

# **SANDEE – CAPACITY BUILDING IN SOUTH ASIA**

Narrative Report  
January 01, 2012 - December 31, 2012  
(Grant No. 106327-001)

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# **SANDEE – CAPACITY BUILDING IN SOUTH ASIA**

A Narrative Report to IDRC, Canada

Jan 1, 2012 – Dec 31, 2012

## **1. INTRODUCTION**

The South Asian Network for Development and Environmental Economics is a regional network that brings together analysts from across South Asia to address its environment-development problems. SANDEE's mission is to strengthen the capacity of individuals and institutions to undertake research on the inter-linkages among economic development, poverty, and environmental change and to disseminate practical information that can be applied to development policies.

SANDEE was established in late 1999 with initial support from SIDA, guidance from the Beijer International Institute of Ecological Economics at the Royal Swedish Academy of Sciences, and the institutional and individual goodwill and support from many people within and outside South Asia. SANDEE is now supported by IDRC, NORAD and SIDA. The network operates its activities in Pakistan, Bangladesh, Sri Lanka, Bhutan, Nepal, India and the Maldives.

SANDEE's structure consists of a Management and Advisory Committee (MAC) of senior scholars and policy makers from the South Asian region and outside (see Appendix I) and a group of research advisors, who support and mentor SANDEE's researchers. It operates with the help of a small Secretariat in Kathmandu, Nepal which is hosted by ICIMOD – International Centre for Integrated Mountain Development. SANDEE programs and activities are sponsored by a number of regional and international donor agencies.

*This narrative report discusses some of the SANDEE's achievements and activities from January 2012 to December 31 2012 for Grant No.106327-001.*

## **2. HIGHLIGHTS**

SANDEE's research activities focused on three areas: a) Economics of Climate Change; b) Ecosystems Management and c) Policies and Programs for Greener Development. SANDEE research will be organized around these activities for at least the next three years.

Climate change research continues to be an important part of our portfolio. A recent review of grants in this area shows that studies of impact analyses and mitigation instruments dominate. For example, we now have studies in several countries that are on-going on

completed, using both primary and secondary data, which examine the impacts of climate related variables on agriculture. The focus on agriculture is not surprising given that this is the most important sector in the developing world that will likely be affected by climatic changes. We also have studies that examine the adoption of various instruments to mitigate local pollution and climate change. Research related to biofuel, clean stoves, community based REDD+ etc. fall within this category. While we do have work on-going related to adaptation, this is an area that we need to further grow.

We are making steady progress in growing our research related to ecosystem services. We currently have a cluster of research grants related to conservation expenditures and costs and triggers, particularly related to conservation corridors. We also hope to have some new research launched that more carefully models ecosystem changes and then examines both the opportunity costs and benefits of conservation. This work was recently facilitated by a training program organized jointly by SANDEE, the Natural Capital Project, University of Minnesota and WWF (<http://www.naturalcapitalproject.org>). As this area develops, we are hoping that we can do more trans boundary research.

Under 'greener' policies and programs, we have research emerging on regulations and why they work or may fail. Some of this research goes beyond households and examines firms and, therefore, is inherently more problematic in terms of data issues. We have a cluster of studies related to the textile industry, which is a major sector in India, Pakistan, Bangladesh and Sri Lanka, which we are closely monitoring.

Training is an important component of our annual activities. In 2012, SANDEE trained nearly 232 participants on a range of issues. Our annual course in Environmental Economics in Bangkok continues to be our flagship course strengthening teaching, research and curriculum development in South Asia.

SANDEE's teaching and training programs in 2012 were significantly influenced by the need to bring in more research candidates from 'under-served' areas. Thus, SANDEE organized one teaching and research programs in Pakistan and also ran a research and writing workshops in Bangladesh and Bhutan. We are already seeing the results of these efforts and have stemmed the decline in grants from these countries.

SANDEE does not undertake its activities on its own. We have the support of a wide array of institutions and teaching faculty. Box 1 lists some of our partners during the course of 2012.

There are several 'outcomes' that have emerged from SANDEE activities. We discuss these below:

- Publications are an important outcome. We published some 9 working papers and 7 policy briefs and several peer-reviewed journal articles emerged from SANDEE research. More significantly, SANDEE researchers published their work in variety of journals such as Natural Hazards, Journal of Environment and Development

Economics etc. Overall we had some 13 publications (peer reviewed and popular). Some 50% of these publications were in international journals.

- SANDEE researchers are increasingly presenting their work at international congresses. In 2012, there were 40+ presentations by SANDEEites in some 20 odd conferences or seminars across 13 countries. Some of these activities were sponsored by SANDEE but others were not. A highlight from 2012 was a plenary presentation (on day 1) and a panel presentation on climate change at the 5th South Asia Economic Summit (SAES 5). South Asia is one of the least integrated regions in the world and SAES is an important attempt at increasing integration. Thus, it was excellent to have SANDEE invited to engage in this effort.
- SANDEE research is also entering teaching activities (see Box 2). While we are not able to fully track the use of SANDEE working papers and publications by teachers, feedback from several of our researchers and trainees suggest that entire classes are built around these publications. For example, the SANDEE book 'Environmental Valuation in South Asia' is being used in the M.Phil. Economics program in the Pakistan Institute for Development Economics and the M.Sc Economics program in TERI University in Delhi. Our working papers are downloaded by students in several universities for presentations related to environmental economics or research methods.
- SANDEEites continue to flourish professionally. In 2012, we saw two Ph.Ds completed and awarded to SANDEE researchers. We congratulate Dr. Bishnu Sharma in Nepal (Tribhuvan University) and Dr. Md. Irfan Khan in Pakistan (Federal Urdu University) for obtaining their degrees. Sharma worked on lease hold forestry as an instrument to reduce poverty in Nepal and Khan researched the benefits of closing open-sewers in Rawalpindi. Furthermore, some 4 former researchers have raised money for new research grants projects, one researcher is setting up an environmental economics center at her university, and several have promotions or new jobs.
- SANDEE's work on valuation is getting more closely tied to policy concerns because of our involvement in two parallel processes: a) the Government of India's interest in greening national accounts; and b) the Wealth Accounting and Valuation of Ecosystem Services (WAVES) joint World Bank-UNEP program. There are several SANDEEites who sit on advisory committees associated with both these programs and it has been useful to tie a national effort with a global effort. Two likely

outcomes in 2013 will be a report from the Government of India and a conference (to which we hope to invite Chief Accountants and economists from all the other SANDEE countries as a first step toward building macro-environmental aggregates in the other countries as well) and a training workshop for senior government officials (with support that we hope will come from WAVES/UNEP).

**Box 1: SANDEE's partners in 2012**

Institutional Partners

1. Sustainable Development Policy Institute, Pakistan
2. INSEE, India
3. Gujarat Institute for Development Research, India
4. UNDP, Bhutan
5. Economic Research Group, Bangladesh
6. UNDP-UNEP Regional Program, Thailand
7. Natural Capital Project, USA
8. ICIMOD, Nepal

Faculty Partners

International Faculty

9. Duke University
10. Cambridge University
11. University of Minnesota
12. University of Namur
13. WWF
14. Queensland Univ

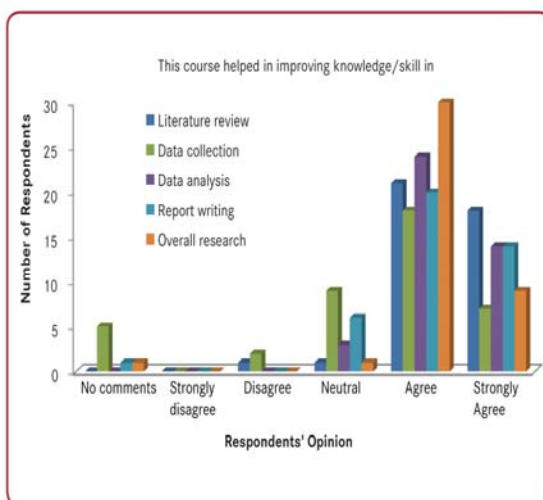
Regional Faculty

15. ERG, Bangladesh
16. PIDE, Pakistan
17. SDPI, Pakistan
18. IBA, Pakistan
19. Kolkata University, India
20. Jadavpur University, India
21. ATREE, India
22. Indian Statistical Institute, India

## Box 2: Curriculum Support Using SANDEE Research Material

A partial tally of teaching programs that use SANDEE working papers/books in 2012:

- Bangladesh
  - Khulna University - M. Sc., Env Econ
  - Sylhet University - M.Sc. Forestry, Research Methods
  - United International University
- India
  - Central University, Hyderabad -- M.Sc, Env Econ.
  - Ravenshaw University, Orissa – Masters, Env Econ
  - Vishwa Bharati University, M.Sc - Ph.D, Research Methods
  - TERI University, M.Sc. Econ - Valuation book
- Pakistan
  - Pakistan Institute of Development – M.Phil Econ – Valuation Book
- Nepal
  - Pokara University – Curriculum Committee



"The graph provides an evaluation of Econ 5213 (Environmental Economics) a Masters Level Class in Economics at Khulna University. The course was designed mostly based on some selected SANDEE Working Papers. The graph documents students' opinions in September 2011." SANDEE Research Associate, Prof. Ziaul Haider

SANDEE hopes to strengthen curriculum across South Asia through its researchers and their teaching activities.

Students evaluation of a Master's level course in Environmental Economics in Bangladesh based on SANDEE working papers.

### **3. RESEARCH SUPPORT**

SANDEE provides monetary and technical support to researchers from across South Asia. It also provides a variety of training to researchers to improve their research skills.

#### **Biannual Research Competitions**

SANDEE's research support is based on a biannual research competition and meetings that help monitor and support the grants. SANDEE received 76 pre-proposals in its 24th cycle (June 2012) and eight grants were made based on the Research and Training Workshop that took place in July 2012. SANDEE received 41 pre-proposals and invited ten research proposals for grants in winter of 2012. There were 2 study grants made and 8 researchers were asked to re-submit after revisions – thus 8 grants were conditionally made, based on the Research and Training Workshop that took place in December 2012. The grants from 2012 are reported in Table 1.

#### **Plenary Presentations**

We invite experts from the policy and academic arena's to discuss issues and emerging ideas at SANDEE research workshops. These plenary presentations are meant to expose our researchers to good research as well as on-going discussions in the policy domain. In December 2012, Prof. Steve Polasky from the University of Minnesota and the Natural Capital Project gave a presentation on "Natural Capital and Its Role in Economic Development". Dr. Polasky discussed how changes in ecosystem services can be modeled and how these changes can then be valued. He then went on to show how these scientific findings on changes and their valuation can be used to suggest and implement policy changes. There will always be trade-offs between conservation and economic development. The first step is to understand these trade-offs by examining physical and monetary changes in ecosystems, but it is important to then take the next step of figuring out how and what kinds of policies can improve outcomes.



**Table 1: Research Grants in 2012 (Dec 2012 grants still being finalized)**

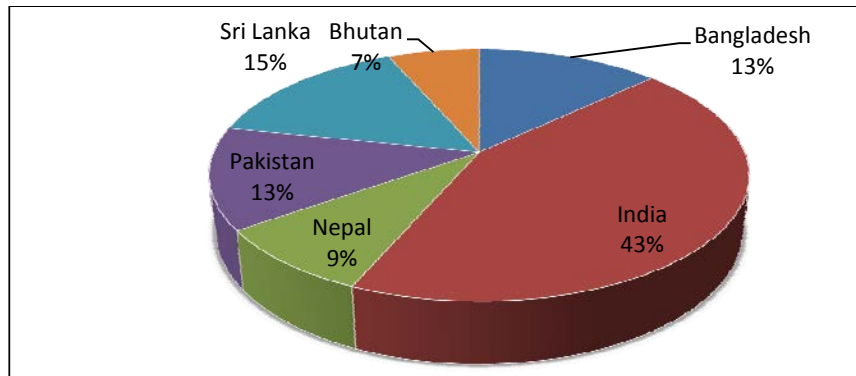
<b>Name</b>	<b>Country</b>	<b>Topic</b>
<b>Climate Change Economics</b>		
Aggarwal, A.	India	Acquisition of technological capabilities through the Clean Development Mechanism (June 2012)
Akram, W.	Pakistan	Adoption of biogas as an alternative energy source in Pakistani Punjab (June 2012)
Borthaku, M.	India	Does urban greenery reduce the cost of cooling homes?( June 2012)
Hippu , N.	India	Sustainability of electrification projects in India's villages where grid-extension is in-feasible (June 2012, Study Grant)
Edirisinghe, J.	Sri Lanka	Distributional Impacts of Climate Change on Smallholder Agriculture in Sri Lanka (Dec 2012)
Pattanaik, U.	India	Effect of Livelihood Intervention Programmes on Adaptive Capacity of Households in Odisha, India ( Dec 2012)
Nadeem, A. M.	Pakistan	Targeting and Distribution of Post-Flood aid in Punjab, Pakistan (Dec 2012, Study Grant)
<b>Ecosystems Management</b>		
Belal Uddin, Md.	Bangladesh	Non-Timber Forest Products extraction under different forestry institutions in Bangladesh ( June 2012, Study Grant)
Katel, O.	Bhutan	Mapping and designing Payments for Ecosystem Services in Punkha, Bhutan
Belal Uddin, Md.	Bangladesh	An Ecological and Economic Analysis of Forest Management Institutions in Bangladesh (Dec 2012)
Udaykumara, N.	Sri Lanka	Soil Conservation Benefits of Upper Mahaweli Watershed in Sri Lanka
<b>Policies and Programs for Greener Development</b>		
Khondaker G.M.	Bangladesh	Compliance in pollution management: A case study on the textile industry of Bangladesh ( June 2012)
Wickramasinghe, K.	Sri Lanka	Environmental management practices in post-conflict tourism in Sri Lanka ( June 2012)
Bhardwaj , B.	Nepal	Why the plastic bag ban decision works in one municipality and does not in another? ( Dec 2012)
Samad , G.	Pakistan	Environmental Regulations and their Compliance in Textile Processing Sector of Pakistan ( Dec 2012)
<b>Others (Water Management)</b>		
Dendup, N.	Bhutan	Valuation of sewage water treatment services in Bhutan (June 12)
Amit, R. K	India	Water Demand under Different Price Structures for Urban Consumers in South India ( Dec 2012)
Gunawardena, A	Sri Lanka	Optimal Use of Policy instruments to Control water Pollution in Sri Lanka ( Dec 2012, Study Grant)

## Monitoring Progress

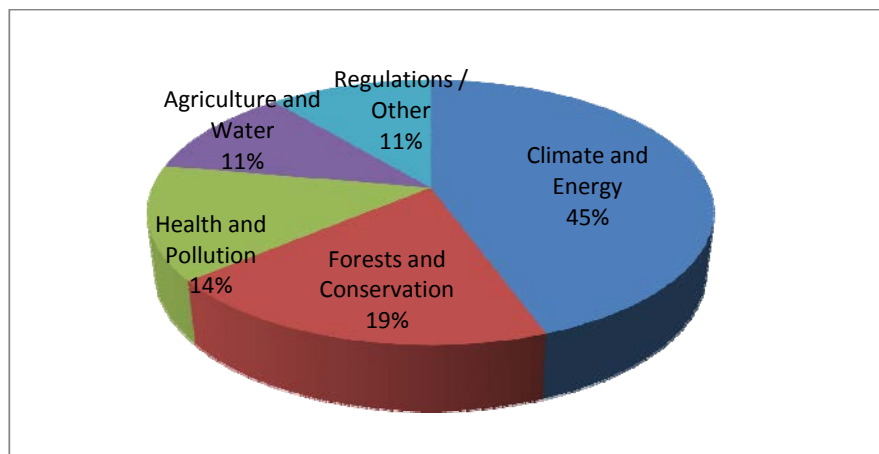
SANDEE currently has some 51 grants that are open and these will continue to be monitored. The secretariat facilitates discussions between researchers and their advisors, offers advice on econometric analyses and literature references and reviews questionnaires and manuscripts. A large part of the monitoring also takes place during the R and T workshops. Figure 1 shows the current distribution of grants according to countries.

Figure 2 shows the distribution of grants by Issues. As the Figure show 45% of the grants made are in the area of climate change and about 19% related to forest and conservation. We have a significant part of our portfolio in sustainable agriculture. These grants are in some ways related to our focus on climate change.

**Figure 1: Distribution of Grants by Country (November 2012)**



**Figure 2: Distribution of Grants by Issues (November 2012)**

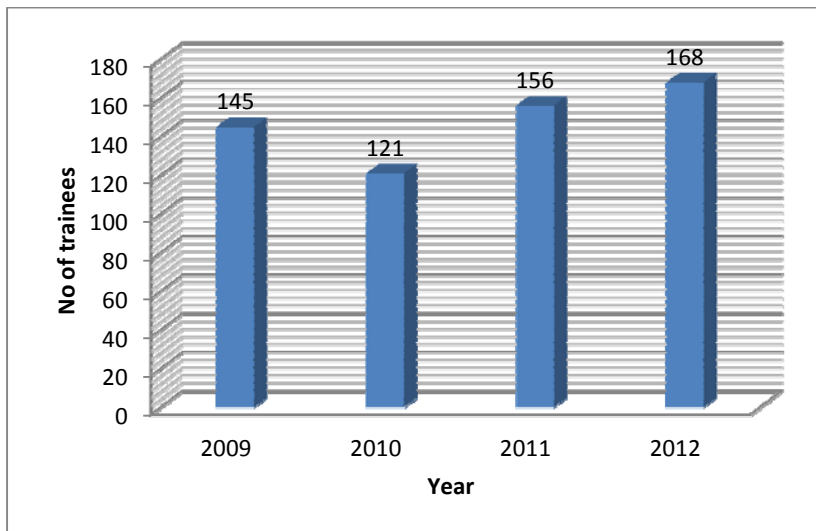


#### 4. TRAINING

SANDEE organized 8 training courses in 2012 (see the Table 3) including two Biannual Research and Training Workshops. The objective of these training workshops is to increase the number of South Asian professionals who can use economic tools to analyze environmental problems and who can then teach these tools to other colleagues. SANDEE undertakes a written evaluation by participants of each of its training programs, which are available on request.

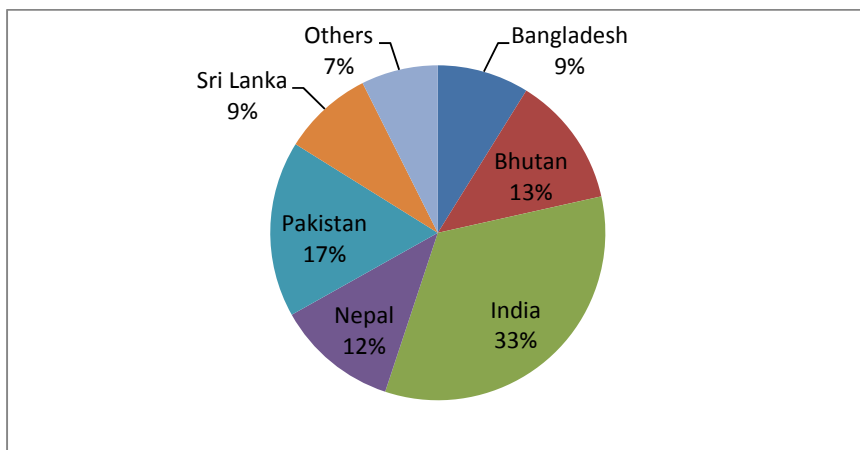
Figure 3 shows the growth of trainees over the last four years. As indicated, we now train approximately 150-170 researchers and decision-makers every year. This is in addition to the training we provide to our researchers through the Biannual Research and Training workshops. Some of this training is in specific topic areas, while the rest is in research methods and proposal development skills, particularly in under-served areas. The training provided in 2012 is discussed in detail below.

**Figure 3: Growth of Trainees (2009-2012) (excluding R and T workshops)**



It is important for us to also track where are trainees came from. Thus, Figure 4 shows the training distribution by country. Some 17% of the trainees are from Pakistan and 33% from India. The larger number of trainees from India this year is because we co-organized a joint course with INSEE for research scholars. We have a significant portion of trainees from other countries because of a policy workshop we ran jointly with UNDP and UNEP, which was a pan-Asia workshop.

**Figure 4: Training Distribution by Country (2012) (Including R and T workshops)**



**The various training workshops organized by SANDEE in 2012 are described below:**

1. Winter School in Econometrics for Environmental Economics: Theory and Application, Dhulikhel Mountain Resort, Dhulikhel, Nepal (8th - 18th January, 2012)  
 SANDEE organized a two-week training course in 'Econometrics for Environmental Economics: Theory and Practice,' during 8th - 18th January, 2012. The course was meant for current SANDEE researchers who need to learn applied econometrics in order to complete their research projects. The workshop provided researchers with the basic skills necessary to analyze data. Participants were provided hands-on training in econometric software such as STATA.  
 Participants: 22  
 Faculty: SANDEE Team, Kenuske Kubo and A.K. Enamul Haque
2. Summer School in Environment and Resource Economics, Bangkok, Thailand (7th – 23 May 2012)  
 SANDEE organized a three-week SANDEE Summer School 2012 on Natural Resource and Environmental Economics which covered issues in natural resource management,

environmental economics, sustainable development, and climate change. Participants were exposed to theoretical issues and economic tools for analyzing environmental and resource problems in developing countries. Week 1 of the course covered resource economics, week 2 focused on special topics such as ecosystem services, greening national accounts and common property management, while week 3 was used to impart valuation techniques to participants.

Participants: 28

Faculty: SANDEE Team, Jeffrey Vincent, Karl Goran Maler, Partha Dasgupta and A.K. Enamul Haque

3. Economic Instruments for Greening Development – Poverty Environment Initiative, Paro, Bhutan (12-13 August, 2012)

SANDEE along with the Poverty-Environmental Initiative (PEI) of UNDP and UNEP organized a workshop on Economic Instruments for Greening Development during August 12-13 in Paro, Bhutan. The two-day workshop brought together regional policy makers, planners and academicians from Pakistan, India, Nepal and Bangladesh, Lao PDR, Thailand and Myanmar, Indonesia and the Philippines and created a platform to discuss and share economic development and environment problems. Individual country representatives shared experiences from their countries related to how they were trying to address the interconnections between development activities and environment challenges.

Participants: 47

Faculty: SANDEE Team, Arabinda Mishra and A.K. Enamul Haque

4. Research and Writing Workshop, Dhaka, Bangladesh (6-9 Oct, 2012)

The Economic Research Group (ERG) and the South Asian Network for Development and Environmental Economics (SANDEE) jointly organized a Research and Writing Workshop in environmental and natural resource economics in October 2012 in Dhaka. The aim of this workshop was to build research capacity in the area of environment and resource economics mainly in Bangladesh, but with some additional regional participants.

Researchers interested in the field of environmental and natural resource economics and wishing to improve proposal writing techniques attended this workshop.

Participants: 14

Faculty: SANDEE Team, Sharmila Banerjee, Heman Lohano and A.K. Enamul Haque

5. Research and Writing Workshop, Islamabad, Pakistan (14-17 Sept, 2012)

The Sustainable Development Policy Institute (SDPI - Pakistan) and the South Asian Network for Development and Environmental Economics (SANDEE) jointly organized a Research and Writing workshop on Environmental and Natural Resource Economics in Islamabad, Pakistan in September 2012.

Participants: 16

Faculty: SANDEE Team, Rehana Siddique, Heman Lohano, Joyshree Roy and Waqar Ahmed.

6. Ecology and Economics Research Scholars Workshop, Ahmedabad, India  
(Nov 29-Dec 2)

Recognizing the critical importance of a continued support and guidance to the new stream of researchers, seeking to undertake serious enquiry into the various aspects of ecology, natural resources and development, INSEE jointly with SANDEE organized a workshop on Ecology and Economics from 29th Nov - 2nd Dec. 2012 in Gujarat Institute of Development Research (GIDR), at Ahmedabad. The four days workshop focused mainly on three themes of research priority identified by SANDEE viz; Ecosystem Management, Economics of Climate Change, and Policies and Instruments for Greener Growth.

Participant: 32

Faculty: Amita Shah, Jagdish Krishnaswamy, Kavi Kumar, Nilanjan Ghosh, Pranab Mukhopadhyay

7. Modeling Ecosystem Services – InVEST, the Natural Capital Project, Kathmandu, Nepal  
(9-11 Dec 2012)

SANDEE organized a three day training on Modeling Ecosystem Services - InVEST, the Natural Capital Project in Godavari, Nepal. The Natural Capital Project has a vision of sensitizing stake-holders of the values of natural capital in supporting human well-being. The NC project has developed a family of tools called InVEST to map and value the goods and services from nature which are essential for sustaining and fulfilling human life. InVEST enables decision-makers to assess the tradeoffs associated with alternative choices and to identify areas where investment in natural capital can enhance human development and conservation in terrestrial, freshwater, and marine ecosystems. The objective of this training was to enable a group of researchers to understand better how ecosystems can be modeled and how these results can be integrated with economic analyses.

Participants: 11

Faculty: Barbara Pollini, Nirmal Bhagabati and Stephen Polasky

**Table 2: Training Workshop Participant**

No	Workshop	Participants							Total
		Bangladesh	Bhutan	India	Nepal	Pakistan	Sri Lanka	Others	
1	Winter School in Econometrics	1		6	7	4	4		22 M 19 F 3
2.	Summer School in Environment and Resource Economics	5	1	5	4	6	3	3	27 M 20 F 7
3.	Economic Instruments for Greening Development	2	20	6	3	2		14	47 M 37 F 10
4.	Research and Writing, Pakistan					16			16 M 12 F 4
5.	Research and Writing Bangladesh	8	3	1	1		1		14 M-9 F-5
6.	Modeling Ecosystem Services	1	2	2	4	2	1		12 M 11 F -1
7	Ecology and Economics (Research Scholars)			30					30 M-20 F-10
8	Biannual Research and Training, Sri Lanka	4	1	14	4	4	5		32 M 24 F 8
9	Biannual Research and Training, Nepal	2	2	13	4	5	6		32 M 25 F 7
	<b>Total</b>	<b>23</b>	<b>29</b>	<b>77</b>	<b>27</b>	<b>39</b>	<b>20</b>	<b>17</b>	<b>232</b> <b>M 177</b> <b>F 55</b>

## **5. PUBLICATIONS**

In 2012, SANDEE published 9 working papers and 7 policy briefs based on SANDEE supported research. The complete papers are available in our website at [www.sandeeonline.org](http://www.sandeeonline.org). We also published two newsletters during the course of the year. 13 peer-reviewed and popular publications based on SANDEE researcher emerged in 2012. Notably, some 50% of these publications were in international journals.

The list of the working papers, policy briefs and peer reviewed publications are given below:

### **Working Papers**

1. Causes of Emissions from Agricultural Residue Burning in North-west India: Evaluation of a Technology Policy Response, Ridhima Gupta, WP 66-11
2. Inclusive National Accounts: Introduction, Partha Dasgupta, WP 67-12
3. Is the Deposit Refund System for Lead Batteries in Delhi and the National Capital Region Effective?, Yamini Gupt, WP 68-12
4. Measuring the Health Benefits from Reducing Air Pollution in Kathmandu Valley, Naveen Adhikari, WP 69-12
5. Analyzing Institutions in Resource and Development Econometrics: Recognizing Institutions, Exploring Levels and Querying Causes, Vikram Dayal, WP 70-12
6. Options and Determinants of Rice Residue Management Practices in the South-West Region of Bangladesh, Ziaul Haider, WP 71-12
7. Awareness as an Adaptation Strategy for Reducing Mortality from Heat Waves: Evidence from a Disaster Risk Management Program in India, Saudamini Das and Stephen C. Smith, WP 72-12
8. Farm Productivity Loss due to Flood-Induced Sand Deposition: A Study in Dhemaji, Kalyan Das, WP 73-12
9. Valuing the Damage Caused by Invasive Plant Species in a Low-income Community in Nepal, Rajesh Kumar Rai WP 74-12

### **Policy Briefs**

1. How much is a life worth? Examining the Risk Wages Trade of in Pakistan, Muhammad Rafiq, PB No. 58 -11



2. Is Communication Necessary for Sustainable Practices? Further Evidence from Indigenous Villages in Maharashtra , India, Rucha Ghate, PB No. 59-11
3. Is a Ban the Best Way to Reduce Plastic Bag Use? A Case Study from Delhi, Kanupriya Gupta, PB No. 60 - 12
4. The Happy Seeder: An Agricultural Solution to Air Pollution in South Asia, Ridhima Gupta, PB No. 61-12
5. Is the Deposit Refund System for Lead- Acid Batteries in delhi and the National Capital Region Effective?, PB No. 62 -12
6. Economic Instruments for Greening Development: Understanding Policy- Design, Practice and Research Needs in Asia, Ugen P.Norbu, PB No. 63-12
7. Do Awareness Campaigns Save Lives? Assessing the Odisha Government's Efforts to Reduce the Impacts of Heat Waves, Saudamini Das, PB No. 64-12

**Peer-Reviewed and Other Publications (Grantees, Associates & Staff)**

1. Adhikari, N. (2012), 'Air Pollution and Human Health in Kathmandu Valley', Public Health Perspective, Online Health Newsletter, 2 (5).
2. Das, Saudamini (2012), "The role of natural ecosystems and socio-economic factors in the vulnerability of coastal villages to cyclone and storm surge," Natural Hazards, 64 (1): 531-546.
3. Ghate R., H. Hagendra, and D. Mehra. 2012, 'Is JFM Really Helping Communities and Forests? Need to Focus and Institution Building?', In Environmental Governance: Approaches, Imperatives and Methods, edited by J. Bandhopadyay, K. Chopra, N. Ghosh, INSEE and Bloomsbury, New Delhi.
4. Gundimeda, H. and P. Shyamsundar (2012), 'Forest, Sustainability and Poverty in India', Environment and Development Economics, 17 (3): 1373 – 378.
5. Malla M. B., N. Bruce, E. Bates & E. Rehfuss, 2011. 'Applying global cost benefit analysis methods to indoor air pollution mitigation interventions in Nepal, Kenya and Sudan: Insights and challenges, Energy Policy', Energy Policy 29 (12)
6. Nepal, A. and M. Nepal (2012), 'Is child labor a substitute for adult labor? The relationship between child labor and adult illness in Nepal', International Labour Review, 151 (1-2): 109–121.

7. Rafiq M. 2010. 'The Value of Reduced Risk of Injury and Deaths in Pakistan using actual and perceived risk estimates', Pakistan Development Review (PDR) Paper & Proceeding, 49(4)
8. Udagama M, Jyasinge-Mudalige U., Anjali GHI, 2009. 'Managers' Environmental Altruism and Firms' Compliance to National Environmental Management Strategies: Evidence from the Food Processing Sector in Sri Lanka.' Journal of Food and Agriculture, 2(2)
9. Rai, R. & H. Scarborough (2012), ' Economic value of mitigation of plant invaders in a subsistence economy: incorporating labor as a mode of payment', Environmental and Development Economics, Vol. doi:10.1017/ S1355770X1200037X
10. Rai, R and H. Scarborough (2012) Estimating the public benefits of mitigating damages caused by invasive plant species in a subsistence economy  
<http://ageconsearch.umn.edu/handle/124421>- Australian Agricultural and Resource Economics Society.
11. Mangan, T. , Roy Brouwer , Heman Das Lohano & Ghulam Mustafa Nangraj (2012), 'Estimating the recreational value of Pakistan's largest freshwater lake to support sustainable tourism management using a travel cost model', Journal of Sustainable Tourism, August 2012.  
<http://www.tandfonline.com/doi/abs/10.1080/09669582.2012.708040>
12. Goswami, Kishore, 2012. Low returns forcing farmers to abandon Jatropha,- The Assam Tribune (<http://www.assamtribune.com/scripts/detailsnew.asp?id=nov2212/state05>)
13. Mukhopadhyay, Pranab 2012. Marine Valuation Report for TEEB India Scoping Report, MoEF.

## 6. DISSEMINATION, TEACHING AND DEVELOPMENT

### Presentations

In 2012, there were 40+ presentations by SANDEEites in some 20 odd conferences or seminars across 13 countries (see Table 5). Some of these activities were sponsored by SANDEE but others were not. SANDEEites have a budget within their research activities for dissemination. Thus, dissemination happens routinely through seminars or other means. However, what is interesting is the increasing number of presentations that are happening outside these SANDEE supported channels (see Table 3).

SANDEE is also being invited to organize events at different international fora. A highlight from 2012 was a plenary presentation (on day 1) and a panel presentation on climate change at the 5<sup>th</sup> South Asia Economic Summit (SAES 5). South Asia is one of the least integrated regions in the world and SAES is an important attempt at increasing integration. Thus, it was excellent to have SANDEE invited to engage in this effort.

**Table 3: Conference and Seminar Presentations (2012)**

SN	Conference Name	Country	Presenter
1	SDPI's Fourteenth Sustainable Development Conference	Pakistan 13- 15 Dec, 2011	Naeem Akram
2	Conference on Statistical Sciences	Pakistan 19-22 Dec, 2011	Waqar Akram
3	Australian Agricultural and Resource Economics Society 56th Annual Conference	Australia 10 Feb, 2012	Rajesh Rai
4	Planet under Pressure	London 26-29 Mar, 2012	Priya Shyamsundar Mani Nepal Joyashree Roy Prasenjit Sarkhel
5	12th Congress of the International Society for Ecological Economics	Brazil 16-19 June, 2012	Udith Jayasinghe- Mudalige Saudamini Das
6	16th International Consortium on Applied Bio-economy Research Conference	Italy 24-27 June, 2012	Khuda Baksh
7	Conference of European Association of Environmental and Resource Economists (EAERE)	Prague 27-30 June,2012	Saudamini Das Kanupriya Gupta
8	Seminar: Department of Urban and Regional Planning, BUET	Bangladesh 1 July, 2012	Afsana Haque

9	Conference on Climate Change, URB Students Association	Bangladesh 8 July, 2012	Afsana Haque
10	Conference of Agricultural Economists	Brazil 18-24 Aug 2012	Krishna Pant
11	5 <sup>th</sup> South Asia Economic Summit	Pakistan 11-13 Sept, 2012	Heman Lohano Prakash Karn Saudamini Das Joyashree Roy Iftikhar Husnain Priya Shyamsundar
12	3rd URBIO 2012 Conference	India 8-12 Oct,2012	Ridhima Gupta, Krishna P Pant Prajna P Mishra
13	Climate Change Adaptation Workshop	Bangkok Oct 2012	Saudamini Das
14	Seminar: Recreation vs. Pollution: A Study of Hussain Sagar Lake and its Surrounding in Hyderabad".	Hyderabad 2012	Pragya Mishra
15	Seminar: Sustainability of Biodiesel Industry in North East India	OKDISD, Guwahati November 2012	Kishor Goswami
16	9 <sup>th</sup> South Asia Economic Students Meet	Kathmandu 19 December	Min Malla Bishnu Sharma Prakash Karn Naveen Adhikari Krishna Pant Mani Nepal
17	2 <sup>nd</sup> International Conference Environment and natural resources in Developing and Transition Economies	France October 2012	Heman Lohano Brinda Vishwanathan
18	Econometric Society of Asia	Delhi December (?) 2012	Kazi Iqbal
19	Seminar: Auctions for Reducing Rice Residue Burning in Nepal	Kathmandu September 2012	Krishna Pant
20	Seminar: Air Pollution Costs in Kathmandu City	Kathmandu April 2012	Naveen Adhikari
21	Seminars: Lectures in Research and Writing	SDPi, PIDE, Pakistan	Mani Nepal
22	Seminars: Knowledge Networks for Building Sustainability Knowledge	Ottawa, Canada Germany	Priya Shyamsundar Pranab Mukhopadhyay

## Professional Development and Teaching

WE try to track the way our researchers develop professionally to ensure that our capacity building efforts are indeed 'sticking' and that they have long term impacts. The different activities our researchers have been involved in are presented below. Highlights include:

- Award of two Ph.Ds. in Nepal and Pakistan based on SANDEE research.
- Several grantees have applied and won new research grants. In some cases, this has been joint activity among networked researchers.
- 70% of the Executive Committee of the Indian Society for Ecological Economics are associated with SANDEE (researchers, advisors or trainees).
- Several SANDEEites are involved as committee members through two major policy efforts to integrate environment into macro accounting – India's green accounting initiative and the WAVES program organized by the World Bank and UNEP.
- As discussed in Box 2, SANDEE material is infiltrating classrooms in various ways. An original goal of SANDEE was that we would build locally relevant literature for teaching and policy analyses – this seems to be happening.

Some of the individual accomplishments by our researchers are listed below:

1. **Bishnu Prasad Sharma** received a Ph.D. degree from Tribhuvan University. His dissertation, funded by SANDEE, was entitled "*Contributions of Leasehold Forests in Household Income and Poverty Alleviation in Nepal*".
2. **Muhammad Irfan** received his Ph.D. degree in Economics from Federal Urdu University of Arts Science and Technology Islamabad, Pakistan in December 2011. His SANDEE funded dissertation is called "*Evaluating the impact of dis-amenity (Open Sewerage System) on house rent in Rawalpindi City*".
3. **Mohammad Rafiq**, University of Peshawar received grants for two studies – 'The Impact of Tourism on Local Livelihood in Klash valley', funded by the HEC National Research Program for Universities (PKR 1.8 million, 2012), and 'Valuing the Environmental Health Effects: A Case study of Peshawar, Pakistan', funded by the HEC National Research program for Universities (PKR 2.8 million, 2012-2013).
4. **Joyashree Roy** and Indrila Guha won a research grant for a project entitled, 'Coastal Ecosystem and Changing Economic Activities: Challenges for Sustainability Transition along Chinese and South Asian Coasts' has been granted by Asia Pacific Network (APN) for two years. Participating countries are: India, Bangladesh, Sri Lanka and China with SANDEE as a knowledge partner.
5. **Nayanatara Nayak** from CMDR, Dhawad won a large grant to examine alternatives to tobacco. This grant brings together other SANDEEites as partners to undertake multi-state research

6. **Indrila Guha** from Vidya Sagar College for Women, Kolkata got a grant from University Grant Commission for a project titled 'Economic Adaptation Caused by Inundation of Islands: An Exploratory Study from Indian Sunder bans'.
7. **Vinish Kathuria** has been awarded Mahalanobis Memorial Medal - National Award for the year 2010. The award was given by the Indian Econometric Society.
8. **Indira Devi** from the Department of Environment and Climate Change has got a grant from the Kerala Government for setting up the Centre for Excellence in Environmental Economics at Kerala Agricultural University.
9. **Kanupriya Gupta** has joined Asian Development Bank as the Project Officer in Programs and Development Effectiveness.
10. SANDEE Fellow **Saudamini Das** joined the Institute of Economic Growth, Delhi, India as Associate Professor.
11. **Santadas Ghosh** became the coordinator of Ph.D. coursework in Shanti Niketan University West Bengal (July – December semester).
12. **SANDEE graduates** have been elected in various capacities in the INSEE Board for 2012-14. Amita Shah is President; Pranab Mukhopadhyay is Secretary; Purnamita Dasgupta is Treasurer, and Seema Purushothaman is a co-opted member.
13. **SANDEEites** (E.Somanathan, P. Shyamsundar, H. Gundimeda) continue to serve on the Indian Ministry of Planning and Implementation's Expert Group on Greening India's National Accounts.

## 7. LESSONS LEARNED AND SECRETARIAT RELATED ISSUES

There are two sets of lessons from 2012 as we look forward towards 2013. These relate to research and institutional issues.

On the research front

- A careful examination of our portfolio indicates that we are relatively less strong on climate adaptation issues (relative to impact analyses and mitigation). This is clearly an area of immense importance (note that Pakistan does not have an Environment Ministry but has a Climate Change Ministry) for our part of the world and we need to figure out what research strategies we can use to strengthen this area of research. As a first step, we hope to organize a simple literature review of climate adaptation research, particularly as it pertains to developing countries and Asia.
- An interesting technical aspect of our climate mitigation grants is that a number of them examine the decision of households to adopt different green technologies. However, because households are not randomly assigned or chosen there are a number of technical difficulties in generalizing from the samples. Our research advisors are currently examining this issue to see how best it can be addressed econometrically.
- As we move towards a deeper understanding of regulatory issues, an important challenge emerges related to data collection and methods of analyses. Some of this work moves us towards firms and away from households. However, collecting firm and firm labor related data is difficult at best and may be impossible in certain cases. This has led us to take a more case study approach and we will have to see how well researchers are able to tease out lessons when survey data are not available.
- We are beginning to provide training support on ecosystem services modeling. The next challenge is to see how we can support more integrated environmental-economics work and the skills sets that we will need to work with. We foresee that we will have to more seriously move beyond straight-forward environmental economics as we examine ecosystem services. We think we can do this if we start in a pilot/experimental fashion and build up incrementally. We will also look out for new reviewers/advisors in this area.

On the institutional front, we have two challenges this year – the first has been mainly resolved and the second looms large.

- We have a very stable and comfortable situation with ICIMOD. There is interest in strengthening the technical partnership between ICIMOD and SANDEE and we are looking for ways to do this – even though the different ways in which we function pose some challenges. However, one practical issue we had not foreseen is the interest among our young program associates to find jobs in ICIMOD. We have lost 2 of our program associates

to ICIMOD thus far – a big loss given how small SANDEE is. However, we are in discussions with ICIMOD management and will resolve this issue by putting a clause in our next SANDEE-ICIMOD agreement. Both SANDEE and ICIMOD are in agreement about renewing our current arrangement for three more years, from 2013 to end 2015.

- The bigger institutional issue is that the current Program Director who has run SANDEE for 12 years is poised to move back to Washington DC in mid-2013. There was a large discussion about this move during SANDEE's December 12 MAC (Board) meeting. While some members of the MAC are in agreement that there should be a search for a new Program Director (PD), others (including several advisors who know SANDEE very well) are deeply concerned that there are huge risks from bringing someone new to SANDEE to lead it. Also the cost of hiring someone new is going to be pretty heavy both for the institution and in terms of a search. We are currently in discussion about how SANDEE can be managed even if the current PD steps down and what would a full search entail. If there is a full search for a new PD, then someone high profile with a lot of connections such as Sir Partha Dasgupta should possibly lead the search along with the current SANDEE Board Chairperson. We are also in discussions about whether the current Sr Economist can take on some of the PD's responsibilities with the help of an additional economist. Issues of transition are not easy for any organization, let alone a small one, and we hope to find a creative solution.

SANDEE's Work Plan for 2013 is attached as Box 3. We hope to continue with our research themes but increase our emphasis on ecosystems management and climate adaptation. In terms of under-served areas, we will continue to emphasize increasing the number of researchers from Pakistan. We hope to, therefore, organize a teaching workshop to build the research pipeline in LUMS, Lahore in March 2013. We have also been invited, for the first time, to organize a research and writing workshop in Bhutan next year. Our policy focus on macro environmental accounts continues to grow. As discussed, SANDEE is now connected to two policy efforts – the first in India and the second through the World Bank-UNEP's WAVES partnership. Hopefully, with India's leadership, there will be wider interest in this issue as the world moves towards 'Sustainable Development Goals'.

SANDEE will see the end of two new donor agreements – NORAD and IDRC – at the end of 2013. We are very hopeful that we will be able to renew these agreements and possibly double SANDEE's size. There is a huge amount of work and demand for SANDEE type activities in the region. SANDEE now has a brand in the region and it is time to leverage this brand and meet the demand by growing stronger.



### **Box 3: WORKPLAN – 2013**

#### **A. Research**

- a) Research and Training Workshop, Sri Lanka, June 17-21, 2013
- b) Research and Training Workshop, Nepal, December 10-14, 2013

#### **B. Training**

- a) Winter School in Research Methods, January 14-24, 2013, Nepal
- b) Summer School in Environment and Resource Economics, May 6-23, 2013, Thailand
- c) Policy Analyses for Environmental Economists, 25-27 May, 2013, Thailand

#### **C. Capacity Building in Underserved Areas**

- a) Research and Writing Workshop, March 2013, Pakistan
- b) Research and Writing Workshop, September 2013, Bhutan

#### **D. Dissemination and Committee Support**

- a) Working Papers, Newsletters and Policy Briefs (on-going)
- b) Conference/Policy Dissemination
- c) Committee Support: Expert Group on Greening India's National Accounts (GOI), Wealth Accounting and the Valuation of Ecosystem Services (World Bank/UNEP), Program Advisory Committee (Masters Economics, TERI and Pokhara University)

#### **E. Program Management**

- a) Two grant renewals (IDRC and NORAD)
- b) New donor funding
- c) PD Transition and new hire
- d) Staff Retreats and management (January and August)
- e) Website improvements