influence on the Pakistani textile-processing sector.



All Working Papers, associated Policy Briefs, and a wealth of other data and analysis can be found on www.sandeeonline.org. SANDEE Working Papers are also available at **Research Papers in Economics** and the **BLDS Digital Library** of the Institute of Development Studies.

Focus

The Implications of Climate Change in South Asia

– E. Somanathan

Global warming has changed the climate in South Asia. SANDEE studies show this new warming has significantly decreased crop production and manufacturing output throughout the region. The findings are sobering. In India, the average temperature has risen by 0.8 degrees C in the last 45 years, contributing to a likely 10% decrease in production relative to business-as-usual.

The changing climate has had many different impacts in South Asia, including changes in ecosystems, more severe storms, rainfall that is more concentrated in fewer days per year leading to more floods and more droughts, deaths from heat waves, crop losses, and reduced labor productivity in manufacturing. Researchers in many different disciplines have studied these impacts. In particular, economists have contributed to studies on the effects of warming on crop yields and on labor productivity.

There are, broadly speaking, two kinds of econometric studies of the effects of climate change on crop yields. The first, called the Ricardian approach, uses the fact that different districts have different climates and therefore, different yields and farm profits, to infer the effect of a hotter climate on crop production. For example, K. S. Kavi Kumar (SANDEE Working Paper 45-09) estimates that climate change is predicted to reduce the value of farm output by 3% by 2070-99. One difficulty with the Ricardian approach is that it is vulnerable to the general problem of confounding: hotter districts may also be drier, have sandier soils, or be irrigated. Then the correlation between temperature and yield may be spurious. For this reason, econometricians include such variables on the right-hand side of their regressions as control

On the Road to Paris: COP21 in 2015

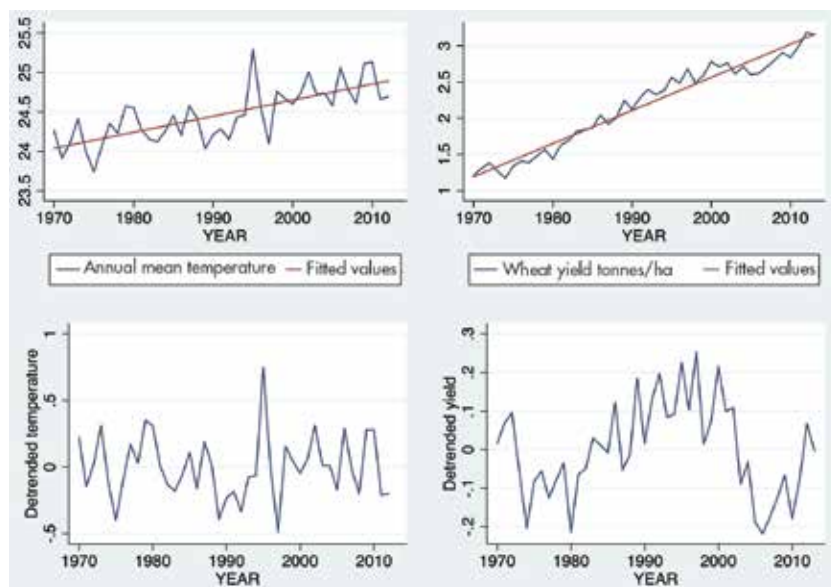
In late November in Paris the United Nations opens an historic conference whose goal is to achieve a legally binding, universal agreement on climate change.

The UN Framework Convention on Climate Change (UNFCCC), with its near universal membership of 195 countries, was created as an international political response to the changing climate. The Conference of Parties (COP) has reviewed the UNFCCC annually since 1995.

After 20 years of negotiations, this 21st annual conference (COP21), will require a pledge from each nation to uphold its individual action plan so that global warming will be kept below two degrees Celsius. COP21 is expected to draw 50,000 participants.

SANDEE research points to the various negative impacts of climate change in South Asia. As South Asian countries seek to identify solutions to their climate problems, SANDEE work, especially research on mitigation adaptation, offers invaluable support.

Figure A: Temperatures and Wheat Yields in India

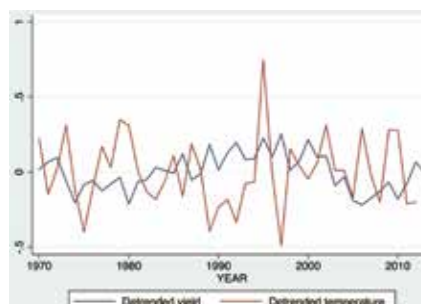


Data sources: https://data.gov.in/catalog/annual-and-seasonal-mean-temperature-india#web_catalog_tabs_block_10, and FAOstat.

variables to account for their effects. But finding data on all the variables that may be relevant is no easy task.

Seeking a way around this problem, econometricians have turned to panel data that uses variation in climatic variables and crop yields over time. In this method, the fact that both the climate and yields vary from year to year infers the impact of the former on the latter. However, while the climate has been getting hotter, crop yields have been rising due to capital investments and technological progress (Figure A, top right). In order to know whether the climate has impacted them, the data have to be de-trended, that is, the trends in the variables have to be subtracted from the variables themselves. The

Figure B: Single Time Series for India of De-trended Yields and Temperatures



final step is to calculate the extent to which the yield goes down when the temperature goes up. This is illustrated in Figure B: the de-trended yield tends to be positive when the de-trended temperature is negative, suggesting a negative effect of temperature on yields. De-trended variables (blue curves minus red lines) are shown in the bottom of Figure A.

The illustration in Figure B used a single time series for all of India. To make the estimates more precise and reliable, econometricians prefer the use of several time series, for example, one for each district or state, that are together called a panel.

The findings and their implications for food security in South Asia are sobering. Auffhammer, Ramanathan, and Vincent (PNAS, 2006), using data on Indian states over four decades, found that global warming and aerosol pollution combined had reduced rice production by over 10%. The impact of warming alone was < 5%. Gupta and Somanathan (2015) find that wheat yields were about 4.5% lower in 2009 than they would have been if warming since 1981 had not occurred. Reducing aerosol pollution by one standard deviation would increase the wheat

yield by 4%, mainly due to an increase in solar radiation reaching the plants.

A number of SANDEE studies across South Asia reinforce our concern about the agricultural impacts of climate change. In Nepal, Prakash Karn (SANDEE Working Paper 85-14) found that an increase in temperature during the ripening phase raises the yield of rice up to a threshold and then reduces it, with the overall effect being negative. In Tamil Nadu, research by Saravana Kumar (SANDEE Working Paper 91-15) suggests that rice and sorghum yields are likely to be 10% lower relative to potential by the end of the century. Haque and Jahan (SANDEE Working Paper 80-13) indicate that rising sea levels and greater storm surges due to global warming submerges crops and therefore decreases rice yield in coastal areas of Bangladesh.

There are distributional effects of these types of climatic changes. For instance, Gupta, Ramaswami, and Somanathan (2014), using a simple general equilibrium model, find that a decrease in agricultural productivity hurts the landless by three times as much as the resultant fall in GDP. This is due to an increase in the price of food, with the share of food in the household budget as much as 2/3 for the poorest.

The impacts of climate change are not confined to the agricultural sector. Somanathan et al (2015) using 10 years of data from India’s Annual Survey of Industries with over 21,000 manufacturing plants find that output falls by about 3% per degree increase in mean temperature. This effect is driven by high-temperature days. Manufacturing output in India would be 3% higher today if not for warming since 1970.

With warming having already had these effects, it is clear that more and worse is to come. Slowing and stopping global warming is, therefore, of great economic importance for South Asia. The governments of the region must also prepare for that part of the warming that cannot be prevented.

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- For the full text of the SANDEE Working Papers referenced above, please visit www.sandeeonline.org:
- Haque, Afsana, and Sarwar, Jahan. "Climate Change, Submergence and Rice Yield: Evidence from Coastal Barisal, Bangladesh." WP 80-13, July 2013.
- Karn, Prakash K. "The Impact of Climate Change of Rice Production in Nepal." WP 85-14, May 2014.
- Kumar, K.S. Kavi "Climate Sensitivity of Indian Agriculture: Do Spatial Effects Matter?" WP 45-09, November 2009.
- Saravanakumar, V. "Impact of Climate Change on Yield of Major Food Crops in Tamil Nadu, India." WP 91-15, January 2015.

Publications and Dissemination

Publications

- ▶ Asim, S. and Lohano, H. D. (2014). Households' willingness to pay for improved tap water services in Karachi, Pakistan. *Pakistan Development Review*, 53(4).
- ▶ Das, S., Shyamsundar, P. & Shaikh, S. (2015, July 11). Tackling the heat wave. *Pakistan Today*.
- ▶ Devi, P. I. (2015) *Natural resource management: Strategies in a climate change scenario*. Udaipur, India: Agrotech Publishing Academy.
- ▶ Ghosh, S. (2015) *Coping with natural disaster in the Sunderban Delta of India*. In A. Sinha, A. Bauer & P. Bullen (Eds.), *The Environments of the Poor in South Asia: Simultaneously Reducing Poverty, Protecting the Environment, and Adapting to Climate Change*. New Delhi: Oxford University Press.
- ▶ Ghosh, S. (2014) *Resilience of nature: Damage and recovery of Sundarban agriculture after Cyclone Aila*. *Artha Beekshan* 23(2).
- ▶ Mangan, T. & Lohano, H. D. (2014). Impact of nature-based tourism on earnings of local people: Evidence from Keenjhar Lake in Pakistan. *Pakistan Development Review*, 53(4).
- ▶ Mukhopadhyay, P., Nepal, M. & Shyamsundar, P. (2014). Building skills for sustainability: A role for regional research networks. *Ecology and Society*, 19(4), 45. <http://www.ecologyandsociety.org/vol19/iss4/art45/>



R.K. Amit study reveals the burden of inadequate water supply on the urban poor in Chennai

This summer a **SANDEE-supported study** by **R. K. Amit** and **Subash S.** of the Department of Management Studies and the Department of Humanities and Social Sciences at IIT-Madras, received widespread attention in Chennai, appearing in *The Hindu* and the *New Indian Express*.

The study, 'Coping Strategies and coping costs for accessing safe water in Chennai,' reveals that residents spend a disproportionate amount of their monthly incomes on drinking water. **The survey of 423 households over 12 wards indicates that poorer families spend some 15% of their monthly income, while higher-income families spend closer to one percent.**

Chennai Metro Water officials defended the quality of the water supply and commissioned a study of their own. Authors Amit and Subash recommend the government invest in infrastructure to improve water quality and extend coverage of the piped water supply.

- ▶ Rai, R.K., Shyamsundar, P., Nepal, M., and Bhatta, L. (2015) Differences in demand for watershed services: Understanding preferences through a choice experiment in the Koshi Basin of Nepal. *Ecological Economics*, 119:274-283.
- ▶ Patnaik, S. & Swain, M. (2015). Crop insurance for adaptation to agricultural risk in drought-prone Kalahandi District in Odisha. *Artha Vikas: Journal of Economic Development*, 51(1), 34-52.
- ▶ Sarkhel, P. (2015). Flood risk, land use and private participation in embankment maintenance in Indian Sundarbans. *Ecological Economics*, 118, 272-284.
- ▶ Swain, M. (2014). Crop Insurance for Adaptation to Climate Change in India (Asia Research Centre Working Paper No. 61). London School of Economics and Political Science: London, UK.
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- ▶ Swain, M. and Patnaik, S. (2014). Performance of crop insurance schemes in India (Ravenshaw Working Paper). Ravenshaw University: Odisha, India.
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Dissemination

Amalendu Jyotishi presented his work on informal gold mining in the Nilgiri-Wayanad Region of India over Last 170 years in multiple conferences in 2015: Gujarat Institute of Development Research (Feb) Informal Sector Economy National Conference, Bangalore (March), University of Groningen, the Netherlands (May), and International Association for the Study of the Commons, Edmonton, Alberta (May).



Promoting Regional Environmental Sustainability and Human Rights through Innovative Relationships between Businesses, Civil Society and Governments

Swedish International Development Cooperation Agency
May 27-28, 2015, Bangkok, Thailand

Sustainability and human rights are urgent global concerns. To examine these issues and identify strategies for active engagement, SIDA organized a partnership meeting with members of international civil society and government agencies. The workshop offered creative discussions on building strategic alliances and enriched knowledge of issues often understood differently by different entities. Bishal Bharadwaj and Jamuna Shrestha represented SANDEE in the discussions.

M. Swain and S. Patnaik

**Crop Insurance for Risk Management in India:
An Overview**

47th Annual Conference of the Orissa Economics
Association

Centurion University of Technology and Management
Bhubaneswar, India, February 2015

Md. Belal Uddin

**Ecological Effectiveness of Different Forest
Management Regimes in an Anthropogenic
Landscape in Bangladesh: Implications for
Conservation**

International Association of Landscape Ecology World
Congress

Portland, Oregon, July 2015

Surender Kumar

**Carbon Embodied Trade and Trade Resistances:
Evidence from South Asian Countries**

Delhi School of Economics, University of Delhi
New Delhi, India, August 2015



**Using Non-market Value of Ecosystem
Services to Mainstream Biodiversity into
Community Forest Management**

National Workshop on Biodiversity and
Community Forestry

Department of Forests

Kathmandu, Nepal, August 2015

The presentation by **Rajesh Rai**, part of the SANDEE-ICIMOD (HICAP) joint project, highlighted the role of non-market valuation in decision-making processes. It discussed methods of valuing ecosystem services and how these values can be used to ensure successful environmental management. The participants were particularly interested in how valuation studies deal with distributional issues and the applications in assessing trade-offs between ecosystem services.



Earlier in 2015, Rajesh Rai of SANDEE, Seema Karki of ICIMOD, and Narendra Chand from Nepal's Ministry of Forest and Soil Conservation, conducted a field visit in the Kapilvastu District in Nepal. The team had lengthy discussions with local forest users to obtain initial information for a study entitled "Costs and Benefits of Avoiding Deforestation and Forest Degradation in Nepal." Researchers also discussed the project and received feedback from officials at the District Forest Office in Kapilvastu. The study and presentation above are part of ongoing United Nations Environmental Programme supported REDD+ research that SANDEE and ICIMOD are jointly undertaking in collaboration with the Government of Nepal.

Training



30th Biannual Research and Training Workshop Club Hotel Dolphin, Negombo, Sri Lanka, June 29-July 3, 2015

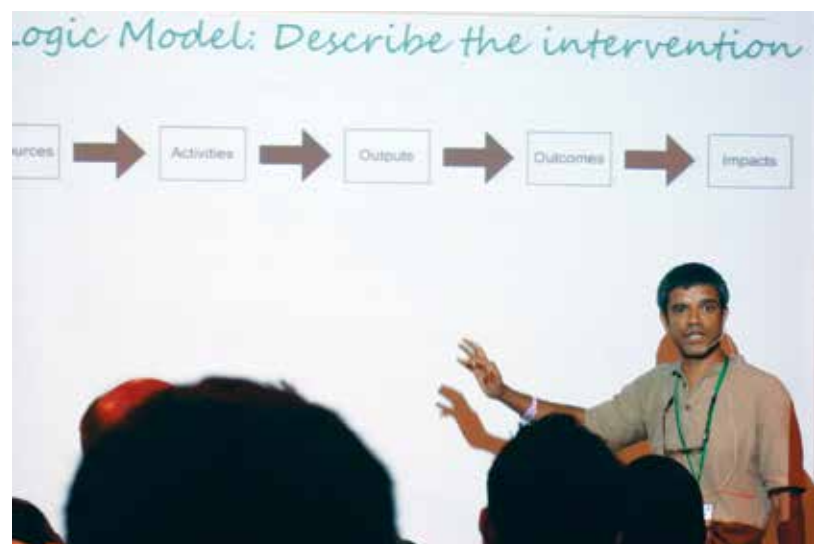


The SANDEE RnT Workshop forced me to look at my research problem and methodological approach differently. It was challenging for me as it led to major changes to the proposal. However, at the end of the workshop, I was fully convinced that those changes were essential to make my proposal a better quality one.

*– Shamen Vidanage
IUCN Sri Lanka*

The SANDEE Summer School seeks to provide conceptual and empirical skills required for undertaking research in environmental and development economics. University faculty are able to use the skills and information acquired in their own class rooms.

**Summer School in
Environmental and
Resource Economics Club
Hotel Dolphin, Negombo,
Sri Lanka, July 4-10, 2015**



Other Developments

Springer has released ***Nature, Economy and Society***, an edited collection of papers from international scholars that addresses questions of development and the environment, specifically the choices India and South Asia now face. Two of the book's editors are SANDEEites **Amita Shah** and **Pranab Mukhopadhyay**. The collection of 18 papers includes work by SANDEEites Kanchan Chopra, MN Murty, Joyashree Roy, Udit and Uma Maheswari, PK Vishwanathan and Nandan Nawn.

Md. Belal Uddin and the Department of Forestry and Environmental Science where he lectures at Shahjalal University of Science and Technology in Bangladesh, established a competitive grant program for final-year students.

Pranab Mukhopadhyay is co-author of an upcoming report on Coastal and Marine Ecosystems and guest advisor in the study on the Economics of Ecosystems and Biodiversity initiated by the Government of India's Ministry of Environment of Forests and the Deutsche Gesellschaft für Internationale Zusammenarbeit.

Opportunities for SANDEEites

Current and aspiring university faculty members from Bhutan and Nepal are eligible to apply for **WWF's Russell E. Train Education for Nature Fellowships Program** to pursue doctoral degrees in social science, natural science and other conservation-related fields. After completing a degree, the individual must enhance, expand, or establish a graduate-level conservation program at a university in their home country. This year's fellowships focus on building capacity in the areas of wildlife and freshwater. Application deadline is March 1, 2016.

Bishal Bharadwaj of the Ministry of Federal Affairs and Local Development in Nepal received a Chevening Scholarship to pursue an MSc in Climate Change at University College London. The Chevening Scholarship offered by the British government supports postgraduate coursework in the UK for select students from 150 countries, including all SANDEE countries. "It is amazing to be here at this globally celebrated university," says Bishal.

Earthquake Update: Future Researchers on Economics and the Environment

One of the casualties of the April 2015 earthquake was the Shree Shankha Devi Secondary School in the Dhading District of Nepal. Shree Shankha Devi was established 50 years ago and is the pride of its 90-household village. In the past three years its students achieved 60% or better on the Board Examination (10th Grade School Leaving Certificate) – exceptional for a government-run school. The current 300 students share a total of four permanent classrooms.

SANDEE visited Shree Shankha Devi and met with the community members, parents and teachers who manage the school. Villagers already contribute to the school by funding the majority of teachers' salaries each year. Pending approval from the Government of Nepal, SANDEE is pleased to work together with the management committee of Shree Shankha Devi to support the school by offering funds for classroom reconstruction. As the village rebuilds and restocks houses and businesses, the school will be 'building' smart, educated community members in a safe environment.



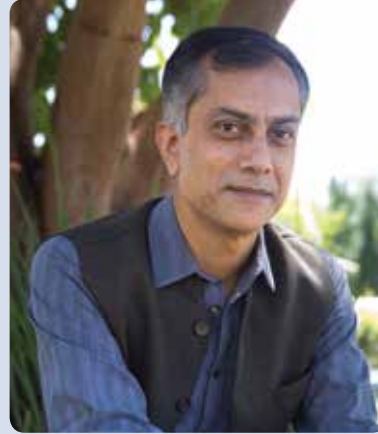


Saman Kelegama is the Executive Director of the Institute of Policy Studies of Sri Lanka (IPS). He is a Fellow of both the National Academy of Sciences of Sri Lanka and the Sri Lanka Economic Association and was the President

of the Sri Lanka Economic Association (SLEA) from 1999-2003.

Saman has published extensively on Sri Lankan and regional economic issues in both local and international journals. He is the Co-Editor of the *South Asia Economic Journal* (Sage Publications) and serves as a referee for a number of international journals. He is the author and editor of many books, including *Foreign Aid in South Asia: The Emerging Scenario*, *Trade Liberalization and Poverty in South Asia*, and *Migration, Remittances, and Development in South Asia*.

He has served on a number of government and private sector Boards. He was a member of the Presidential Taxation Commission of Sri Lanka. He received his D.Phil. and M.Sc in Economics from the University of Oxford in the United Kingdom.



E. "Som" Somanathan is SANDEE's new Executive Director. In addition to a long tenure at the Indian Statistical Institute in Delhi, Som has also taught at Emory University, the University of Michigan at Ann Arbor, and Princeton

University. He was a Coordinating Lead Author for Working Group III of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. He is currently the Editor of the journal *Environment and Development Economics*, published by Cambridge University Press. Som received his Ph.D. in Economics from Harvard University in 1995. Som is on leave from his position as Professor in the Economics and Planning Unit in the Indian Statistical Institute.

Som's main research interest is in development economics, particularly environmental problems and political economy. In 2002 he received a Sandee grant to study awareness and the demand for environmental quality in connection with drinking water. He became a Sandee resource person in 2004 and an Advisor in 2005. He is currently writing a book on environmental problems in India.

SANDEE and ACD award Fellowships for Bangladeshi Doctoral Candidates

SANDEE launched a **Ph.D. Dissertation Fellowship** for researchers from Bangladesh. The goal of the scholarships is to build interdisciplinary research on climate change and ecosystem services in Bangladesh. The dissertation fellowship, administered by the Asian Center for Development, is applicable in the fields of Ecosystem Management; Economics of Climate Change; and Policies and Programs for Greening Development. Three Bangladeshi researchers received fellowships in 2015:

HM Tuihedur Rahman is pursuing a Ph.D. at McGill University in Canada. His dissertation is 'Livelihood Vulnerability and Resilience to Climate Change: A Study of the Northeastern Flood Plain Communities of Bangladesh'.

Ronju Ahammad is a Ph.D. student at the Charles Darwin University, Australia, researching a dissertation on 'Reconciling Livelihoods and Conservation in Forest Landscapes of Bangladesh'.

Md. Sarwar Hossain Sohel, a Ph.D. student in the University of Southampton in the United Kingdom, is working on the research topic 'Modeling Ecosystem Services and Human Wellbeing using a System Dynamic Approach'.



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