



The South Asia Network for Development and Environment Economics brings together researchers and decision-makers from Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka to address development-environmental problems, strengthen research and writing skills and promote dialogue and discussion on evidence-based solutions. This newsletter provides information on SANDEE's activities during the last one year. Please read on and, as always, we would love to hear from you.

## Dear Friends and Colleagues:

We bring out the 31<sup>st</sup> Newsletter from SANDEE, just a few days after the potentially momentous Paris Agreement on climate change came into force on 4 November 2016. This issue's 'Focus' examines whether there has been a delinking of rising carbon dioxide emissions from economic growth over the last three years, and what continued growth would imply for emissions in the near future.

Ecosystems services are acquiring greater significance in ecological discourses and understanding. A two-day workshop on 'Valuing, Managing and Investing in Ecosystems Services in South Asia' was organized by the MoEFCC, Government of India, GIZ and SANDEE, and held in New Delhi in April 2016. Its key objective was to improve understanding of the economic challenges and opportunities for conserving ecosystems services.

Our biannual Research and Training workshops continue to elicit acclaim from our peers. At the 32<sup>nd</sup> R&T workshop, Professor Jeff Vincent, Duke University, gave a plenary talk on 'Why economists shouldn't care about deforestation'. In a second plenary lecture, Professor Jean-Marie Baland, University of Namur, Belgium, discussed the effects of economic growth on firewood collection and forest conditions in Nepal between 2003 and 2010.

Through these workshops and other efforts by SANDEE researchers, we continue to augment the capacity to undertake research on the interlinkages between economic development, poverty and environmental change, and disseminate relevant information so it can be applied to development policies across South Asia.

With best wishes,  
SANDEE Secretariat  
Kathmandu, Nepal

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# Research

## Working Papers

### **Weather Variability, Agricultural Revenues and Internal Migration: Evidence from Pakistan**

Heman Das Lohano (WP 101-16)



In search of work

This paper employs panel data to investigate how variability in weather affects migration across fifty districts of Pakistan. As temperatures increase, revenues per hectare rise initially, but then decline. The instrumental variables regression results show that a 1 per cent weather-driven decrease in the crop revenue per hectare induces, on average, a 2 to 3 per cent decrease in the in-migration rate into a district. Predicted increases in temperature and its variability during 2016-2035 (relative to 1971-1998) would consequently decrease the in-migration rate in 18-32 relatively warm districts, and increase the in-migration rate in the remaining 18-32 relatively cooler districts.

### **Rainwater Harvesting and Rural Livelihoods in Nepal**

Rishi Ram Kattel (WP 102-16)

Using data from 282 farmers in four districts of Nepal, this study employs a treatment-effects model to identify factors that influence the adoption of rainwater harvesting (RWH). The adoption of this technology more than doubles household agricultural and livestock income. If ten per cent of households (7,000 households) in an average rain-fed district receive farmer training, the net benefits would be approximately NRs. 134,907,710 per year from the adoption of RWH technology, potentially a very useful climate adaptation strategy for rain-fed farmers in Nepal.

### **Evaluating the Role of Media in Averting Heat Stroke Mortality: A Daily Panel Data Analysis**

Saudamini Das (WP 103-16)

This paper investigates the relative effectiveness of the different media used by the state government of Odisha, India, to disseminate Information, Education and Communication (IEC) material to avert heat stroke mortality. It analyses daily district-level occurrence of death using count models. Repeated advertisements were estimated to decrease deaths significantly, but over the long run. Of the three categories of media examined, the repeated use of television had the most robust effect in reducing deaths followed by newspapers and radio.

### **Performance Assessment of Crop Insurance Schemes in Odisha in Eastern India**

Mamata Swain, Sasmita Patnaik (WP 104-16)

This study analyses and compares the coverage, financial performance and operational efficiency in acting as a safety net of two major crop insurance schemes operating in Odisha, India. The Weather Based Crop Insurance Scheme (WBCIS) performs better than the National Agricultural Insurance Scheme (NAIS) on several indicators but only covers paddy crop losses due to deficit or surplus rainfall. There is also a need for multi-pronged crop insurance schemes like NAIS in Odisha. Both schemes should continue and complement each other.

### **Forest Conservation Outside Protected Areas: Three Decades of Forest Change in a Central Indian Tiger Corridor**

Shivani Agarwal, Harini Nagendra, Rucha Ghatge (WP 105-16)

This study addresses the issue of conservation by examining a critical forested landscape that connects two tiger reserves in Maharashtra. While forest protection may have been successful in reducing clearing of forests, especially in national parks, there may be a shift in pressure from protected areas to the forests outside in recent years. A landscape approach may offer a more effective strategy for conserving forest corridors that connect different protected areas.

### **The Clean Development Mechanism and Dynamic Capabilities of Implementing Firms: Evidence from India**

Aradhna Aggarwal (WP 106-16)

This study assesses the impact of the CDM on the dynamic capabilities of 612 firms in India. It shows that CDM implementation does not have significant outcome

effects on a firm's dynamic capabilities. The type and size of the project and the size of the firm are more weighty factors.

### **The Relative Efficiency of Organic Farming in Nepal**

Khem Raj Dahal, Shiva Chandra Dhakal (WP 107-16)

This study compares the productivity and profitability of organic and conventional farming for five crops in five districts of Nepal. Conventional yields are higher than organic yields for tea and rice, and conventional profits in rice higher. Net revenues are higher in organic maize and coffee because of lower costs. Technological interventions would help improve the productivity of organic crops.

### **Designing a Payment for Ecosystems Services Scheme for the Sardukhola Watershed in Nepal**

Rajesh K Rai, Priya Shyamsundar, Laxmi Dutt Bhatta, Mani Nepal (WP 108-16)

This research discusses a strategy for using Payments for Ecosystems Services (PES) to meet water demand in Dharan Municipality in Nepal. The analysis indicates that water quality is most preferred by water users. Upstream households need incentives to decrease domestic livestock grazing, change agricultural practices and reduce open defecation. A national PES policy would make it easier to initiate integrated and market-oriented approaches.



SANDEE researchers conducting stakeholder consultations regarding issues around PES in Sardukhola watershed

### **Negative Carbon Leakage: Evidence from South Asian Countries**

Surender Kumar, Prerna Prabhakar (WP 109-16)

This study tests the 'Carbon Leakage Hypothesis' by using an analytical model that captures the interaction between the sectoral carbon emissions intensity of 18 commodities

and the climate policy adopted by the trading partners of India, Pakistan and Sri Lanka. There exists negative carbon leakage for goods exported from India and Sri Lanka, and positive carbon leakage for goods from Pakistan. Positive or negative, the carbon leakage effect is commodity specific.

### **Distributional Impacts of Climate Change on Smallholder Agriculture in Sri Lanka**

Jagath C Edirisinghe (WP 110-16)

This research develops a methodology using regression equations to analyze the effects of climate change on agricultural livelihood choices and incomes using a cross-sectional data set from Sri Lanka. Climate plays a significant role in farmers' livelihood choices. Three livelihood choices show a positive change in welfare with the changes in climate: tea and rubber, coffee/pepper/betel and the wage labour strategy. Developing off-farm opportunities for farmers is important when designing climate policies.

### **Plastic Bag Ban in Nepal: Enforcement and Effectiveness**

Bishal Bharadwaj (WP 111-16)

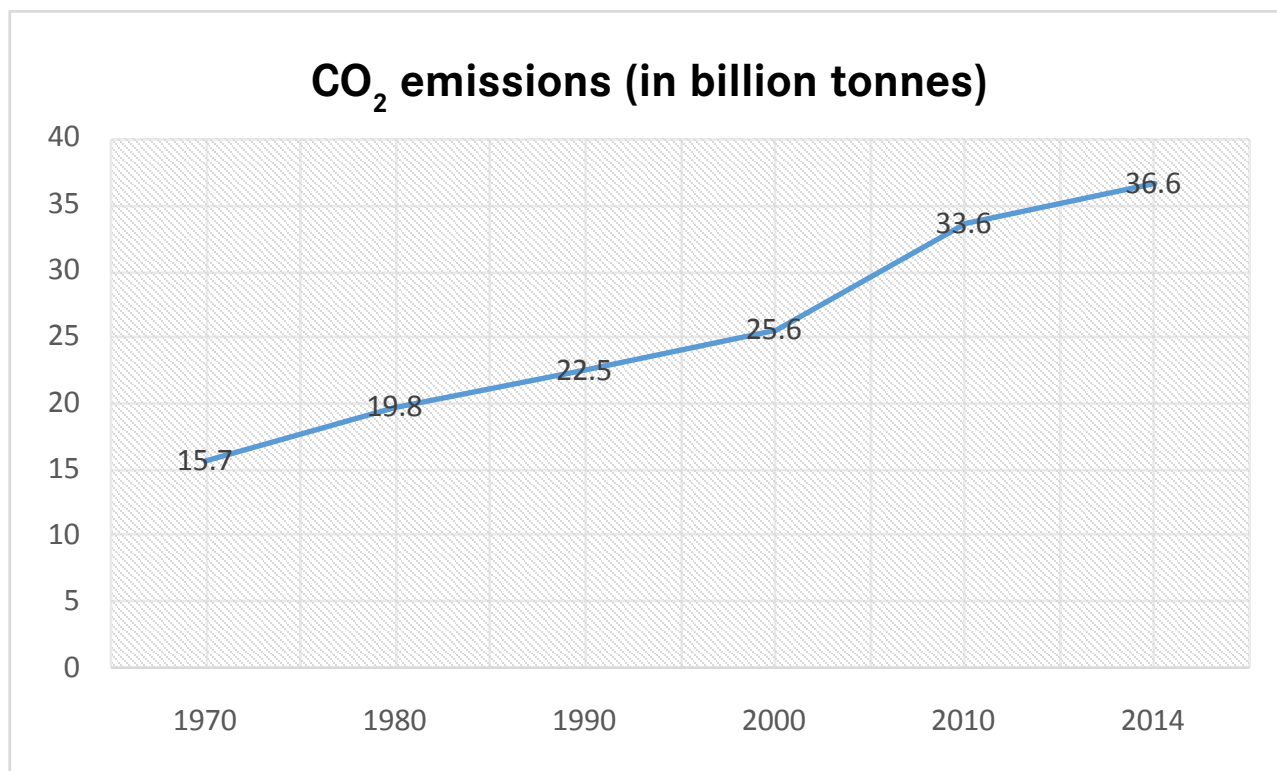
A survey of retailers and consumers from 14 municipalities in Nepal highlights the ineffectiveness of the National Plastic Bag Reduction and Regulation Directives 2011 that aims to enforce a selective ban on black plastic bags less than 20 microns thick. A strict enforcement of a complete ban on the use of plastic bags along with a high level of subjective expectation of fines, will reduce the number of plastic bags used by consumers by 95 per cent and the weight of plastic bags used by retailers by almost 100 per cent as compared to a poorly enforced complete ban, a partial ban, or no ban.



Enforce strictly a complete ban on plastic



# Focus



## Are Carbon Emissions Decoupling from Economic Growth?

- Nagraj Adve

There's been considerable speculation in recent months as to whether we are witnessing a decoupling of carbon dioxide emissions from economic growth. Emissions growth, says a recent authoritative report, slowed down to about 1 per cent in 2012 and 2013, and "almost stalled, increasing by only 0.5% in 2014 ... while the world economy grew by 3%, showing a partial decoupling between the growth in carbon dioxide emissions and that in the economy" (Olivier et al, 2015: 4).

It did not always used to be the case. Carbon dioxide emissions are, of course, largely dependent on the energy intensity of GDP, and the carbon intensity of energy. Over the forty-year period 1970-2010, says the Intergovernmental Panel on Climate Change in its latest Assessment Report, a one per cent growth in GDP worldwide resulted in a roughly 0.4% rise in fossil fuel CO<sub>2</sub> emissions; however, as manufacturing increasingly began to shift to coal-rich China in the 1990s, this ratio grew worse. Over 1990-2010, carbon dioxide emissions rose 0.5 per cent for every one per cent growth in GDP (IPCC 2013: 22).

As a consequence, carbon dioxide emissions worldwide which were barely 15.7 billion metric tonnes (Gt) in 1970, rose to 19.8 Gt in 1980, 22.5 billion tonnes in

1990, 25.6 Gt by 2000, 33.6 Gt in 2010, to reach 35.6 billion tonnes in 2014, the latest year for which worldwide emissions data is available. It is interesting to have a glance at emissions from South Asia. In 2014 - in sharply descending order - India's emissions were 2,341 million metric tonnes (mt), Pakistan's 158 mt, Bangladesh's 66 mt, Sri Lanka's 16.6 mt, Nepal's 6.5 mt, Bhutan's 1.4 mt and Maldives' marginally less than one million tonnes. South Asia's total was 2,590 mt of carbon dioxide (or about 2.6 Gt out of a worldwide 35.6 Gt for that year) (EDGAR 2015).

But now a worsening emissions-to-GDP ratio seems to have reversed quite suddenly, and pretty much flattened out. This raises a couple of questions: why did this happen? And what does it imply for emissions in the immediate future?

The most obvious factor is the renewables expansion nearly worldwide. There has been a huge expansion, both in terms of installed capacity, and even in electricity generation. According to a presentation in late October by the International Energy Agency, the total capacity of renewable electricity worldwide has now overtaken that of coal. Another recent report suggests that wind power is growing at 20 per cent a year, and solar power at 35 per cent a year.

This, no doubt, is from a small base, and these breathtaking rates of renewables expansion will inevitably slow down to saner levels, but they are impressive, and partly account for the lower emissions-to-GDP ratio over the past three years. But this is by no means the whole story.

Multiple factors are at play in different contexts; one can only touch upon these in a brief piece. What happens in China, once again, is central to the story. As weighty a factor as the expansion of renewables in China – it is due to overtake the US as the largest generator of wind and solar power in 2016 – is the ongoing transition in the nature of the Chinese economy, with a shift in emphasis away from industry and capital investment, and services now having greater weight than they did earlier, relative to manufacturing. Generally speaking, the services sector tends to have lower emissions than manufacturing. Coal consumption in China flattened out in 2014, in energy terms, and China's carbon dioxide emissions in 2014 increased overall by marginally less than one per cent over 2013.

In the case of the European Union, CO<sub>2</sub> emissions fell by 5.4 per cent in 2014 even as its GDP rose slowly by 1.4 per cent. Lower emissions were both due to longer-term processes such as a shift to renewables, and helped by more contingent factors such as a much milder winter, which reduced the demand for internal heating (Olivier 2015: 24). US' emissions have fallen by roughly 11 per cent between 2007 and 2014, to about 5.33 billion metric tonnes. The factors behind this decline are interesting: a paper published last year in *Nature Communications* indicates the shift from coal to gas, as gas became more abundant and cheaper due to the shale gas expansion; gas is both less carbon-intensive, but also more energy efficient than coal. But a large factor in the reduction of emissions lies in a decline in household consumption following the economic crisis of 2007 and a change in consumption patterns (Feng et al, 2015: 3-4).

What can one infer from all this for emissions of the immediate and intermediate future? Global economic growth “is projected to slow to 3.1 per cent in 2016 before recovering to 3.4 per cent in 2017”, says IMF's *World Economic Outlook* of October 2016. Given the problem of overcapacity that is currently plaguing China and economic sluggishness in Europe and other developed countries – with its spillover effects already visible in some sectors in India and elsewhere – I'd be surprised if world economic growth is going to be as robust in the near foreseeable future. One foresees levelled off US carbon dioxide emissions, and a fall in the European Union's. China's emissions will continue to grow, but at a slower rate than it has over the past decade or more. The other region from where emissions will grow is South Asia; given that India's share is 90 per cent of South Asia's, this primarily means emissions from India with its continued emphasis on coal.

The underlying driver is important: the imperative of growth under modern capitalism suggests that carbon dioxide and other greenhouse gas emissions will not decline sharply as they must if dangerous anthropogenic interference with the climate system is to be avoided. Notwithstanding the ongoing expansion in new renewables such as wind and solar power, it appears that emissions worldwide will continue to rise slightly in some years, and at best flatten out in others over the next decade or longer. Hence we need a more rapid expansion of large-scale and grid-connected, decentralized photovoltaic and other renewables, a steep carbon fee and other stringent fiscal measures, a reduction in wasteful elite consumption, accessible public transport, diverse energy efficiencies and a range of other positive measures to make a more rapid transition away from all fossil fuels. Basically, the world needs to act with far greater urgency at different levels if the poor everywhere, and particularly the people of South Asia, are to avoid the dangers of rapid climate change.

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Harvey, David (2014). *Seventeen Contradictions and the End of Capitalism*, Profile Books, London.

IPCC (2013). Working Group III, Chapter 5, 'Drivers, Trends and Mitigation'.

Olivier, Joss, et al (2015). *Trends in Global CO<sub>2</sub> Emissions: 2015 Report*, PBL Netherlands Environmental Assessment Agency, The Hague.

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Nagraj Adve is a member of India Climate Justice; he works, writes and speaks on issues related to global warming in India.

# Publications and Dissemination



## Publications

1. Das, S. (2016) Television is more effective in bringing behavioral change: Evidence from heat-wave awareness campaign in India, *World Development*.
2. Zamand, M. and Hyder, A. (2016) Impact of climatic shocks on child human capital: evidence from young lives data, *Environmental Hazards*, doi: 10.1080/17477891.2016.1185003.
3. Hossain, S., Egenbrod, F. and Amoako, F. (2016) Unravelling the interrelationships between ecosystems services and human well-being in the Bangladesh delta, *International Journal of Sustainable Development and World Ecology*.
4. Rathnayake, W. and Rathnayake, M. (2015) Turtle watching: A strategy for endangered marine turtle conservation through community participation in Sri Lanka, *Ocean and Coastal Management*, [www.elsevier.com/locate/ocecoaman](http://www.elsevier.com/locate/ocecoaman).
5. Agarwal, D., Rocchini, A. Marathe and Nagendra, H. (2016) Exploring the relationship between remotely-sensed spectral variables and attributes of forest vegetation under the influence of local forest institutions. *ISPRS International Journal of Geo-Information*, 5: 117, doi: 10.3390/ijgi5070117.
6. Agarwal, S., Nagendra, H. and Ghatge, R. (2016) The influence of forest management regimes on deforestation in a Central Indian dry deciduous forest landscape. *LAND* 5: 27, doi: 10.3390/land5030027.
7. Swain, M. (2015) Performance of crop yield and rainfall insurance schemes in Odisha: Some empirical findings. *Agricultural Economics Research Review*. Vol. 28, No.2, July-December, pp. 201-12.
8. Swain, M and Patnaik, S. (2015) Crop insurance for risk management in India: An overview, *Orissa Economic Journal*. Vol. 47, No. 1, Jan-June, pp. 78-97.
9. Swain, M. (2014) Efficacy of crop yield and rainfall insurance scheme in rainfed agriculture in Odisha: Some micro-evidence. *IASSI Quarterly: Contributions to Indian Social Science*, Vol. 33, Nos. 2-4, April-December, pp. 70-91.



## Dissemination



SANDEEites at the EAERE 22<sup>nd</sup> Annual Conference, Switzerland

Saudamini Das, Prajna Mishra, Rajesh Rai, Jagath Edirisinge, Chandan Singha and E. Somanathan presented research at the **EAERE 22<sup>nd</sup> Annual Conference** in Switzerland, held between June 22-25, 2016.



Bishal Bhardwaj, Belal Uddin and Nandkaji Budhathoki spoke at the **SIDA – Development Research Conference**, Sweden, held on August 22-24, 2016.

Dipendra Bhattarai spoke at the **Workshop on Smart Villages and Resilience to Natural Disasters**, National University of Singapore, on January 25, 2016.



Participants at the workshop on Smart Villages and Resilience to Natural Disasters, National University of Singapore, January 2016



Wasantha Athukorala presenting at the 26<sup>th</sup> Asian Economic Symposium, Sri Lanka, August 2016

Wasantha Athukorala presented a paper titled 'Farmer Preferences for Banana Diversity and Genetically Modified Banana in Sri Lanka: Application of Choice Experiment Method' at the **26<sup>th</sup> Asian Economic Symposium** at the University of Peradeniya, Sri Lanka, on August 19-20, 2016.



R K Amit and S. Subhash, both from Indian Institute of Technology, Madras, organized a workshop related to their project on '**Coping Strategies and Coping Costs for Accessing Safe Water in Chennai**', at IIT Madras on September 11, 2015.



Amalendu Jyotishi speaking at the School of Economics, University of Hyderabad

Amalendu Jyotishi presented his work on ‘Conflict, Engagement and Assimilation of Sri Lankan Repatriates into Informal Gold Mining in Nilgiri-Wayanad Region, Southern India’ at a national seminar on **Dr. B. R. Ambedkar’s Vision of Economic Development of India** on August 29-30, 2016, at the School of Economics, University of Hyderabad.



Roshan Sherchan presented his final research results on **Financing Measures and Strategies Against Human Elephant Conflict in Jhapa, Eastern Nepal** with local communities in Bahundagi Jhapa on September 18, 2016, and in Kathmandu on September 23 with central level stakeholders at a dissemination workshop.



On September 27, 2016, SANDEE’s Rajesh Rai presented the preliminary findings of a study on the **Payment of Ecosystems Services (PES) in Dasharath Chand Municipality** Drinking Water Supply project and the development of local institutions for its implementation in Baitadi (see KSL Field visit, page 11).



Mahfuz Kabir spoke at the **Expert Group Training Workshop on Situation Analysis of Environmental Statistics** held at Bangladesh Bureau of Statistics (BBS), Dhaka on November 6-8, 2016.

Chandrasekhar Bahinipati presented his research on **The Role of Differential Subsidy Policy in the Adoption of Micro-Irrigation Systems (MIS) in Gujarat** at Gujarat Institute of Development Research, Ahmedabad, India on October 25, 2016



Dissemination Workshop on “The Role of Differential Subsidy Policy in the Adoption of Micro-Irrigation Systems (MIS) in Gujarat”, 25 October 2016, GIDR Ahmedabad, supported by SANDEE



# Training

The SANDEE Summer School seeks to provide and augment the conceptual tools and empirical skills required for undertaking research in environmental and development economics

SANDEE organized a **Summer School in Environmental and Resource Economics** in Kathmandu, Nepal, from May 9-26, 2016. The workshop sought to introduce economists across South Asia to different themes in environment and development economics and to provide them the skills to teach and carry out research in these areas.

SANDEE organized a one-week **Winter School in Research Methods** from February 29 - March 4, 2016 in Kathmandu. The objective of this workshop was to help researchers strengthen their analyses, writing and communication skills. It was designed largely for SANDEE researchers/associates who are doing a project with SANDEE.

The **32<sup>nd</sup> Biannual Research and Training workshop** was organized from June 15-18, 2016 in Waikkal, Sri Lanka.

“The Research and Training workshop organised by SANDEE twice a year is a unique combination that not only emphasises quality research but also creates an environment in which learning is pleasant. One interacts with the best known scholars in the field.” - Professor Amalendu Jyotishi, Amrita University.



Participants at the Summer School in Environmental and Resource Economics, Kathmandu, May 9-26, 2016



A plenary lecture at the 32<sup>nd</sup> R&T workshop in Waikkal, Sri Lanka, was delivered by **Professor Jeffrey Vincent**, Clarence F. Korstian Professor of Forest Economics and Management at Duke University. Economists, he said, are increasingly using impact evaluation methods to measure the effectiveness of forest conservation programs. He urged developing measures of program outcomes that are economically more relevant, that evaluate the impacts on forest degradation, not just deforestation, and on primary forests, not forests in general. These and other steps would be more useful for the economic analyses of conservation programs.



In a second plenary lecture, **Professor Jean-Marie Baland** of the University of Namur, Belgium, discussed the effects of economic growth on firewood collection and forest conditions in Nepal between 2003 and 2010, using satellite images and household data. Projections based on environmental Kuznets curves were inaccurate, he said. Demographic growth effects were offset by reductions in the firewood collection per household as they substituted firewood by other energy sources. He underlined the significance of including structural changes that accompany economic growth while analyzing its implications for environmental sustainability.

# Other Developments

## Ecosystems Services in South Asia: A Two-day Workshop

An enriching two-day workshop on Valuing, Managing and Investing in Ecosystems Services in South Asia, organized by the MoEFCC, Government of India, GIZ and SANDEE, was held in New Delhi on April 28-29, 2016. Its key objective was to improve understanding of the economic challenges and opportunities for conserving ecosystems services. The studies presented and discussed included SANDEE research by Saudamini Das and J.R. Vincent on mangroves in Kendrapada district, Orissa; the restoration of various wetlands; wildlife-human conflict; policy instruments, and avenues for further research. Three key themes that emerged repeatedly were: the need to establish the varied and sometimes hidden contributions of ecosystems services to people's livelihoods and human welfare; the importance of addressing conflicts by identifying multi-scale trade-offs; and evaluating multiple policy levers and linking the valuation of ecosystems services to these policy instruments, where appropriate.



## Foresights Workshop

Villa Vigano, Milan, Italy  
April 18-21, 2016

This workshop brought together fifty participants from around the world to discuss medium- to long-term priorities for meeting the 2030 Sustainable Development Goals. Organized by Future Earth's German Committee, the workshop sought to identify the choices that need to be made to prioritize the research questions that would support the 2030 SDG Agenda. Priya Shyamsundar represented SANDEE and discussed ecosystems-related research and requirements in South Asia.



Participants at the Foresights Workshop, Milan, April 18-21, 2016

## PES Workshop

Kathmandu, Nepal  
November 9, 2016

The Minister for Forests and Soil Conservation, Hon. Shankar Bhandari, said priority has been given to conservation programs at the community level to improve biodiversity conservation and ecosystems at **Research - Policy Interface: Mainstreaming Payment for Ecosystems Services in Nepal** organized by the Ministry, ICIMOD, Green Governance Nepal - GGN and South Asian Network for Development and Environmental Economics - SANDEE in Kathmandu, Nepal.



Hon. Minister Shankar Bhandari inaugurating the PES workshop



## Regional Consultation Workshop on 'Bridging the Climate Information and Communication Gaps for Effective Adaptation Decisions: An Integrated Climate Information Management System', June 21-22, 2016, Colombo

Organized by the Department of Meteorology, Sri Lanka, Institute of Policy Studies of Sri Lanka, Janathakshan and SANDEE, this workshop began with a keynote address by W.L. Sumathipala, Chairman, Advisory Committee on Climate Change Mitigation, Sri Lanka, followed by an address by each of the project partners. The participants discussed various aspects of climate information products, agricultural value chains, local knowledge, and adaptations in agriculture. The break-out group discussions at the end of two days focused on identifying suitable strategies of communication and community mobilization, the climate information needs of farmers and the selection of appropriate information products.

### Valuation of Ecosystems Services in the Kailash Sacred Landscape: Field visits

A SANDEE team comprising Mani Nepal, Saudamini Das, Madan Khadayat and Rajesh Rai visited three watersheds in India and Nepal under ICIMOD's Kailash Sacred Landscape (KSL) Program between September 27 and October 6, 2015. They had focus group discussions with local communities and consultations with ICIMOD partners and other stakeholders working in the KSL area in order to understand local issues related to watersheds for the valuation of ecosystems services. Four focus group discussions were organized with local communities of the Hatkalika and Chandak-Amlaghat watersheds. In Nepal, five focus group discussions with local communities of Gwalek watershed area and Dasharath Chand Municipality of Baitadi were carried out. Besides, interactions organized by the GB Pant National Institute of Himalayan Environment & Sustainable Development were held with the Wildlife Institute of India, Central Himalayan Environment Association, and Himalayan Gram Vikas Samiti. Detailed discussions were held with officials from the Uttarakhand Biodiversity Board, Pithogharh Forest Division, the Dasharath Chand Municipality, and the Baitadi Chamber of Commerce, among others.



Participants at the workshop on 'Bridging the Climate Information and Communication Gaps for Effective Adaptation Decisions', in Colombo

## PhDs completed recently

**Perna Prabhakar** recently completed her PhD thesis on the 'Economic Implications of Regional Trade Agreements: A Study of Selected Developing Countries' from the University of Delhi, India

**Monjit Borthakur** completed his PhD thesis, 'The Heat is On: Estimating the Urban Heat Island Effect in Greater Guwahati Area, Assam', from Gauhati University, India

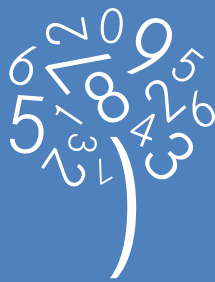
## Upcoming Workshops

### 33rd Biannual Research and Training Workshop

Pokhara, Nepal  
December 14-17, 2016







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