



SANDEE 

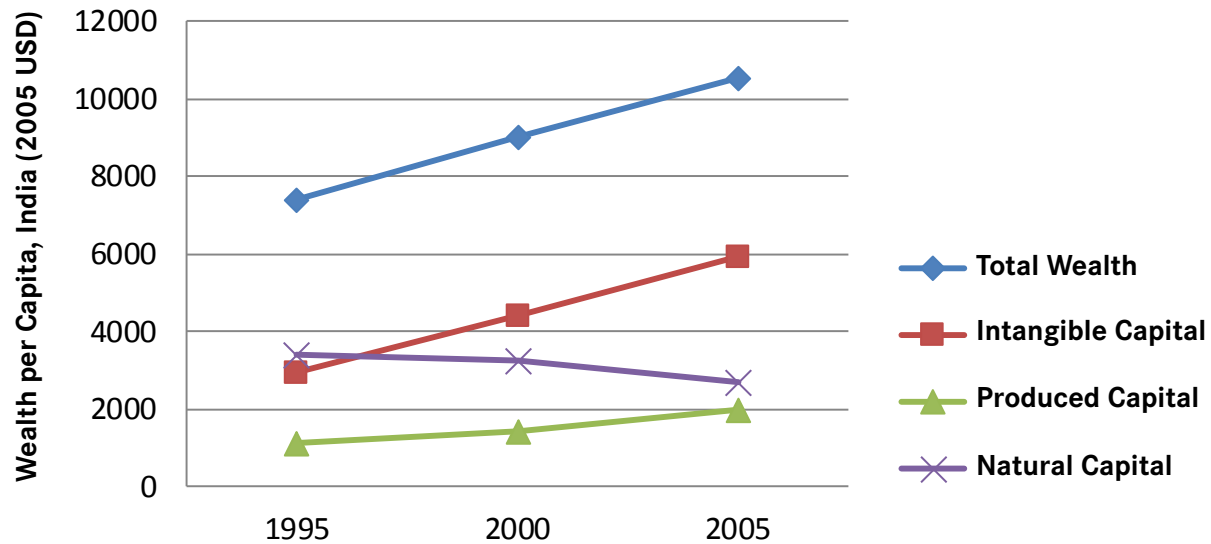
ECONOMICS & THE ENVIRONMENT



# Annual Report

## 2014

All economies use **natural capital**. In South Asia where the **priorities** are poverty reduction and economic development, we must **secure the future** of natural resources and ecosystem services for **human** well-being.



Source: The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium, The World Bank, 2010

When the **natural world** is assigned a **value**, economists have a **powerful tool** to reveal the importance of smart, **sustainable development** policies.









Since 2000,  
SANDEE has been  
**transforming**  
**research** on economic  
development and  
environmental change  
into **knowledge**  
**mobilization** for  
policy reforms.

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# A LETTER FROM OUR DIRECTORS



Dear Friends,

We look back over 2014 grateful that our South Asian network has flourished, and that our researchers and advisors have received recognition in environmental economics well beyond our own region.

At the World Congress for Environmental and Resource Economics (WCERE), SANDEE founder Sir Partha Dasgupta received a lifetime achievement award for his contributions to the field, and SANDEE Researcher and Advisor E. Somanathan gave a keynote speech. Kanchana Wickramasinghe and Bibhu Prasad Nayak won awards at the Global Development Network conference. The WCERE gave an award to researcher Sakib Mahmud. The Government of Karnataka honored S. Madheswaran for his public research services. A number of SANDEEites participated at the 14th National Conference for Science and the Environment in Washington DC, where a video made about SANDEE was released.

Apart from kudos received by SANDEE researchers, highlights of 2014 were a number of important outcomes related to SANDEE research. SANDEE developed a research proposal and won a grant from UNEP to partner with ICIMOD for the study of REDD+ implementation in Nepal. Yet another major outcome was a brainstorming session jointly conducted with ATREE in Bangalore where natural and social scientists identified priorities for Ecosystem Services that now inform SANDEE's call for proposals. In Pakistan at the annual Sustainable Development Conferences organized by SDPI, SANDEE participated in a remarkable policy panel on environmental compliance in the garment and textile sector that included researchers and policy makers.

Our ecosystem research is evolving into two strands: (1) the benefits of Ecosystem Services and their management tradeoffs, and (2) Ecosystem Disservices such as the cost of human-wildlife conflict. SANDEE also continues to promote research in the areas of Climate Change Economics, and Policies and Programs for Greening Development. Studies in several countries on climate change





adaptation examine farmer responses and perceptions to risk and uncertainty, whether responses match objective indicators, and what the implications are if they do not. This research focuses on the efficacy of interventions related to water, agriculture and natural disaster. With Greening Development, the research is more case-study based. Examples include a look into ‘clean production’ interventions in the tanning industry in Pakistan, and the greening of the tourism sector in Sri Lanka.

SANDEE researchers continue to teach SANDEE material, develop new curricula, publish, present and grow professionally. The numbers of researchers from underserved countries like Pakistan and Bangladesh are increasing in part due to SANDEE’s commitment to research and training programs on site. We now train approximately 130 academics and policymakers every year, in addition to the training we provide our own researchers at the biannual workshops. Our objective is to increase the number of South Asian professionals who use economic tools to analyze environmental problems and who can then teach these tools to colleagues and students.

In 2014 SANDEE’s partnerships, publications and policy influence continued to grow within the countries of South Asia, and extend across its borders. We look forward to what 2015 brings SANDEE.

**Madhu Khanna**

Management and Advisory Committee Chair

**Priya Shyamsundar**

Executive Director

#### **2014 in a Nutshell**

- 107 participants in six workshops
- 31 presentations in 14 conferences in nine countries
- 14 new grants from 153 proposals
- 10 peer reviewed and popular publications
- Nine working papers and eight policy briefs
- Teaching workshops in India, the Maldives, Nepal and Thailand
- TV coverage in Bhutan, India and Sri Lanka

# VISION

As one of the largest populations affected by changes in climate, the people of South Asia have a voice in the development-environment policies of their villages, cities, regions and countries.



# MISSION

We want to strengthen the capacity of individuals and institutions in South Asia to research and understand the links among economic development, poverty, and environmental change. We encourage the dissemination of practical information based on research that can be applied to development policies and programs.

# OUR MANDATE AND APPROACH

SANDEE is a regional network of analysts that addresses development-environment problems in Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. There are four core activities that support the SANDEE mission.

## RESEARCH

A competitive research grants program focuses on ecosystems management, the economics of climate change, and policies and programs for greening development.

## TRAINING

International and regional experts teach workshops that build skills in environmental and natural resource economics, policy analyses and research methods.

## UNDERSERVED AREAS PROGRAM

Activities, scholarships and courses offer smaller countries and less advanced areas institutional strengthening and improved access to skills and information.

## DISSEMINATION AND DIALOGUE

Publications, presentations and curricular materials facilitate information sharing and networking among individuals and institutions.





# GOAL

Sponsor research in South Asia to identify policy and management solutions that help achieve parity between long-term environmental stability and economic health.

## RESEARCH:

### Managing our Environment for a Better Future

SANDEE research addresses specific environment-development challenges and ranges from large-scale investigations to in-depth case studies. The three key themes of SANDEE research are **Policies and Programs for Greening Development, Human Interactions with our Ecosystems**, and the **Economics of Climate Change**.

Research is based on both primary and secondary data, and quantitative analysis. SANDEE provides training over a two-year period that is designed to assist the research process and improve the quality of final knowledge products. Researchers are mentored by a global group of Advisors who bring their invaluable experience and environmental economics skills.

Grants range from USD 20,000-40,000 over a two-year period. Teams that are multidisciplinary, focus on a transboundary issue, or include staff or subject matter from two or more countries receive bigger grants.

In 2014 SANDEE began offering proposal-development grants that offer researchers field visits before developing their new proposals. Overall, 14 grants were selected from a competition pool of 153 concept notes. By year's end, there were 32 ongoing research projects in total.

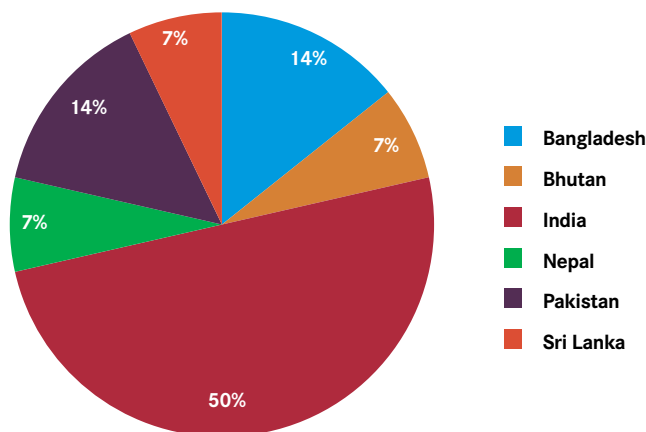
## Research Grants in 2014

### Economics of Climate Change

- Ahmad, Ajaz (Pakistan), Farmers' Flood Adaptation Measures in Nowshera, Pakistan
- Bahinipati, Chandrashekhar (India), Will Climate Change Adaptation Enhance Farm Productivity? A Study of Micro-Irrigation Systems in Gujarat, India
- Javed, Sajid Amin (Pakistan), Measuring the Vulnerability of Households to Climate Change - A Capacity to Adapt Perspective
- Sharma, Upasna (India), Assessing Value of Agro-Met Advisory Services of India Meteorological Department to Farmers in India
- Thinley, Tshering (Bhutan), Household Cooking Fuel Choices in Rural Bhutan

- Sardana, Kavita (India), Valuation of Biodiversity Conservation in Forest Ecosystems in Kodagu District, India
- Sherchan, Roshan (Nepal), Strategies to Prevent Human-Elephant Conflict in Eastern Nepal

2014 Grant Distribution by Country



- Gunathilaka, Dayani (Sri Lanka), Economic Consequences of Climate Change for Sri Lanka Tea Producers
- Jesudasan, Allwin (India), How Farmers Adapt to Water Shortages in the Tamirabarani River Basin

### Human Interactions with our Ecosystems

- Menon, Manjula (India), Incentivizing Ecosystem Services from Private Property: A Study of Paddy Wetlands of Wayanad, Kerala

### Policies and Programs for Greening Development

- Bansal, Sangeeta (India), Understanding Corporate Social Responsibility Expenditure in India: Effect of New Regulation Regarding Mandatory CSR
- Haque, Mohammad Ashraful (Bangladesh), Reducing Household Risk via Community Disaster Management in Coastal Bangladesh
- Jyotishi, Amalendu (India), What Role Property Rights Play in Informal Mining-Based Livelihoods? Investigating the Context of Goldmining in Nilgiri-Wayanad Region of India
- Rahman, Mahfusur (Bangladesh), Environmental Regulation and Sustainable Growth in Bangladesh's Ship Breaking and Recycling Industry



*Outcome: Effective Research*

## Building and Sharing Knowledge in South Asia

South Asia celebrates increasing per capita comprehensive wealth. Yet, across the region per capita natural wealth is falling. CO2 emissions have risen, biodiversity has declined and forest quality has deteriorated. Development is taking its toll on the environment.

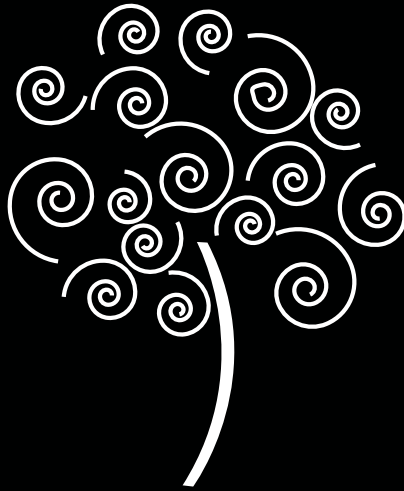
Certain knowledge networks such as SANDEE and INSEE evolved from a strong need to address links between the region's economic development and its environmental change. In their *Ecology and Society* article "Building sustainability skills: A role for regional research networks," Pranab Mukhopadhyay, Mani Nepal and Priya Shyamsundar assessed how effective SANDEE in particular has been over the past ten years in producing relevant information and bridging the gaps

between knowledge production and utilization. Since SANDEE's origins in 1999, it has funded 150 research studies and trained 1200 people. This has led to new curriculum and enriched research capacity in universities, as well as a boon of publications in international journals.

Does this research and training translate to policy outcomes? SANDEE has had influence on a managerial and institutional level, e.g. in pesticide training programs (Nepal and India), harbor development plans (Maldives), and university curricula (across South Asia). SANDEE participated in the greening of India's national accounts through a government-appointed expert panel.

There are no quick development-environmental solutions for policy makers. Knowledge networks like SANDEE will not replace traditional academic institutions. However, individual researchers will grow in leadership and expertise in their own subject areas, and carry internationally integrated environmental training back to their own organizations and nations.

SANDEE stretches across the national boundaries of the least integrated region in the world. The network it provides gives researchers a place to build trust, communicate and collaborate in a way that might otherwise be difficult, about the shared environmental issues their countries face.



ECONOMICS AND THE ENVIRONMENT





## GOAL

Train South Asian researchers in environmental and natural resource economics and develop institutional capacity as they introduce these new skills and tools to colleagues and students.

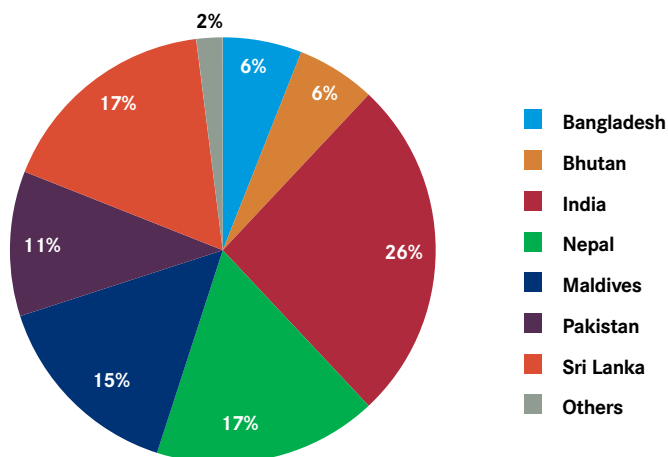
## TRAINING: Strengthening Human Capital

Annual winter and summer schools offer practical, hands-on knowledge about teaching and research to trainees from a variety of professional and academic backgrounds. Research and Writing workshops enable current and potential grant candidates to hone skills. Write-shops are short, intensive writing seminars for smaller groups; they target research completion and identify policy issues that need additional support. Training Courses bring in specialists to introduce methods of economic research and to help SANDEE researchers apply those methods to their studies.

SANDEE's biannual research workshops also serve as a mechanism for enhancing knowledge about local conditions and emerging issues in the field. Experts from the policy and academic arena are invited to discuss topical research and development issues. In June, a panel of policy makers in Bhutan made presentations on Gross National Happiness Indicators, forest policy and wildlife conservation. In December, a panel of Nepalese decision-makers discussed issues related to energy policy.

SANDEE offers researchers a way to keep abreast of new developments and strengthen existing skills. Through its training programs, it links new researchers with graduates, who have long-since moved through the SANDEE research cycle.

## 2014 Training Distribution by Country



### Research and Writing Training

January 18-22, Kerala, India

### Winter School in Research Methods

March 4-13, Kathmandu, Nepal

### Summer School in Environment and Resource Economics

May 6-22, Bangkok, Thailand

### Training Course on Environmental Valuation

September 15-18, Male, The Republic of Maldives

### Write-shop on Examining Research-Policy Implications

November 7-9, Kathmandu, Nepal

### Program Evaluation for Environmental Economists

December 4-6, Kathmandu, Nepal

*Outcome:*  
***Skilled Professionals***

**Spotlight on  
Mohamed  
Shumais**



Mohamed Shumais recalls his childhood on Malé in the Maldives as contented and peaceful, where time stretched on endlessly without demand. He played outdoors, spent time with family, and read everything he could get his hands on. At his father's general store, Shumais read the newspapers imported from Singapore. The papers, which came in a variety of languages, were meant to wrap customer purchases. They were perfect for forming cones to hold rice or flour, or apparently to inspire young minds. By his early teens, Shumais had exhausted his local reading resources and began to explore the National Library of the Maldives.

When Shumais finished his higher education in Malé, he took an undergraduate economics degree at

the University of KwaZulu-Natal in South Africa. While there, he worked in Durban as a Community Outreach Volunteer for an HIV/Aids Networking NGO. He returned to Maldives to aid in tsunami recovery, first for the British Red Cross and then for the Environment Research Centre. Shumais added courses in human rights and environmental law to his studies and worked for the Environmental Protection Agency in marine biodiversity and waste management.

Shumais connected with SANDEE in 2008 and attended the course on Natural Resource and Environmental Economics. He continued training with SANDEE, and with the Economy and Environment Programme for South East Asia, on environmental valuation and ecosystem services. "The most challenging aspect of SANDEE has been that other researchers are much more experienced. However I appreciate the support and encouragement within SANDEE, and the opportunity to learn from each other," says Shumais.

In 2013, Shumais received both a Master of Economic Management from the Universiti Sains in Malaysia, and a Master of Arts in Sustainable Development from Staffordshire University in England.

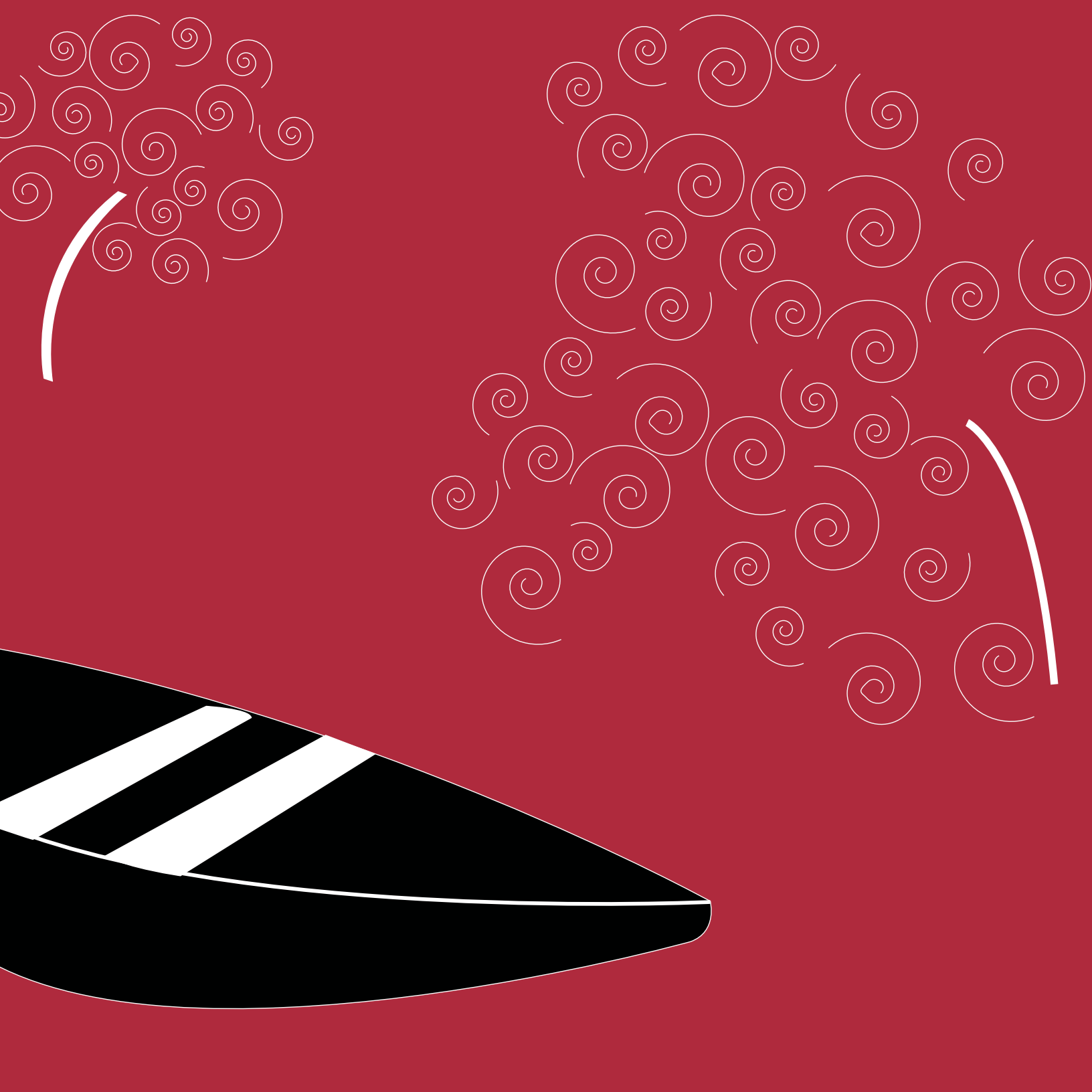
He currently lectures at the Maldives National University on Climate Change and Public Policy.

Shumais also works at Live & Learn Maldives, an international Australia-based non-profit that provides technical assistance and encourages sustainable development. As if he weren't busy enough, he advises a variety of NGOs on planning and funding issues. His work with Ukulhas, a Maldivian atoll, played a role in the community's receipt of the President's Green Leaf award for waste management. In 2015 Ukulhas will be starting a climate change adaptation hydroponics project to improve the livelihood of women in fisher families.

"Time is precious," says Shumais. Though he has already accomplished quite a bit in his 36 years. SANDEE eagerly looks forward to his future endeavors and wishes Mohamed Shumais every success.

*"The chance to visit Bhutan with SANDEE was memorable. There are similarities between Maldives and Bhutan in certain development issues. Although physically Bhutan is landlocked and Maldives is an island nation, we can learn from each other."*







# GOAL

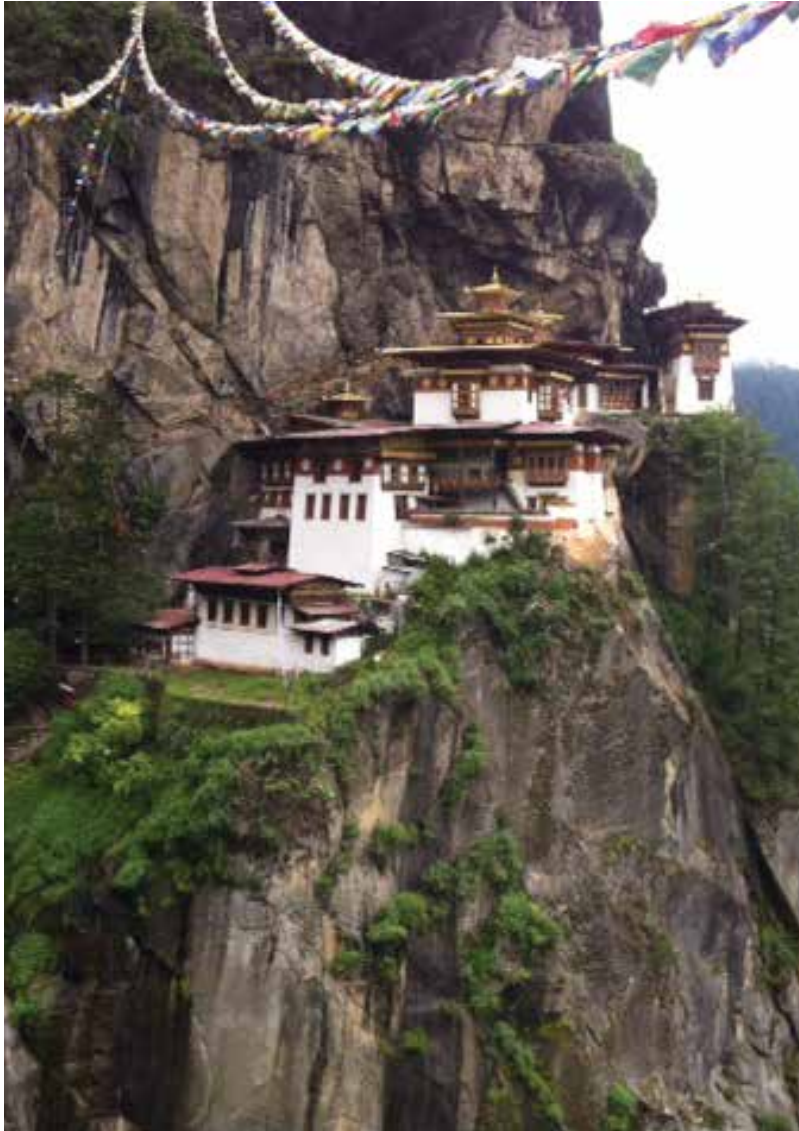
Build professional skills in relatively underserved areas to enable local researchers to address their communities' environmental concerns.

## Underserved Areas Program: Reaching out to Build Capacity

Each year SANDEE continues efforts to increase the number of researchers from underserved areas of South Asia. In 2014 SANDEE held multiple training sessions in Kathmandu, Nepal, a Research and Writing Workshop in Kerala, India, and Environmental Valuation training in Male, Maldives. Workshops bring together researchers interested in learning about environment and development economics, starting new research or strengthening policy implications. Thus, researchers are able to better locate their own specific problems within a larger body of knowledge and ideas.

*It was SANDEE that made me realize for the first time that I have the potential and aptitude to conduct socioeconomic and environmental research. SANDEE trainings are a great source of learning, sharing of knowledge and ideas, and motivation to contribute to policy research. To me, SANDEE is the best platform for new researchers, under the supervision of experts and mentors, to develop their skills.*

**Ajaz Ahmed**, *Institute for Social and Environmental Transition, Islamabad, Pakistan*



*Outcome:*  
***Reciprocal Capacity  
Building***

**Sharing  
Knowledge  
in Bhutan**



The 28th Biannual Research and Training Workshop held in June in Thimpu, Bhutan seemed to have a profound effect on every attendee. The visitors to Bhutan were awestruck by its beautiful geography and culture. The hosts found the interactions with other economic researchers informative and stimulating. The presentations and workshop proved valuable to all and received wide television coverage in Bhutan.

SANDEE invited several special guests to offer an overview of Bhutan's economy, development, and environmental challenges. Mr. Chencho Norbu, Director General, Department of Forest and Park Services for the Ministry of Agriculture and Forests spoke about deforestation, sedimentation and human-wildlife conflict. Dr. Ha Vinh Tho, Programme Director of The GNH Centre introduced the audience to the philosophy behind

Bhutan's Gross National Happiness index. Dr. Lam Dorji, Executive Director of Royal Society for Protection of Nature spoke about the increasing need for accurate economic valuation of the environment. National Statistics Bureau Deputy Chief Research Officer (Socio-Economic Research and Analysis Division) Mr. Lham Dorji discussed a meta valuation study undertaken to assess Bhutan's ecosystem services.

Lham Dorji, Head of the Research Division of the National Statistics Bureau, and Tsoki Zangmo of The Centre for Bhutan Studies and GNH gave extensive interviews to SANDEE about Bhutan's Gross National Happiness Index. The interview detailed the four pillars of the index – good governance, sustainable socio-economic development, cultural preservation and environmental

conservation – and discussed its nine domains (or categories) as well as the thirty-three indicators used to measure progress. GNH data has indicators for aspects not usually measured in GDP or HDI. "Our spiritual, environmental sustainability, community and social capital are vital, yet not accounted for in such indices," said Ms. Zangmo. "We have made an attempt to develop an overall holistic index."

SANDEE researchers from Bhutan have recently examined the costs of human-wildlife conflicts and benefits associated with mitigation measures. In December 2014 SANDEE awarded another Bhutanese researcher a grant to examine household cooking fuel choices in rural Bhutan as a part of climate change analysis.





## GOAL

Advance the understanding of issues that link poverty, development and the environment to provide academics and policy makers the opportunities to create a better future for South Asia.

## DISSEMINATION AND DIALOGUE: Finding Policy Solutions

Policy solutions are forged from research through peer-review, growth in like-minded networks, discussion among stakeholders and leadership. SANDEE tries to strengthen these different links between research and policy.

In 2014, there were 31 presentations by SANDEEites in some 14 conferences or seminars across the globe. SANDEE is well represented at 19 universities in Bangladesh, India, Nepal, Pakistan and Sri Lanka, by faculty or curricula. Many SANDEE researchers have received awards, promotions and recognition over the past year. We congratulate each one and celebrate with them all.

Aradhna Agarwal

Waqar Akram

Khuda Bakhsh

Dipendra Bhattarai

Indrila Guha

Haripriya Gundimeda

Udith Jayasinghe

S. Madheswaran

Sakib Mahmud

Tehmina Mustafa

Hippu Salk Kristle Nathan

Bibhu Prasad Nayak

Sudhakar Patra

Mohammad Rafiq

Mamata Swain

Kanchana Wickramasinghe

## A Selection of Conferences and Seminars in 2014

### Australia

- Learning from IUCN, World Park Congress, Mohammad Belal Uddin

### India

- Natural Capital for Inclusive Growth: Options and Tools for South Asia: A Policy Dialogue for Senior Policy Makers, Arabinda Mishra, Haripriya Gundimedda, Indrila Guha, Joyashree Roy, Kishor Goswami, Priya Shyamsundar

### Kenya

- 18th International Consortium on Applied Bio Economy Research, Khuda Bakhsh

### Nepal

- Stakeholder Policy Workshop, Dipendra Bhattarai
- International Conference on Invasive Alien Species Management, Rajesh Rai
- 30th Warden Seminar and 12th Buffer Zone Chairman's Meeting, Rajesh Rai
- National Workshop on Payment for Ecosystem Services: Opportunities and Challenges in Nepal, Rajesh Rai

### Pakistan

- 4th International Conference on Business Management: Development, Competitiveness, and Innovation, Muhammad Khan, Waseem Gulzar, Md. Iftikhar ul Husnain, Waqar Akram and Inayatullah Jan
- 30th Annual General Meeting and Conference of Pakistan, PIDE, Heman Lohano and Bishnu Sharma
- 17th Sustainable Development Conference, SDPI, Kinkini Hemachandra, Golam Moazzem, Waseem Gulzar and Muhammad Khan

### Philippines

- Making Impact Evaluation Matter: Better Evidence for Effective Policies and Programmes, Atonu Rabbani and Mohamed Shumais

### Sri Lanka

- 2nd Annual South Asia Biosafety Conference, Khuda Bakhsh
- Workshop on Environmental Management Practices in Sri Lanka, Kanchana Wickramasinge

### Turkey

- Fifth World Congress of Environmental and Resource Economists, Partha Dasgupta, Madhu Khanna, Eswaran Somanathan, Sakib Mahmud, Suresh Kumar Devarajulu, Heman Lohano, Krishna Prasad Pant, Rajesh Kumar Rai and Chandan Singha, Saravanakumar Venkatachalam

### USA

- 14th National Conference for Science and the Environment, Priya Shyamsundar





## *Outcome: Policy Dialogue and Implementation*

# Toward Inclusive Growth and Environmental Compliance

In December 2014, SANDEE co-sponsored two important development conferences, both of which crossed borders and industries to bring together those experts most invested in the topics at hand.

**The Natural Capital for Inclusive Growth** dialogue in Kolkata in December brought senior policy makers and researchers from four countries – India, Nepal, Myanmar and Bhutan – to continue a conversation that began with SANDEE's Valuing and Accounting for the Environment in Asia conference of the previous year. Representatives attended from the ASEAN Center for Biodiversity, the South Asia Cooperative Environment Program, the South Asian Association for Regional Cooperation, as well as from conference co-sponsors

the United Nations Environment Programme and the International Centre for Integrated Mountain Development.

The workshop examined strategies for valuing and accounting for natural capital, particularly in North-Eastern India. SANDEE is anticipating new developments on natural capital and ecosystem services in Nepal and India as a result of this dialogue.

At the **Sustainable Development Conference in Islamabad**, SANDEE and the Sustainable Development Policy Institute moderated a panel on environmental compliance, and the policies and regulations associated with the garment and textile industry. Pakistan's Economic Minister to the

European Union chaired the session. Attendees from Bangladesh, Sri Lanka, Pakistan and India presented their work on greening development, compliance, health issues and pollution.

The Sri Lankan Ministry of the Environment has already internalized recommendations presented at this conference. Other attendees lauded the relative success of the Sri Lankan textile sector, as compared to similar sectors in India, Bangladesh and Pakistan, and proposed that other South Asian countries encourage research ventures to support environmental protection and replicate Sri Lankan environmental models to increase export potential.

# PUBLICATIONS

## 2014 Working Papers

To Cultivate or Not? Examining Factors that Influence Jatropha Agriculture in North East India, Kishor Goswami, WP 82-14

Weather Variability, Agriculture and Rural Migration: Evidence from State and District Level Migration in India, Brinda Viswanathan, K.S. Kavi Kumar, WP 83-14

Examining the Impact of Climate Change on Migration through the Agricultural Channel: Evidence from District Level Panel Data from Bangladesh, Kazi Iqbal, Paritosh K. Roy, WP 84-14

The Impact of Climate Change on Rice Production in Nepal, Prakash K Karn, WP 85-14

Adoption and Use of Improved Stoves and Biogas Plants in Rural India, Somnath Hazra, Jessica Lewis, Ipsita Das, Ashok Kumar Singha, WP 86-14

Housing and Labor Productivity of Female Tea Pluckers in Sri Lanka, Ajantha Kalyanaratne, WP 87-14

Demand for Watershed Services: Understanding Local Preferences through a Choice Experiment in the Koshi Basin of Nepal, Rajesh Kumar Rai, Mani Nepal, Priya Shyamsundar, Laxmi Dutt Bhatta, WP 88-14

Co-Producing Sustainability Knowledge: Assessing SANDEE's Role as a Research Network in South Asia, Pranab Mukhopadhyay, Mani Nepal, Priya Shyamsundar, WP 89-14

Recreation vs. Pollution: A study of Hussain Sagar Lake and its surrounding in Hyderabad, Prajna Paramita Mishra, WP 90-14



## Peer-reviewed and Other Publications

Akram, N. (2014) Climate change: A threat to economic growth of Pakistan. *Progress in Development Studies*, 15(1), 73-86.

Dayal, V. (2014) *The environment in economics and development: Pluralist extensions of core economic models*. Available from <http://www.springer.com/economics/environmental/book/978-81-322-1670-4>

Edirisinghe, J. C. (2014) Taxing pollution. A case for reducing the environmental impacts of rubber production in Sri Lanka. *Journal of South Asian Development*, 9(1), 71-90.

Haque, A.K.E., Khan, Z.H., Nepal, M. & Shyamsundar, P. (2014) Red wells or green wells and does it matter? Examining household use of arsenic-contaminated water in Bangladesh. In S. Barrett, K. Mäler & E. Maskin (Eds.), *Environment and Development Economics: Essays in Honour of Sir Partha Dasgupta*. Oxford: Oxford University Press.

Mukhopadhyay, P., Nepal, M. & Shyamsundar, P. (2014) Building sustainability skills: A role for regional research networks. *Ecology and Society*, 19(4), 45. <http://dx.doi.org/10.5751/ES-07105-190445>

Pant, K.P. (2014) Uniform-price reverse auction for estimating the costs of reducing open-field burning of rice residue in Nepal. *Environmental and Resource Economics* (forthcoming).

Rai, R.K. and Scarborough, H. (2014) Understanding the effects of invasive plants on rural forest-dependent communities. *Small Scale Forestry*. doi:10.1007/s11842-014-9273-7

Rai, R.K. and Scarborough, H. (2014) Nonmarket valuation in developing countries: Incorporating labour

contributions in environmental benefits estimates. *The Australian Journal of Agricultural and Resource Economics*. doi: 10.1111/1467-8489.12071

Shyamsundar, P. and Ghate, R. (2014) Rights, rewards and resources: Lessons from community forestry in South Asia. *Review of Environmental Economics and Policy*. doi:10.1093/reep/ret024

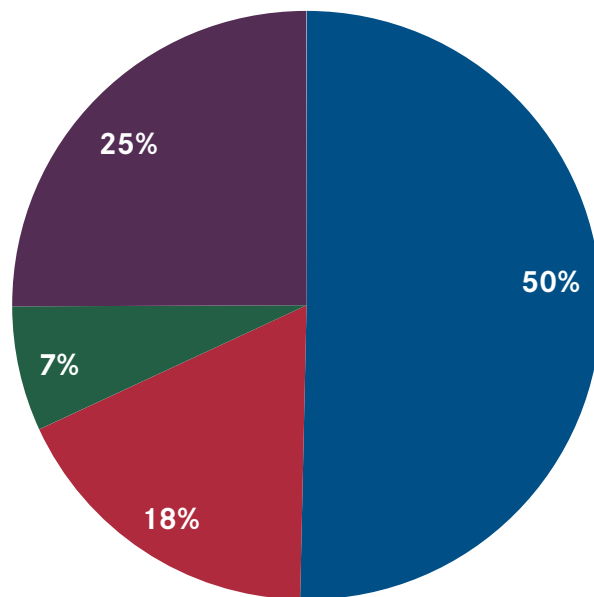
Shyamsundar, P. (2014). Looking back to leap forward: Does environment and development economics matter to South Asia's future? *Environment and Development Economics*, 19, 320-322. doi:10.1017/S1355770X14000308

**A group of advisors provides technical support and mentors SANDEE researchers.**





# FINANCIAL OVERVIEW AND SPONSORS



## Expenditure 2014

US\$ 1,285,072

- Research
- Training and Institutional Support
- Policy Advocacy & Dissemination
- Direct Secretariat

## Sponsors



# OUR TEAM AND PARTNERS

## PARTNERS

We would like to thank the following faculty and institutional partners for their support.

**ATREE**, India

**Cambridge University**, UK

**Duke University**, USA

**Economic Research Group**,  
Bangladesh

**ERG**, Bangladesh

**GIDR**, India

**Goa Univeristy**, India

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**ICIMOD**, Nepal

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**INSEE**, India

**Jadavpur University**, India

**Kerala Agricultural University**, India

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Maldives

**PIDE**, Pakistan

**Queensland University**, Australia

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**SDPI**, Pakistan

**Srinakarinwirot University**, Thailand

**Teri University**, India

**UNDP-UNEP Regional Program**,  
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**UNEP**, Kenya

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Goa University, Technical Support

**Mani Nepal**

Research Program Manager

**Neesha Pradhan**

Programme Associate

**Priya Shyamsundar**

Executive Director



# THE MANAGEMENT ADVISORY COMMITTEE

## **Bhim Adhikari**

Programme Leader, Environmental Economics  
Senior Programme Specialist, IDRC, Canada

## **Syeda Rizwana Hasan**

Chief Executive, Bangladesh Environmental  
Lawyers Association, Bangladesh

## **Madhu Khanna**

Professor, University of Illinois, USA

## **David Molden**

Director General, ICIMOD, Nepal

## **Adil Najam**

Dean, Pardee School of Global Studies  
Boston University, United States

## **Annamaria Oltorp**

Head of the Unit for Research Cooperation  
SIDA, Sweden

## **Priya Shyamsundar**

Executive Director, SANDEE





# THE YEAR AHEAD: 2015

## RESEARCH

Ongoing research on climate change, ecosystem services and greening of development policies. New collaborative research on REDD+ implementation in Nepal. Exploration of sustainable energy and urbanization activities.

## TRAINING

Write-shop and Communication Workshop in Nepal, Summer School in Environment and Resource Economics in Sri Lanka to focus on Ecosystem Services.

## CAPACITY BUILDING IN UNDERSERVED AREAS

Dasgupta Post-Doc Fellowship, Bangladesh Ph.D. Scholarships, Research and Writing Workshops.

## DISSEMINATION AND COMMITTEE SUPPORT

Working Papers, Newsletters and Policy Briefs; Inform national policies and global discussions through the International Geosphere Biosphere Program and Wealth Accounting and Ecosystem Services Scientific Committees, TEEB India activities, regional policy committees, direct dissemination to stakeholders, media communication and popular blogs.

## PROGRAM MANAGEMENT

Staff planning and improvements in Grant Management Systems, annual reporting and communication strategies.



# KEY ENVIRONMENTAL INDICATORS FOR SOUTH ASIA

	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Population (millions)	154.7	0.742	1,236.7	338	27.5	179.2	20.3
GNI per capita, Atlas method (\$)	840	2,420	1,550	5,750	700	1,260	2,920
GDP (\$ billions)	116.4	1.8	1,858.7	2.2	19	225.1	59.4
<b>Agriculture</b>							
Land area (1,000 sq. km)	154.7	38	2,973	23	143	771	63
Agricultural land (% of land area)	70	14	60	—	30	34	42
<b>Forests and Biodiversity</b>							
Forest area (% of land area)	11.1	84.9	23.1	3.0	25.4	2.1	29.4
Annual deforestation (% change, 2000-2010)	0.2	-0.3	-0.5	0.0	0.7	2.2	1.1
Nationally Protected Area (% of land area)	4.7	28.4	5.2	—	16.4	10.7	22.0
<b>Energy, Emissions and Pollution</b>							
GDP per unit of energy use (2005 PPP\$ / kg of oil equivalent)	205	359	614	970	383	482	499
Electricity generated using fossil fuel (% of total)	28.2	—	24.7	—	84.1	34.6	47.4
Electric power consumption per capita (kWh)	259	—	684	—	106	449	490
CO <sub>2</sub> emissions per capita (metric tons)	0.4	0.7	1.7	3.3	0.1	0.9	0.6
<b>Water and Sanitation</b>							
Access to improved water sources (% of total population)	85	98	93	99	88	91	94
Access to sanitation in rural areas (% of rural population)	58	47	36	99	34	34	94
Internal freshwater resources per capita (cubic meters)	687	106,933	1,184	90	7,298	312	2,530
Total freshwater withdrawal (% of internal resources)	34.2	0.4	52.6	19.7	4.9	333.6	24.5
Under-5 mortality rate (per 1,000 live births)	41	45	56	11	42	86	10
<b>National accounting aggregates</b>							
Gross national savings (% GNI)	36.2	47.2	30.7	—	40.4	19.3	24.6
Consumption of fixed capital (% GNI)	11.5	8.5	13.1	15.5	9.1	12.5	5.5
Education expenditure (% GNI)	1.8	3.4	3.1	5.0	4.2	1.5	1.7
Energy depletion (% of GNI)	2.1	0.0	1.9	0.0	0.0	1.8	0.0
Mineral depletion (% GNI)	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Net forest depletion (% GNI )	1.3	16.5	1.1	0.1	4.3	0.9	0.5
CO <sub>2</sub> damage (% GNI)	0.5	0.3	1.3	0.7	0.2	0.7	0.2
Adjusted net savings (% GNI )	21.3	23.7	13.8	—	30.0	3.7	19.7

Source: Little Green Data Book, 2014. World Bank.



ECONOMICS & THE ENVIRONMENT

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