Annual Report 2008

South Asian Network for Development
and Environmental Economics

South Asian Network for Development and Environmental Economics

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The SANDEE Secretariat

Krisha Shrestha

Anuradha Kafle

Priya Shyamsundar

Mani Nepal

Usman Rao

Pranab Mukhopadhyay

Kavita Shrestha

Sunita Khanal

The SANDEE team saw many changes in 2008. Several friends moved on and we also saw several new staff members join.

Chairman's Message

On behalf of SANDEE's Management and Advisory Committee (MAC), I am proud to endorse SANDEE's 2008 Annual Report.

In addition to a long list of activities and achievements, this year was one of significant institutional development for the organization. A new governance framework was put into place, one that better reflects SANDEE's size and maturity. It allows for more regular rotation of MAC members, bringing in new ideas and points of view, while maintaining interaction with those who have been part of SANDEE's early development.

This year, the Committee welcomed as a new member William Chameides, Dean of the Nicholas School of the Environment at Duke University. Chameides is a leading authority on the natural science of climate change and will provide invaluable advice as SANDEE's work in this highly interdisciplinary field evolves. Finishing his term after many years of dedicated service was Enamul Haque from Bangladesh. His creativity and unflagging support to SANDEE are much appreciated.

Another element of SANDEE's development was progress in our discussions about a new host institution. Since its inception, SANDEE has been hosted by the *International Union for Conservation of Nature (*IUCN). This relationship was of great benefit to us and, we hope, to IUCN. From August 2009, SANDEE will operate under the auspices of the International Centre for Integrated Mountain Development (ICIMOD) in Kathmandu. ICIMOD's substantial on-the-ground presence in Nepal will bring us a number of advantages and SANDEE's programming independence will be unaffected. We are confident that this new relationship will be a great source of support as we move into our second decade of research and capacity building.

David Glover

International Development Research Center, Canada

Program Director's Message

SANDEE witnessed many changes in 2008.

On the research front, we started promoting our new theme of climate change. We are trying to build our understanding climate change economics, while continuing with our earlier focus on resource institutions, poverty and valuation of environmental quality. Research support for coastal communities, adaptation and vulnerability continues and is now part of our efforts to understand the implications of climate change for South Asia

We had a full year of training activities. We organized a course on Basic Econometrics in Kathmandu, catering particularly to candidates from regions in South Asia that need additional support. Our summer flagship course – an Introduction to Environmental and Resource Economics – was held at the Asian Institute of Technology, Bangkok. The autumn course on Research Proposal Writing was held in September at Nagarkot, Nepal. We also organized an advanced workshop on Program Evaluation for our researchers. In November, we worked with IUCN in Karachi, Pakistan to bring together policy makers and civil society at a high-profile policy and training workshop on mangroves and coastal management.

Our researchers continue to be productive with their publications, presentations and influence on policy. Eleven papers emerged from SANDEE research in 2008 and I am particularly proud of SANDEEites Ghate, Jodha and Mukhopadhyay for editing our first book, *Promise, Trust and Evolution – Managing the Commons of South Asia*, which was published by Oxford University Press. Our researchers presented their work in numerous fora, including the European Association of Environment and Resource Economics meetings. SANDEE's research on coastal and mangrove eco-systems appears to be having an impact in a variety of ways as recorded inside. In Nepal, pesticide management and forestry studies have become part of the policy dialogue.

2008 saw several changes within the small SANDEE secretariat and we reluctantly bid good bye to some of our colleagues. Kavita Shrestha, who was with SANDEE for eight years, decided to move to Ghana to join her husband. Sunita Khanal, our accountant, took up a position at Practical Action, Nepal. Our economist, Pranab Mukhopadhyay finished his two year assignment with SANDEE and returned to Goa University in July 2008. We are fortunate to have Pranab's continued support on a range of research and training ventures. We also have with us Mani Nepal, our new Environmental Economist, who moved from the University of New Mexico to join us in September, 2008. Krisha Shresta joined as the Program Associate in November and Usman Rao, Finance Manager, IUCN Nepal, has taken on the responsibility of SANDEE's accounts.

We also saw changes in SANDEE's Management and Advisory Committee (MAC), which have been noted in the message from our Chairman, David Glover. I am ever so grateful to our research advisors and the MAC members, both current and past, for their un-stinting aid to SANDEE. We would not be able to do our work without their advice and support.

With every best wish

Priya Shyamsundar

Research

SANDEE provides research grants to young and mid-career South Asian researchers working in the field of environmental and natural resource economics. These grants are made through a biannual competitive small grants program. Researchers then meet twice a year to present the progress of their work and discuss research methods with peers and senior colleagues from around the world. SANDEE's research grants program is at the core of SANDEE's activities.

SANDEE made 6 grants in 2008 and organized two research and training (R and T) workshops in July 2008 and December 2008. Each workshop included approximately 40 researchers from Pakistan, Bangladesh, India, Sri Lanka and Nepal and advisors from within and outside Asia. The research grants made covered urban environmental management, industrial pollution, irrigation management, forestry reform, climate change and adaptation to natural disasters. The workshops also served as a training opportunity. There were several plenary presentations on topics such as climate change, water and sanitation services, bio-fuel and informal regulations.

Biannual Research Competition

Research Cycle	Month/Year	Number of pre-proposals Received on Climate Change Economics	Invited to the Research and Training Workshop	Grants Awarded
16	July 2008	56	5	2
17	Dec 2008	65	6	4

In addition to the new grants, SANDEE currently has some 28 grants that are open and these will continue to be monitored.

Research Grants 2008

Grants (July 08 and December 08 R&T Cycles)

2008 Research Grants based on Research and Training Workshop		
16th Cycle, July 2008		
Khuda Baksh	Pakistan	Economics of Adopting BT Cotton: Evidence from Pakistani Punjab
Yamini Gupt	India	A Study of the EPR based Deposit-Refund System for Batteries in Delhi and National Capital Region
17th Cycle, Dec 2008		
Ajantha Kalyanaratne	Sri Lanka	Measuring the Economic Impact of Indoor Air Pollution (IAP) in the Estate Sector in Sri Lanka
Kalyan Das	India	Valuing damages of flood induced sand deposition in a downhill valley of Assam, India
Prakash K Karn	Nepal	Impacts of Climate change on Paddy Production in Nepal
Santadas Ghosh (Study Grant)	India	Local strategy to a global threat: exploring policy alternatives in the Sunderbans

SANDEE Advisors at the 17th R & T Workshop, Godavari, Nepal, December 2008

Biannual Workshops

16th R&T, 2008 (June-July)

Economics of adopting Bt cotton: Evidence from Pakistani Punjab, Khuda Baksh, Pakistan

Khuda is examining the comparative economic performance of BT and traditional cottonseed to determine the reduction in pesticide use due to adoption of BT cottonseed in the irrigated districts of Punjab (Pakistan). He will study farm-level differences between new and traditional varieties.

A Study of the Extended Producer Responsibility based Deposit-Refund System for Batteries in Delhi and National Capital Region, Yamini Gupt, India

Yamini proposes to assess the impact of the deposit refund system for batteries introduced by the Government of India. She seeks to understand how the legislation is being implemented and what the implications are for the market structure and recycling of batteries in the industry. She will examine issues of compliance and what may be contributing to compliance. This is a currently a conditional grant.

17th R&T, 2008 (December)

Tea Workers, Health Costs and Productivity Loss in Sri Lanka, Ajantha Kalyanaratne, Sri Lanka

Ajantha will try to assess the cost of indoor air pollution in terms of health cost and productivity loss to female workers in the tea estate sector in Sri Lanka. He will create a panel dataset by using secondary data available on tea worker

Participants at the 16th R & T Workshop, AIT CC, Thailand, June-July 2008

wages, productivity and changes made in housing in different tea plantations to estimate the impact of improved kitchen facilities on reduced indoor air pollution and worker health.

Impacts of Climate Change on Paddy Production in Nepal, Prakash Karn, Nepal

This study seeks to understand how climate change may affect paddy yields which is the most important cereal crop in Nepal. Prakash will compare results of Ricardian and production function approaches to assess the magnitude of likely impacts of climate change on paddy production.

Valuing Damages from Flood Induced Sand Deposition on the Rice Bowl of Assam in India, Kalyan Das, India

Floods can cause enormous damage, destroying standing crops, houses, lives and livestock. Floods also deposit layers of sand on existing crops, which can cause irreversible harm. This study will measure the impact and costs of flood induced sand deposition on cultivable land in Assam and also record the adaptive behaviour of the affected people.

Farewell to Kavita, 17th R & T Workshop, Nepal, December 2008

Local Strategy to a Global Threat: Exploring Policy Alternatives in the Sunderban, Santadas Ghosh, India (Study Grant)

The Sundarban Biosphere Reserve is inhabited by more than one million people on the Indian side on 54 which are protected by embankments from the saline ingress. Santadas returns to Sunderbans to study the locally developed institutional arrangements for managing embankments, identify the causes of institutional failure and estimate the cost of embankment failure to the local stakeholders.

Publications and Presentations

SANDEE Working Papers and Policy Briefs

SANDEE published the following working papers and policy briefs based on its research in 2008.

Working Papers

1. Storm Protection by Mangroves in Orissa: An Analysis of the 1999 Super Cyclone, Saudamini Das, Working Paper 25-07
2. Evaluating Gains from De-Eutrophication of the Dutch Canal in Sri Lanka: A Cost Benefit Analysis, W. R. Rohitha, Working Paper 29-08
3. Taxing Pollution: A Case for Reducing the Environmental Impacts of Rubber Production in Sri Lanka, Jagath Edirisinghe, Susantha Siriwardana, Sarath Siriwardana and Punsara Prasandith, Working Paper 30-08
4. Nepal's Community Forestry Funds: Do They Benefit the Poor?, Ridish K. Pokharel, Working Paper 31-08
5. The Environment as a Production Input: A Tutorial, Jeffrey Vincent, Working Paper 32-08
6. Discounting Climate Change, Partha Dasgupta, Working Paper 33-08
7. Estimating Health Benefits when Behaviors are Endogenous: A Case of Indoor Air Pollution in Rural Nepal, Krishna Pd. Pant, Working Paper 34-08
8. Air Quality and Cement Production: Examining the Implications of Point Source Pollution in Sri Lanka, Cyril Bogahawatte and Janaranjana Herath, Working Paper 35-08
9. Determinants of Fuelwood Use in Rural Orissa, Arabinda Mishra, Working Paper 37-08

Policy Briefs

1. Pesticide Exposure – a Growing Problem for Nepal's Farmers, Kishor Atreya, Policy Brief 27-08
2. Water Pollution Lowers Returns to Shrimp Farms - Evidence from Sri Lanka, W. R. Rohitha, Policy Brief 28-08

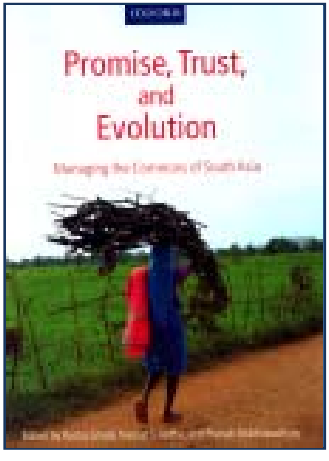
3. Can Tax Combat Pollution? – An Assessment of the Sri Lankan Rubber Industry, Jagath Edirisinghe, Susantha Siriwardana, Sarath Siriwardana & Punsara Prasandith, Policy Brief 29-08
4. Do Community Forestry Funds Target the Poor? A Study from Nepal, Ridish Pokhrel, Policy Brief 30-08
5. Open Fires, Dirty Air and Respiratory Diseases – Examining Health Costs from Indoor Air Pollution in Nepal , Krishna Prasad Pant, Policy Brief 31-08
6. The Health Costs of Cement Production – A Study of Air Pollution in Sri Lanka, C. Bogahawatte & Herath Bandara, Policy Brief 32-08
7. Fuelwood Use in Rural Orissa, Arabinda Mishra, Policy Brief 34-08

SANDEE at the 16th EAERE

SANDEE was very well represented at the 16th EAERE conference, held at Gothenburg University, Gothenburg, Sweden from 25 to 28 June, 2008. 15 members of the SANDEE family including 10 grantees and several resource persons made presentations. The grantees were Bhim Adhikari, Jahangir Alam, Jahangir Alam Choudhary, Saudamini Das, Jagath Edirisinghe, Vinish Kathuria, Kavi Kumar, Min Malla, Lekha Mukhopadhyay, and K. P. Pant.

Priya Shyamsundar participated in a panel on the "Role of environmental economics for implementation of sustainable development" at a pre-conference organized on Environment and Development.

Publications



SANDEE's research continues to meet the market test of 'publishability'.

2008 was a significant year from the publication point of view. The first volume of SANDEE studies on the theme of Common Property Resources came to life. Put together painstakingly by Rucha Ghate, Narpat S. Jodha, and Pranab Mukhopadhyay, Oxford University Press, U.K released the book *Promise, Trust and Evolution Managing the Commons of South Asia* in early 2008. The bulk of this book is based on SANDEE case studies.

1. Atreya, K.; Health costs from short-term exposure to pesticides in Nepal *Social Science and Medicine,* 2008: Vol. 67, 511-519
2. Atreya, K.; Probabilistic assessment of acute health symptoms related to pesticide use under intensified Nepalese agriculture *International Journal ofEnvironmental Health Research,* 2008: Vol. 18 No. 3, pp. 187-208
3. Alam, Mohammad Jahangir.; Water quality tests and behavioral factors of child diarrhea in Dhaka Slums *BRAC University Journal*, 2007: Vol. IV, No.1, pp. 103-109.
4. Bhattarai, Ram Chandra; Transaction Cost in Farmer Managed Irrigation System in Nepal: A Case of Some Selected FMIS in Kathmandu Valley In Prachanda Pradhan et al. (eds.) 'Irrigation in Transition: Interacting with Internal and External Factors and Selecting the Strategic Actions' Proceedings of theFourth International Seminar Held on 6-7 November 2006, Kathmandu Nepal, Farmer Managed Irrigation Systems Promotion Trust, Kathmandu Nepal, pp. 276-292.
5. Das, Saudamini; Mangroves Provide Protection during Cyclone: Evidences from the Super Cyclone of October 1999 in India", FEEM (Fondazione Eni Enrico Mattei) Working Paper / Doctoral Series, , Corso Magenta, 63,Milano, Italy. Oct, 2008: 2.08
6. Ghate, Rucha, and Mehra; Deepshikha Integrating informal with formalforest management institutions for sustainable collective action in India', In Webb, E. and Shivakoti, G. (eds.)

Decentralization, Forests and Rural Communities, Sage Publications: New Delhi. 2008: 93-127

7. Gupta, Usha; Valuation of Urban Air Pollution: A Case Study of Kanpur Cityin India', *Environmental and Resource Economics* 2008: Vol. 41, No. 3, pp. 315-326.

8. Mukhopadhyay, Lekha; Successful voluntary participation in common property resource In Kumar, Pushpam and Reddy, B. Sudhakara (eds.) *Ecologyand Human Well-Being,* Sage Publications: London 2007

9. Roy, Joyashree; Economic benefits of arsenic removal from ground water -A case study from West Bengal, India *Science of the Total Environment,* 2008: 397 (1), pp.1-12

Presentations

There were many individual efforts at disseminating research at different fora.

SANDEE Fellow Joyashree Roy discussing two SANDEE research projects in West Bengal, India

1. C. Bogahawatte and Herath Bandara; Health Impacts of Cement production process in Sri Lanka, First Symposium of the Sri Lankan Agricultural Economics Association, Peradeniya Sept 2008

2. M.Jahangir Alam Chowdhury; 'Does Participation in Microcredit based Social Forestry Program Enhance Environmental Literacy? Experience from Proshika in Bangladesh 3rd annual general meeting and conference (AGM) of the Pakistan Society of Develop ment Economists (PSDE), Islamabad, Pakistan 12th – 14th March, 2008

3. Saudamini Das; Storm Protection Services of Mangrovesand Super Cyclone of Oct 1999' 2nd LOICZ

(Land Ocean Interaction Zone) Symposium on Social-Ecological System Analysis, a part of the XV Inter national Conference of the Societyfor Human Ecology (SHE), at Rio de Janeiro, Brazil. Oct 2007

4 Rucha Ghate; SANDEE book 'Promise, Trust and Evolution' Round Table organized by the Environmental Studies Program, University ofKansas, USA, 25th August, 2008

5 Krishna Pd. Pant; Valuing Interventions to Reduce Indoor Air Pollution by addressing Endogeneity – Fuelwood Use, Deforestation and Health in Rural Nepal 23rd annual general meeting and conference (AGM) ofthe Pakistan Society of Development Economists (PSDE), Islamabad, Pakistan

6 Krishna Pd. Pant; Taxing Fuel wood for Health andEnvironment Protection in Nepal Gotenborg University Summer 2007

7 Ridish Pokharel: Mobilizing CFUG Funds – Who Benefits? 5 t h Community Forestry Workshop, Kathmandu November 9-11th, 2008

Policy Dissemination and Dialogue

On the research dissemination front, we were quite successful in getting SANDEE's research to policy makers and to civil society. Several activities are evidence to this.

- Research on forest funds in rural Nepal was recently cited by Keshav Kanel, Secretary in the Nepal Government at their annual forestry conference. Local forest range officers have also become interested in using recent forestry research on how community forestry funds are largely supporting the non-poor versus the poor.

- A SANDEE workshop organized jointly with Jadavpur University on protected area management based on two SANDEE research grants brought together the Chairman of the EPA as well as managers, particularly from the Sunderban National Park. Park managers agreed to use one of the studies as a baseline for future work. The travel cost study also bolstered their plans to increase the entrance fee to the park. The workshop and study findings were covered widely by the West Bengal news media.

- ·SANDEE research is being us
SANDEE supported work on
are used to train farmers an
workshop by researcher Rat
large audience, included p
Protection Director,
Pesticide Registrar,
professors from the
Institute of Agriculture
and Animal Science,
senior scientists from
Nepal Agriculture
Research Council,
members of the donor
community, plant
protection officers form
district agriculture
development officers,
IPM trainers and farmers.
The conversation that followed endorsed the need for
additional studies in different locations on pesticide
productivity following
the SANDEE
methodology. Revisions
to the farmer school
curriculum were also
proposed.

Researcher Ratna Jha discussing his pesticide study results with villagers

- Practical Action, Nepal
and Project Manager
Min Malla, used SANDEE
research (undertaken by
Malla) to advocate
changes in government
policies related to indoor
air pollution. They
convinced the Ministry of
Environment, Science
and Technology (MoEST)

Min B. Malla asking questions about indoor air pollution

about the need for indoor air quality (IAQ) standards. A MoU between Ministry and Practical Action was signed and they then provided technical support to draft the IAQ standards and guidelines for Nepal. The draft has been posted on MoEST's website (http://www.moest.gov.np) for public review and feedback.

© Min B. Malla

- SANDEE supported research related to coastal management is another area that has received attention. Saudamini Das's study on mangroves and the supercyclone of Orissa in 1999 was distributed by the FAO at a meeting related to cyclone Nargis that hit Myanmar last year. SANDEE also participated in a major policy workshop in Pakistan in late 2008. This workshop brought together SANDEE researchers and IUCN staff working on coastal issues in Karachi for a teaching workshop, which ended with high level policy makers including two ministers from Sindh and Baluchistan participating in a policy forum. This workshop was very good

© Santadas Ghosh

in terms of dissemination and networking since research undertaken in India got discussed by the TV and news media in Pakistan.

- Vijay Prakash Ojha presented the findings of his SANDEE research on carbon taxes and emission trading at a joint

Congratulations Suresh Kumar

India makes large investments in community management of watersheds. SANDEE researcher, Suresh Kumar, who works on this theme has received three awards since he started his SANDEE grant in this area – from the Global Development Network, from Tamil Nadu Agricultural University and most recently from the Australian government. While these achievements of Suresh are not entirely attributable to SANDEE, the training process at SANDEE has helped.

SANDEE and National Council of Applied Economic Research workshop on March 7, 2008. In a crowded conference room, Director, Suman Berry, welcomed the participants, chief guest, Kanchan Chopra, Director, IEG, and discussants E. Somanathan, Sanjib Pohit and Surya P. Sethi (Principal Advisor, Planning Commission). Ojha described his work and placed the different options that were feasible for India. Sethi discussed energy options and the limits to carbon emissions for India. There was an involved discussion on the position that India should take at the Climate change negotiations with conflicting views on the matter.

Congratulations Prof. Karl Goran Maller

We continue to be inspired by and offer our hearty congratulations to SANDEE's founder and advisor Prof. Karl Goran Maler for receiving the AERE 'Publication of Enduring Quality Award' for his book *Environmental Economics: A Theoretical Inquiry* (1974). It has been a good year for many SANDEE researchers on the publications front.

Training

An important component of SANDEE's activities is in the area of training. A number of Basic and Advanced training workshops in partnership with regional and international institutions were organized in 2008.

Climate Science and Policy

AIT Centre,Pathumthani, Thailand
12th -13th January, 2008

SANDEE brought together a group of climate scientists and economists in the region to highlight the most immediate problems that they would like to see addressed, to find what some expected impacts and future projections might be; and to identify country specific/region issues. At the end of the workshop we were able to come up with a thematic set of researchable topics in economics, based on the scientists' assessment of climate change research in South Asia. These are being used to decide on research themes in our new Call for Research Proposals.

Fundamentals in Basic Econometrics: Theory and Applications in Environmental Economics

Dhulikhel, Kathmandu, Nepal
18th February – 7th March, 2008

SANDEE in association with the Economist Group (TEG) organized a three-week course on 'Fundamentals in Basic Econometrics: Theory and Applications in Environmental Economics'. This course covered topics in basic econometrics for new comers to practical econometrics. Topics included two variable and multiple regression analysis, its extensions, dummy dependent variables and simultaneous equation models. Theoretical lectures were combined with practical sessions using econometrics software and environmental economics data sets. This program was especially designed for candidates from underserved areas in Nepal, Bhutan, Maldives, Sri Lanka, and Northeast India.

A Training Course in Environmental and Natural Resource Economics

AIT Centre, Pathumthani, Thailand
5th – 23rd May, 2008

SANDEE organized a three-week training course in Environmental and Natural Resource Economics for Economists from 5-23 May, 2008. The course was meant for practicing South Asian economists interested in upgrading their skills and learning related to Environmental and Natural Resource Economics. The workshop provided economists with the basic skills necessary to teach environmental and natural resource economics and to undertake research in this area. The course covered economic issues underlying sustainable development, poverty-environment interactions, and natural resource use and pollution management. Some 22 participants were exposed to basic theoretical issues and economic tools and methodologies for analyzing environmental problems in developing countries.

Program Evaluation for Environment and Resource Economists

AIT Centre, Pathumthani, Thailand
4th July, 2008

Evaluation of programs, either before they are designed or after they are implemented, are increasingly viewed as critical for learning and improving accountability of public policies. Many argue for an expanded role for rigorous impact evaluation of development projects, programs, and policies and the development community increasingly recognizes the need for evidence of effectiveness. Unfortunately, resource and environmental economists have little or no training or guidance on how to conduct such evaluations using sound and rigorous empirical methods. While there are many texts explaining the how and why of impact evaluations, these ideas have not been mapped into the 'environment and development' context and

terminology. This day long course served as an introduction and a refresher for evaluation of programs, projects and policies in the environment and development arena. Participants included some 25 SANDEE researchers and the course was taught by SANDEE Advisor, Subhrendu Pattanayak.

Research and Writing Workshop

Kathmandu, Nepal
13th-17th September, 2008

This workshop's objective was to help a group of researchers develop proposals, A small gathering with 11 presenters and four experts turned out to be effective and all the presenters substantially changed their content and research questions at the end of the workshop.

Banking on Mangroves – A Policy Workshop

Karachi, Pakistan
27th-29th November, 2008

IUCN-the World Conservation Union, Pakistan and SANDEE jointly organized a three-day workshop on the management of coastal ecosystems, particularly mangrove forests. The purpose of the workshop was to raise awareness about the economic value of coastal ecosystems, examine different services provided by mangroves and the implications of mangrove destruction, and identify the challenges of conserving unique coastal forests. The first two days were geared toward a mixed group of participants, comprising individuals from various government agencies involved in coastal zone management, universities, and civil society. The third day event was specifically for policy-makers (politicians/ civil servants).

Training Workshop Participants

S.N.	Workshop Title	Bangladesh	India	Maldives	Nepal	Pakistan	Sri Lanka	Total
1.	Climate Science and Policy Bangkok	4	5		4	6	4	23
2.	Basic Econometrics Nepal	1	3		11	3	2	20
3.	EE Course Bangkok	5	8	1	2	3	3	22
4.	Program Evaluation Bangkok	2	5		4	6	4	21
5.	Research and Writing Nepal	2	3		3	1	2	11
6.	Banking on Mangroves Seminar Pakistan		3		1	51	3	58
	Total	**14**	**27**	**1**	**25**	**70**	**18**	**155**

Under-Served Areas Program

Nepal Capacity Development Program

In 2007, SANDEE started a joint fellowship program with Jadavpur University, Calcutta for Nepali junior/mid-career teachers and researchers interested in graduate work in environmental economics. In 2008, the Fellowship was awarded to Raghubir Bista from Tribhuwan University, Patan Campus.

ERC-SANDEE Research Program: Institutional Support in the Maldives

In 2008, SANDEE provided institutional support to the Environment Research Centre (ERC) to undertake research and training on environmental economics. The Center was able to match a local Maldivian with a Professor from South India to undertake research on coral reefs and coastal valuation. This work is currently on-going.

Prof. Bhatta and Mr. Shumais working with ERC in the Maldives

Getting the Word Out

SANDEE Newsletters

SANDEE published newsletters No. 16 and No.17 in 2008. The newsletters report on SANDEE activities and provide young economists and researchers an opportunity to publish short, interesting analysis. The newsletters are available on our website free of cost.

Website, Database and List-Serve

SANDEE's website hosts a wide range of information for environmental economists around the world. The website provides information on techniques for research and writing. It also has information about international organizations and institutions working in the field of environmental economics. An online database provides a forum for South Asian researchers to interact with each other and share academic achievements. Online membership is free of costs for individual members but institutional members within the region have to pay the equivalent of US$ 50 per year as a membership fee while international organization have to pay US$250.

SANDEE also publishes and distributes policy briefs and working pagers, which are all available online.

Working together: Anu at the World Bank Institute Course 2008

Governance and Organization

SANDEE has a small secretariat based in Kathmandu, Nepal which provides administrative and technical support to a near virtual network. A Managing and Advisory Committee of researchers, donors and policy makers acts an as oversight committee for the functioning of the secretariat and the network.

The Secretariat

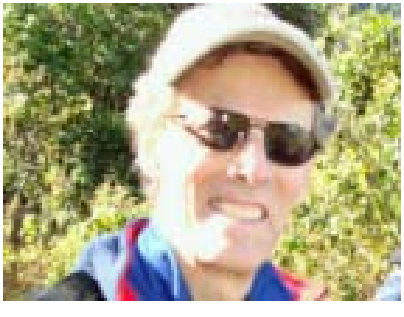
SANDEE is administered with the help of a small staff. The secretariat staff in this year included:

- Anuradha Kafle, Research and Information Officer
- Sunita Khanal, Account Assistant (Left March, 2008)
- Pranab Mukhopadhyay, Environmental Economist (Left July, 2008)
- Mani Nepal, Environmental Economist (Joined September, 2008)
- Usman Rao, Finance Manager (Joined January 2008)
- Kavita Shrestha, Administrative Officer (Left December , 2008)
- Krisha Shrestha, Administrative Associate (Joined November, 2008)
- Priya Shyamsundar, Program Director

Management and Advisory Committee 2008

1. Y. K. Alagh, IRMA, India
2. Partha Dasgupta, Cambridge University, UK
3. Shanta Devarajan, the World Bank, Washington DC, USA
4. David Glover, Chair, MAC, (IDRC Canada Representative), Canada
5. A.K. Enamul Haque, East West University, Bangladesh
6. Anna Maria Oltorp, (SIDA Representative), Sweden
7. Priya Shyamsundar, SANDEE, (ex-officio), Thailand and Nepal

Enamul Haque and Pranab Mukhopadhyay – change roles but continue supporting SANDEE



Dr. Bill Chameides, Dean, Nicholas School of the Environment, Duke University joins the SANDEE MAC

8. Nikhat Sattar, IUCN (ex-officio), Pakistan and Nepal
9. Eli K. Sletten (NORAD Representative), Norway

Nikhat Sattar of IUCN

Key Donors and Partners

In 2008, SANDEE's programs and activities were sponsored by several regional and international agencies. These include:

1. International Development Research Centre, IDRC, Canada
2. The Norwegian Agency for Development Cooperation, NORAD, Norway
3. The Swedish International Development and Cooperation Agency, SIDA, Sweden.

Many partners collaborated with SANDEE in sponsoring workshops or helped SANDEE with special guidance and assistance. Some of our key partners include:

1. Asian Institute of Technology and United Nations Environment Program, Thailand
2. Economic Research Group, Bangladesh
3. Environment Research Center, Maldives
4. Institute of Economic Growth, New Delhi
5. IUCN, the World Conservation Union, Nepal
6. IUCN, the World Conservation Union, Pakistan
7. Jadavpur University, Kolkata, India
8. The Economics Group, Nepal

Eli Koefoed and Anna Maria Oltorp from NORAD and SIDA

We are extremely grateful to our donors and partners for their continued support and encouragement.

SANDEE research advisors

SANDEE's research is supported by a core team of advisors. They include Jean-Marie Baland, University of Namur, Enamul Haque, United International University, M.N. Murty, Institute of Economic Growth, Subhrendu Pattanayak, Duke University, E. Somanathan, Indian Statistical Institute and Jeffrey Vincent, Duke University. These advisors act as mentors to all our researchers.

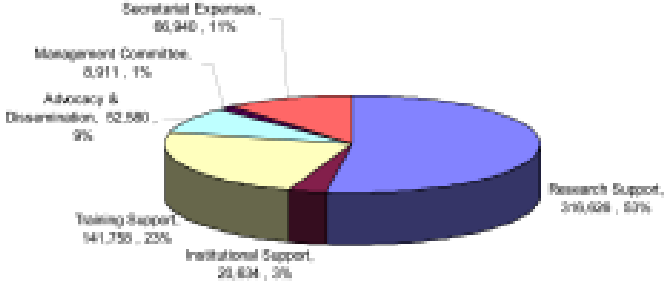
Financial Information: Income and Expenditure (January – December 2007)

Income Chart

INCOME (in US$)

Expenditure Chart

EXPENDITURES (in US$)



Key Environmental Indicators for South Asia

	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka	**Region**
Population (millions)	156	0.65	1,110	0.30	28	159	20	**1,499**
GNI per capita, Atlas method ($)	450	1,250	820	3,010	320	800	1,310	**768**
GDP ($ billions)	61.9	0.94	911.8	0.93	8.9	126.8	27.0	**1,146.7**
Agriculture								
Land area (1,000 sq. km)	130	47	2,973	0.3	143	771	65	**4,781**
Agricultural land (% of land area)	69	13	61	47	30	35	36	**55**
Irrigated land (% of crop land)	56.1	23.5	32.9	..	47	85.4	38.8	**39.2**
Fertilizer consumption (100 grams/ ha of arable land)	2,210	Ñ	1,290	220	96	1,913	3,071	**1,391**
Forests and Biodiversity								
Forest area share of total land area (%)	6.7	68.0	22.8	3.3	25.4	2.5	29.9	**16.8**
Annual deforestation (% change, 1990-2005)	0.1	-0.3	-0.4	0.0	1.9	1.9	1.3	**-0.1**
Nationally Protected Area (% of land area)	0.5	25.6	5.3	..	18.6	9.5	27.3	**6.0**
Energy, Emissions and pollution								
GDP per unit of energy use (2000 PPP$ / kg of oil equivalent)	6.8	..	4.5	..	2.8	4.5	7.2	**4.6**
Electricity generated using fossil fuel (% of tota)	94.3	..	82.1	..	0.2	64.5	60.6	**79.9**
Electric power consumption per capita (kWh)	136	..	480	..	70	456	344	**432**
CO2 emissions per unit of GDP (kg/2000 PPP$ GDP)	0.2	..	0.6	0.6	0.1	0.4	0.2	**0.54**
CO2 emissions per capita (metric tons)	0.2	0.7	1.2	2.5	0.1	0.8	0.6	**1.05**
Water and Sanitation								
Access to improved water sources (% of total population)	74	62	86	83	90	91	79	**84**
Access to sanitation in rural areas (% of rural population)	35	70	22	42	30	41	91	**27**
Internal freshwater resources per capita (cubic meters)	685	149,134	1,152	..	7,315	336	2,542	**1,230**
Total freshwater withdrawal (% of internal resources)	75.6	0.4	51.2	..	5.1	323.3	25.2	**51.8**
Under-5 mortality rate (per 1,000 live births)	69	70	76	30	59	97	13	**83**
National accounting aggregates -2003								
Gross national savings (% GNI)	31.6	39.4	33.7	37.7	28.0	23.1	24.9	**32.1**
Consumption of fixed capital (% GNI)	8.1	9.8	9.0	11.5	7.6	8.4	9.7	**8.9**
Education expenditure (% GNI)	1.9	3.0	3.9	6.0	2.6	1.8	2.6	**3.5**
Energy depletion (% of GNI)	5.6	0.0	4.3	0.0	0.0	7.2	0.0	**4.5**
Mineral depletion (% GNI)	0.0	0.0	1.2	0.0	0.0	0.0	0.0	**0.9**
Net forest depletion (% GNI)	0.7	2.8	0.5	0.0	2.1	0.4	0.3	**0.5**
CO2 damage (% GNI)	0.4	0.4	1.3	0.8	0.3	0.8	0.3	**1.1**
Adjusted net savings (% GNI)	18.3	30.0	20.6	31.5	20.5``	6.8	16.7	**18.8**

Source: Little Green Data Book, 2008. World Bank.

SANDEE

South Asian Network for Development and Environmental Economics

SANDEE
P.O. Box 8975 EPC - 1056
Kathmandu, Nepal
Tel: 977-1-5528761, 5526391
Fax: 977-1-5536786
E-mail: info@sandeeonline.org
Web: www.sandeeonline.org