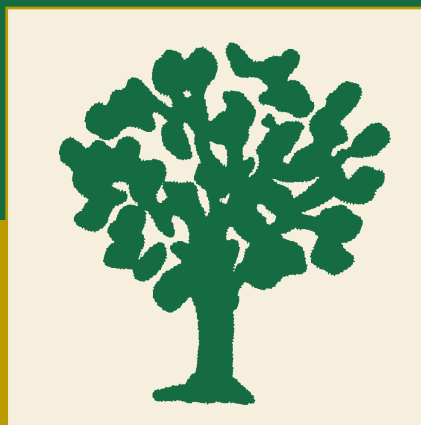


Annual Report 2003



South Asian Network for Development
and Environmental Economics



South Asian Network for Development and Environmental Economics

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Message from the Program Director

Dear Friends and Colleagues:

We had a full year last year with three training workshops, two research workshops, and several new research studies started. SANDEE entered a new phase after having been in existence for three years. At this point, it seemed appropriate to evaluate our progress and think about the future. Thus, SANDEE invited two distinguished development thinkers – A. Vaidyanathan of the Madras Institute of Development Studies and Stein Hansen of Nordic Consulting Group to evaluate our activities. We have learnt from this evaluation and are forging ahead with the second phase of our activities.

SANDEE's evaluation was completed in mid-2003. The evaluators based their report on SANDEE material and met with grantees, applicants, advisers, program managers and resource persons. We are extremely encouraged by their positive observations and recommendations. Presenting their overall assessment, the evaluators state *"SANDEE fills a real gap in training and research on economic aspects of environment and the complex linkages between environment, poverty and well being in South Asia"*. Recognizing the challenges of operating a regional program in South Asia, the report says, *"SANDEE has proven that it is indeed possible to establish and sustain an operational regional network focused on these issues in this tense region, and as such foster cooperation between these countries around their common development challenges"*. The evaluators have recorded their conviction that SANDEE activities should be continued, consolidated, and expanded.

"SANDEE fills a real gap in training and research on economic aspects of environment and the complex linkages between environment, poverty and well being in South Asia".

A few words on SANDEE outputs – several colleagues have almost completed their research studies. We now have working papers from Nepal and India that are available on our website. These papers present interesting findings about community forestry in Nepal, water resources in South India and joint forest management and how it compares with other institutional mechanisms. They discuss distributional concerns and identify the nature of the impacts of changing institutions on the poor. We hope these and other research results from SANDEE will find their way into poverty reduction strategies of SANDEE member countries. We have policy briefs forthcoming

based on our working papers. Several SANDEE researchers have also published their research independently — we are heartened to see this research in peer reviewed international and national journals. We are beginning to also see these results reach policy makers as recorded by Joyashree Roy in this annual report.

Our training programs have grown in the last year. Our annual introductory course in environmental economics seeks to expose and train economists, who are researchers or practitioners, in using economic tools to address environmental concerns. This three-week course has become the corner-stone of our training activities. Our strategy on theme-specific advanced workshops is to make these demand-driven and organize them as specific research needs become clear. To complement our regional courses, we also have a policy and proposals oriented workshop that is more national and held in different countries each year. To ensure that policy concerns are incorporated into research, we bring senior practitioners and policy advocates to teach at this course.

What does the future bring? The SANDEE evaluation strongly endorsed our focus on capacity building and suggested that we slowly expand our research support to specific thematic areas. We think that by identifying policy-relevant themes, we will be able to contribute more effectively to topical discussions and debates. We have successfully created a regional network that brings together Indians, Pakistanis, Bangladeshis, Sri Lankans, Nepalese and Bhutanese in a common and exciting professional forum. We will continue to foster these professional interactions and identify new ways to build bridges across our countries and think and act together to resolve environmental problems. We truly appreciate the support and interest shown by our donors, senior colleagues from within and outside the region, and our many researchers, which has made our mission feasible and worthwhile.

Be well and take care
Priya Shyamsundar
Program Director

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 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 eleven research grants, including two study grants, in 2003. These grants cover a range of topics from arsenic related water pollution in Bangladesh to soil conservation in Sri Lanka. A brief description of the grants awarded in 2003 is reported below:

Cycle 6 (June 2003)

CPRs as Drivers of Development: A study of NTFPs in Himachal Pradesh, India: Purnamita Dasgupta, Institute of Economic Growth, Delhi, India.

So far CPRs have been viewed as mainly livelihood providers. This study seeks to map the role of CPRs as a source of sustainable rural income in the context of opportunities created by development, such as improved access to markets. The income generating potential of the CPRs will be studied in Himachal Pradesh where medicinal plants and fruits are collected by rural households.

Development of an appropriate Financial Support System for Soil Conservation in Tea lands in Sri Lanka: J.A.A.M. Jayakody, Tea Research Institute, Talawakelle, Sri Lanka.

The productivity of tea gardens located on higher elevations is less than low-lying ones due to land degradation. The researcher seeks to understand incentives that tea growers need to be encouraged to implement soil conservation and rehabilitation practices.

Valuation of Urban Air Pollution: A Study of Kanpur Nagar, Uttar Pradesh: Usha Gupta, Institute of Economic Growth, Delhi, India.

The study aims at quantifying in monetary terms the benefits of improved air

quality. The researcher will estimate costs of health damage caused by air pollution in Kanpur city of Uttar Pradesh, India. The motive is to provide inputs for designing appropriate environmental policies and initiate corrective measures.

Pesticide use in Rice Production and Human Health - A Study in Kerala: P. Indira Devi, Kerala Agriculture University, Thrissur, India.

This study aims to analyze the pesticide-based economy of the state of Kerala, and, focuses on its direct effect on human health as an externality. The overall goal is to evaluate the rationale for current investment in pesticides in rice production.

Cycle 7 (November 2003)

Groundwater Irrigation in Haryana: Institutions and Markets. - Abhijit Banerji and J. V. Meenakshi, Delhi School of Economics, Delhi, India.

This study attempts to analyse the market structure for groundwater transactions and factors that determine this structure in Haryana. It will use simulation exercises to study the effect of policy parameters on water prices and overall water use.



Research and Training Workshop, Thailand, 2003

The Economic cost of arsenic contamination in drinking water and an analysis of coping strategies for averting a social disaster - Policy Options for Bangladesh - Zakir Hossain Khan, Economic Research Group, Bangladesh.

The primary goal here is to assess the cost of morbidity or social loss from household's point of view as a result of drinking arsenic contaminated water. The study also seeks to analyze factors that determine defensive actions taken by people in arsenic contaminated areas.

Hill Farming Technology in Bangladesh: Assessment of Productivity, Risk and Impact on Farmer Livelihood. - M. A. Monayem Miah, Bangladesh Agricultural Research Institute, Gazipur, Bangladesh.

Dr. Miah is interested in measuring the impact of soil erosion on crop productivity in the hill regions of Bangladesh. Thus, this study will estimate the costs and benefits of soil erosion, and, analyze the economic implications of using specific erosion-control technologies.

Estimating abatement costs of air pollution in Durgapur City of West Bengal - Kakali Mukhopadhyay, Centre for Development and Environment Policy (CDEP), Indian Institute of Management, Kolkata, India.

This study will estimate the extent of deterioration in air quality and the costs of abating emissions caused by key industries in Durgapur, West Bengal. It seeks to suggest policies for air quality management in urban industrial areas of West Bengal.

Non-Market Valuation of Bhutan's Protected Mountainous Areas as International Eco-tourists Destination. - Prabhat K. Pankaj, Sherubtse College, Kanglung, Bhutan.

The main objective of the study is to estimate tourism benefits to Bhutan using the travel cost method. This will be the first such study in Bhutan, which is much needed at the current stage of Bhutan's economic development and eco-tourism policy evolution.

Study Grants

SANDEE's Management and Advisory Committee recommended small study grants to two researchers to refine, strengthen and revise potentially good research proposals. The following two study grants were made:

Towards prevention of water pollution: An analysis of willingness to pay of households and expenditures of government - Baber Nasim Khan, WWF, Lahore, Pakistan.

This study investigates the effects of water contamination on human health. Linking epidemiology and economics, it seeks to assess household willingness to pay for clean water. This is particularly important given cholera and gastro-enteritis incidence in and around Lahore.

Pesticide Use, Human Health and Farm Productivity in Jhikhu Khola Watershed, Kavrepalanchok District, Nepal - Kishor Attreya, Kathmandu University, Dhulikhel, Nepal.

The goal of this study is to examine pesticide related health impairments and identify its effects on farm households. It seeks to understand the behaviour of farmers and applicators and assess the costs they bear as a result of exposure to farm pesticides.

SANDEE Working Paper Series

In 2003, SANDEE introduced its working paper series with three papers based on SANDEE supported research. The following working papers have been published and are being disseminated. Complete papers are available on our website at www.sandeeonline.org

Property Rights and Natural Resources: Socio-Economic Heterogeneity and Distributional Implications of Common Property Resource Management - Bhim Adhikari , SANDEE Working Paper No. 1- 03

Poverty, Private Property and Common Pool Resource Management: The Case of Irrigation Tanks in South India - R. Balasubramanian and K. N. Selvaraj, SANDEE Working Paper No. 2- 03

Ensuring 'Collective Action' in ' Participatory' Forest Management - Rucha Ghate, SANDEE Working Paper No. 3- 03

Research Grants 2003

S.No.	Research Topic	Principal Investigator	Institution	Country	Starting Date	Duration
Cycle 6 – June 2003						
1.	CPRs as Drivers of Development: A Study of NTFPs in Himachal Pradesh, India	Purnamita Dasgupta	Institute of Economic Growth	India	July 2003	18 months Jan 2005
2.	Pesticide use, Rice Production and Human Health: A study in Kerala	P. Indira Devi	College of Horticulture Kerala Agricultural University	India	July 2003	24 months July 2005
3.	Valuation of Urban Air Pollution: A study of Kanpur Nagar, Uttar Pradesh, India	Usha Gupta	Institute of Economic Growth	India	July 2003	24 months July 2005
4.	Development of an Appropriate Financial Support System for Soil Conservation in Tea Lands in Sri Lanka	J.A.A.M Jayakody	Tea Research Institute	Sri Lanka	July 2003	24 months July 2005
Cycle 7 – November 2003						
1.	Groundwater Irrigation in Haryana: Institutions and Markets	A. Banerji	Delhi School of Economics	India	Feb. 2004	19 months Sept 2005
2.	Estimating WTP for Fresh Water and Analyzing Averting Behavior of Arsenic Affected Peoples of Bangladesh	Zakir Hossain Khan	Economic Research Group	Bangladesh	Feb. 2004	24 months Feb 2006
3.	Hill Farming Technology in Bangladesh: Assessment of Productivity, Risk and Impact on Livelihoods of the Farmers	M. A. Monayem Miah	Bangladesh Agricultural Research Institute	Bangladesh	Feb. 2004	24 months Feb 2006
4.	Estimation of Abatement Costs of Air pollution in Durgapur City of West Bengal	Kakali Mukhopadhyay	Centre for Development and Environment Policy, Indian Institute of Management	India	Feb. 2004	18 months August 2005
5.	Non-Market Valuation of Bhutan's Protected Mountainous Areas as International Eco-tourist Destination	Prabhat K. Pankaj	Sherubtse College	Bhutan	Feb. 2004	12 months Feb 2005

Training

An important goal of SANDEE's 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. To meet this objective, SANDEE organized three training courses in 2003 in partnership with a number of regional and international institutions.

Policy Research and Proposal Writing Workshop in Environmental Economics, Bangladesh, April 2003

In 2003, SANDEE joined hands with IUCN-the World Conservation Union, Bangladesh, and organized a Policy Research and Proposal Writing Workshop in Bangladesh. One of SANDEE's aims is to advocate policy reforms and influence policy-making in South Asia with the help of environmental economics tools and techniques. Thus, the purpose of this workshop was to provide a platform to discuss policy-relevant issues related to water resource management, pollution and natural resource use, and, to also provide a The framework for logical thinking on research methods. We sought to strengthen the capacity of researchers to write policy relevant papers and proposals.

Eighteen participants, mainly young researchers from Bangladesh, attended the Dhaka workshop. The faculty at the workshop included Drs. Haque and Faisal from North South University, Dhaka; Drs. Zohir and Asaduzzaman from Bangladesh Institute of Development Studies, Dr. Nishat, Country Representative, IUCN – Bangladesh, Dr. Joyashree Roy from Jadavpur University, Calcutta, India, Mr. Paul Martin, World Bank and Mr. Manik Duggar, Program Manager, SANDEE.

Advanced Course in Household Economics and Natural Resource Management, Sri Lanka, June 2003

SANDEE organized a 12-day Advanced Course in Household Economics and Natural Resource Management from 16th to 27th June, 2003, at Waikkal, Sri



Advanced Course in Household Economics and Natural Resource Management, Sri Lanka, June 2003

Lanka. The course was designed to provide in-depth understanding on how rural households made decisions about natural resource use. The course covered a range of topics, alternating between theoretical teaching in the morning with real world empirics during the rest of the day.

Course Director was Stein Holden, Professor in Development Economics, Department of Economics and Resource Management at Agricultural University of Norway. Jeetendra Aryal, representing both Tribhuvan University, Nepal and the Agricultural University of Norway, assisted in the teaching. Approximately 25 participants from the South Asia region, including two key resource persons attended this workshop. The participants belonged to teaching and research institutions, with common interests in applied natural resource economics.

Regional Course in Environment and Natural Resource Economics, AIT Center, Thailand, October/November, 2003

SANDEE organized an introductory course on Environmental and Natural Resource Economics, co-sponsored by the United Nations Environment Program (UNEP) and the World Bank Institute in the Fall of 2003. The 3-week

course was designed to introduce a range of topics in environment and natural resource economics to economists. It included topics from the economics of sustainable development and national accounting, economics of renewable and non-renewable resources, CPR and institutional issues to various valuation methods such as Hedonic pricing and CVM, and policy instruments for environmental management.

Twenty seven participants, mainly young researchers, teachers, and EE practitioners from the region attended the workshop. Resource persons included Dr. Haque from North-South University, Bangladesh, Dr. Gunatilake from University of Peradeniya, Sri Lanka, Prof. Maler from the Beijer International Institute for Ecological Economics, Dr. Murty from the Institute of Economic Growth, India, Dr. Shyamsundar from SANDEE, Dr. Bhattacharya from University of Kalyani, India and Dr. Sterner from University of Gothenburg, Sweden.



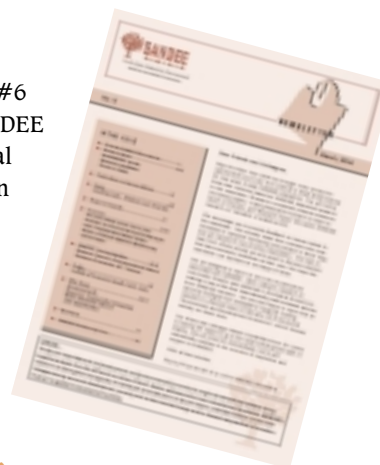
Regional Course in Environmental and Natural Resource Economics, Thailand, 2003

Information dissemination and outreach

SANDEE disseminates useful and practical information in the area of environmental economics to its members, which include policy makers, practitioners, researchers, academic faculty and the student community in the South Asia region. Information is disseminated both electronically through a list-serve and through traditional print media. The growing popularity of SANDEE's wide network has many regional and international organizations disseminate their information through us. These include job postings, call for papers, announcement on national, regional or international conferences and academic programs.

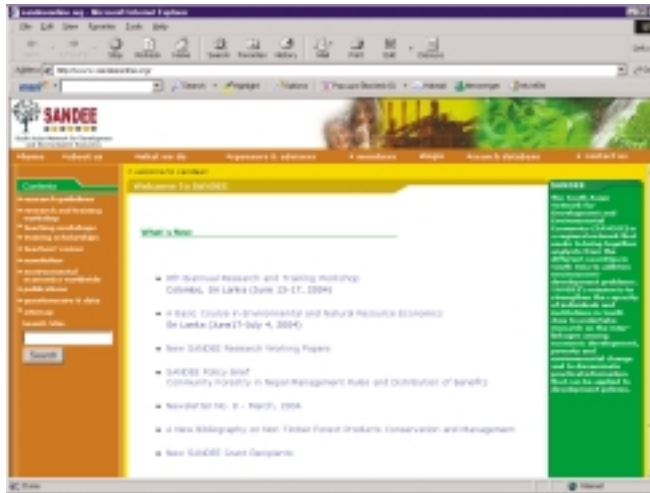
SANDEE Newsletters

SANDEE published two newsletters in February and August 2003 (Newsletter #6 and #7). The newsletters report on SANDEE activities and analyze key environmental policy issues in the different countries in the region. Young economists and researchers are given an opportunity to publish interesting analysis. The newsletter also serves as a reliable means for information dissemination about environmental economics' 'happenings' around the world.



Website, database, and list-serve

SANDEE has introduced an online database with a powerful search engine. The database provides information on experts and institutions not only from South Asia but also from the international environmental economics community. SANDEE also disseminates information about publications, jobs, meetings and grant opportunities through its list-serve, which reaches over 1600 members. Membership for individuals is free. Please visit our website www.sandeeonline.org to view a wide variety of information on environmental economics.



Bibliographies

Lack of information about research ideas and publications is a key constraint faced by many SANDEE researchers who live away from major urban areas with good libraries. Thus, SANDEE develops bibliographies on issues that are relevant to researchers. Currently, our website has bibliographical information on more than fifteen different topics in Environmental Economics. Last year's focus was biodiversity and three bibliographies were produced: Economics and Management of Biodiversity, Valuing and Managing Coastal Biodiversity, Economics of Forest and Mountain Biodiversity.

Questionnaires on the web

In order to enable new researchers to build on pre-tested and well developed questionnaires, SANDEE now collects questionnaires from researchers who have already finished their research and publishes these on our website. This means that colleagues who are beginning their field research do not need to start from scratch and can learn from work already undertaken. We hope to eventually make available data from previous research on our website.

Publications and Presentations by SANDEE Researchers

- A. Shah, 2002, "Uneven Development and Migration: Insights from Micro Initiatives" in Ghanshyam Shah, Mario Rutten and Hein Steefkerk (eds.), *Development and Deprivation in Gujarat (in Honour of Jan Breman)*, Sage Publications, New Delhi.
- B. Adhikari, S. Di Falco and J.C. Lovett, 2003, "Household characteristics and forest dependency: Evidence from common property forest management in Nepal", *Ecological Economics*, Vol 48 (2): 245-257.
- D. Mehra & R. Ghate, 2003 "Community Initiated Forest Management: How Feeble, How Strong? A Study of Three Villages from Central India" presented at RCSD International Conference held in Chiang Mai, Thailand, July 11th-14th.
- P. Mukhopadhyay, 2002, "Now that your land is mine... Does it Matter?" presented at ICTP, Trieste, Italy.
- ————'2003, "Revisiting Demsetz: Institutional Change & Community Resource Ownership in Western India" presented at 'Conversations between Economists and Anthropologists', University of Berkeley, California between August 1st and 3rd.
- V. Kathuria, 2004, "Informal Regulation of Pollution in a Developing Country: A study of India", *Madras School of Economics*", Working Paper No. 2.
- ————, 2003 "Failure of Collective Action as an Institution: Lessons from Kundli, Haryana", *Institute of Economic Growth, Working Paper, E/230/2003*, February, Delhi
- ————'2003, "Does Informal Regulation of Pollution Work? Empirical evidence from India" presented in 13th EAERE Conference held in Bilbao, Spain, June 28-30.
- ————' 2003 "Pollution Control by SSIs - Lessons from failure of Collective Action in India", poster presentation in the 13th EAERE Conference held in Bilbao, Spain, June 28-30.
- Researchers S. Purushothaman, A. Mishra, M. Mishra, A. Shah and D. Mehra presented their research at the 3rd Biennial Conference of the Indian Society of Ecological Economics, in December 2003.

Governance

SANDEE operates with the help of a small Secretariat and a governing Board of researchers and practitioners from within and outside South Asia. We are mainly a virtual network that is anchored by the Secretariat in Kathmandu and by biannual meetings in different parts of South Asia. We have institutional and individual members, and, a group of international donors who support and participate in our activities.

The Secretariat

SANDEE is administered with the help of a small staff. The secretariat staff includes:

- Priya Shyamsundar, Program Director
- Manik Duggar, Program Manager
- Kavita Shrestha, Program Assistant
- Anuradha Kafle, Research and Information Assistant
- Sunita Khanal, Accountant



A few Committee Members during a field visit

Management and Advisory Committee

Last year SANDEE merged its two separate management and advisory committees. Thus, we now have a joint committee that directs and assists SANDEE's programs and activities. The committee meets twice a year and reviews progress on research, identifies new or additional research themes, and meets with SANDEE grantees and new researchers. The current members of SANDEE's Management and Advisory Committee are:

- Mahesh Banskota, Country Representative, IUCN Nepal
- Kanchan Chopra, Institute of Economic Growth, India
- Partha Dasgupta, Cambridge University, U.K
- Herath Gunatilake, University of Peradeniya, Sri Lanka
- Enamul Haque, North South University, Bangladesh
- Karl-Goran Maler, Director, The Beijer International Institute of Ecological Economics, Sweden
- Priya Shyamsundar, Program Director, SANDEE
- Rehana Siddiqui, Pakistan Institute of Development Economics, Pakistan
- Thomas Sterner, Gothenburg University, Sweden
- Jeffery Vincent, University of California, San Diego, U.S.A

All major donors also have the opportunity to be a committee member

Sponsors

Major Donors and Supporters

During 2003, SANDEE's programs and activities were sponsored by several regional and international agencies. These include:

- The Department for International Development, DFID, UK.
- The Ford Foundation, New Delhi, India.
- The MacArthur Foundation, USA.
- The Swedish International Development and Cooperation Agency, Sida, Sweden
- The World Bank Institute, WBI, Washington, DC, USA.
- The Beijer International Institute for Ecological Economics, Sweden.
- IUCN –The World Conservation Union
- United Nations Environment Programme, UNEP, Thailand.

We are extremely grateful to our donors who have continued to be supportive of our efforts.

Institutional Members

SANDEE's activities are also supported by institutional members. Our current institutional members include:

- Bhutan Trust Fund for Environmental Conservation, Thimpu, Bhutan
- Centre for Development Alternatives, Ahmedabad, Gujrat , India
- Centre for Development Studies, Kerala, India
- Centre for Organization Development, Hyderabad, India,
- Gujarat Institute of Development Research (GIDR), Gujarat, India
- Indian Institute of Forest Management (IIFM), Bhopal, M.P. India
- Indira Gandhi Institute of Development Research (IGIDR), Mumbai, India
- Institute of Social & Economic Change (ISEC), Bangalore, India
- Institute of Development, Environment and Strategic Studies (IDESS), Dhaka, Bangladesh
- Institute of Economic Growth (IEG), Delhi, India
- IUCN Pakistan, Karachi, Pakistan
- Madras School of Economics (MSE), Chennai, India
- Sherubtse College, Kanghung Trashigang, Bhutan
- Sustainable Development Policy Institute (SDPI), Islamabad, Pakistan
- University of Madras, Tamil Nadu, India
- Institute of Rural Management Anand (IRMA), Gujrat, India
- Department of Agricultural Economics, University of Agricultural Sciences, Banglore, India
- Post Graduate Institute of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

Institutional Supporter:

Resources for the Future, Washington, DC, USA

On-line Members

Approximately 1600 individuals and institution constitutes a network of on-line members. SANDEE provides regular information about international events viz. workshops, seminars, conferences, training, scholarships and vacancies for Economists in South Asia to all the online members. This has increased their participation in environmental economics activities worldwide.

Evaluation

“By any standard, SANDEE’s achievements within 3-4 years of its inception are truly admirable and worthy of high commendations. the way it functions and its approach to training and nurturing young researchers, creating a vibrant regional network of young scholars and generating substantive research of high quality, are creative, innovative, and effective. an altogether rare combination!”
- Evaluators

SANDEE recently undertook a formal evaluation of its program and activities. On the behest of our donors, SANDEE’s management committee invited two senior development experts, A. Vaidyanathan, Professor Emeritus, Madras Institute of Development Studies, India and Stein Hansen, President, Nordic Consulting Group AS, Norway, to independently evaluate SANDEE, its goals, its activities, and achievements. We were heartened by the evaluators’ endorsement of SANDEE activities. In their words *“By any standard, SANDEE’s achievements within 3-4 years of its inception are truly admirable and worthy of high commendation. The way it functions, and its approach to training and nurturing young researchers, creating a vibrant regional network of young scholars and generating substantive research of high quality are creative, innovative and effective. An altogether rare combination!”*

The Vaidyanathan-Hansen evaluation was very positive about SANDEE’s aims, activities, and the need for such a network. The evaluators provided constructive recommendations for furthering SANDEE’s activities. Their suggestions basically pertain to enhancing the outer limits of the activities currently undertaken. We summarize the main findings and recommendations below:

- SANDEE fills a real gap in training and research on economic aspects of environment and the complex linkages between environment, poverty and well being in South Asia. The type and quality of SANDEE’s activities are highly relevant as a means for providing valuable, scientifically-based inputs to the Poverty Reduction Strategy Papers of SANDEE member countries.
- The impact of SANDEE in promoting and creating awareness of the field of environmental economics and its mutual linkage to poverty and health in South Asian countries is highly significant. By involving less known and less resource-endowed institutions, SANDEE has succeeded in spreading the environment-poverty-health “gospel” far beyond what other actors manage.

- A regional program like SANDEE is more viable and cost effective; since these countries share many similar problems, and at the same time face regional tension of geo-political significance and concern, bringing together economists from the countries of the region will stimulate and enrich both training and research in all of them.
- SANDEE should expand the scale of its activities at a reasonable, manageable rate and this requires larger and sustained financial support from donors for several years to come. The main activities of the organization should continue to focus on training, research, documentation and dissemination.
- Proposal Writing workshops and the general course in Environment and Natural Resource Economics should continue as regular annual features. Training in econometrics and special topics such as CGE can be provided as special sessions that are part of the biannual research and training workshops.
- Research could over time focus more specifically on carefully identified themes. Theme-centric research should be tried in alternate rounds after reviewing SANDEE's experience in 2-3 years time.
- SANDEE should bring out edited collections of research findings on different themes and that their policy implications be highlighted and publicized in the form of Policy Briefs.
- Grantees who have completed their research should be encouraged to strengthen their network and help SANDEE in building bibliographies, data banks and updating of research reviews on different themes, and also by inducting them as resource persons for the various training programs.

These recommendations will go a long way in strengthening SANDEE's capacity building activities in South Asia. In its next phase, SANDEE will be guided by the recommendations of the evaluation, new developments in the region, the presence of a real network of SANDEE trained professionals, and internal discussions among committee members. We are also seeking donor inputs before we finalize our planned activities.

Experience shared by our colleagues

Policy Recommendations to West Bengal Government

Joyshree Roy, Jadavpur University, India

A one-day SANDEE-sponsored Workshop on 'Arsenic and Radioactivity in Drinking Water: Recent Research Findings' was held on January 9th, 2004. The Workshop was co-organized by the Global Change Programme and School of Studies in Environmental Radiation and Archaeological Sciences, Jadavpur University. The aim of the workshop was to discuss research findings from a SANDEE study on willingness-to-pay for arsenic-free water as well as findings from other relevant studies. A key goal was to present recommendations to the West Bengal Arsenic Task Force for inclusion in its action plans. The Chairman of the Arsenic Task Force of West Bengal Government appreciated the use of economic analysis for designing policy. He formally acknowledged the recommendations and accepted the need to include a Social Scientist on the task force to help design policies that use economic incentives. We are pleased that the West Bengal Government is willing to consider economic reasoning in its arsenic related policies as a result of SANDEE activities.

The Mystery of the Missing People....

Usman Iftikhar, IUCN Pakistan

As part of our SANDEE study assessing the impact of sea intrusion on wheat productivity in deltoid Sindh, a team had been organized to carry out a Participatory Rural Appraisal before the actual questionnaire-based survey was conducted. The team was assembled keeping in mind the demography of the region, with a balanced mix of women and men to facilitate discussions with conservative, religious households. I believe that was a key element in our PRA exercise as dialogue with women and children opened up new insights into the structure of class, caste and wealth in Keti Bunder, Sindh. A case in point is how we solved the puzzle of the missing people.

During the charting stage in one specific village, stones painted red, blue and green were used to identify the rich, middle-class and poor households on a map that had been drawn in sand using easily available props (such as twigs and colored beads and chalk) to symbolize village structures. However, based on conversations before the mapping, we were unable to account for more than 25 households. Perhaps there were more households per house than we had expected? Or had we missed some altogether? We probed the group of people that had now assembled and were given no adequate answers.

Finally, the female PRA team was able to resolve the confusion: after consultation with women and children in a corner, they discovered that one segment of the village had been unaccounted for altogether! The locals had not considered recent migrants from Bangladesh, living in scattered huts at the periphery of the village, at all in the debate. For them, the migrant community had not yet been assimilated into the social fabric of deltoid Sindh and therefore, was not part of the village. Thus, some of the most important information came from the unlikeliest sources. We then conducted a modified PRA, incorporating the Bengali community in our study. What was an important piece of information for us, was just a sore topic of conversation for the locals. What we learnt is that no matter how pro-active and helpful the local community is, and no matter how comfortable the field staff is with them, a researcher should never take anything for granted and erroneously accept information that has become a social norm. A researcher will never have the complete set of information he needs and will have to learn to adapt to new situations and new challenges. “After all,” to quote Einstein, “if we knew what it was we were doing, it would not be called research, would it?”

Chasing Data in India – Sheer Persistence and Surprise Visits Work

Vinish Kathuria, Madras School of Economics, India

As part of SANDEE project titled “Industrial Pollution Control: Choosing the Right Option” we carried out a survey of Kundli Industrial Estate in Haryana. There are two instances about data gathering that are worth sharing. Both reflect the difficulty of carrying out industrial surveys in a developing country, especially related to pollution.

The first instance involves the Regional Officer (RO) at Sonipat of Haryana State Pollution Control Board. In order to carry out our survey, we sought the RO's help and the RO kindly took us to all the 11 (so called) polluting units of the estate. We wanted to interview the entrepreneurs/owners through a questionnaire. We also needed financial information. Almost all the industries agreed to supply the financial information within 3 days and once the information was ready, we were told that we could interview them. The RO also wanted a questionnaire filled as part of an ongoing process of computerising effluent generation. The RO instructed all the units to fill the questionnaire and send it to his office in a few days — all the units promptly agreed. Our difficulties started on the following Monday when we tried to collect the questionnaire — none of the units had filled them. Half of the units asked us to call after 3-4 days and few did not allow us in since we did not have a prior appointment. This process of hide-and-seek continued and after nearly 4-5 visits to all the units and numerous phone calls, we obtained 10 questionnaires but this after full 2 months. During one of our visits to the Regional pollution control office, we narrated our bitter experiences. The response from the RO stumped us. We has managed to at least get some information from the units after hounding them. The RO lamented that till then he had not received a single response.

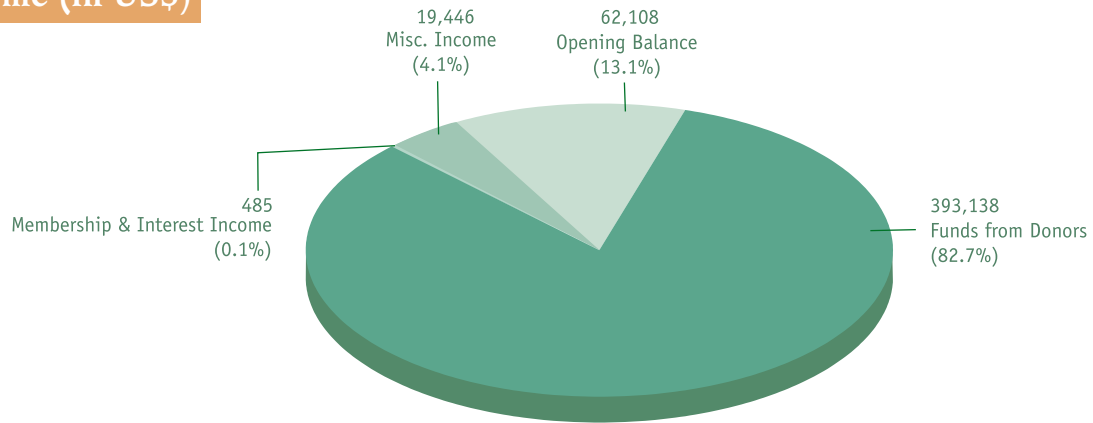
The other instance pertains to the difficulties encountered in interviewing one of the owners of a unit in the estate. The very first visit to the unit to collect the questionnaire was a warning sign of what lay ahead. After giving our visiting card to the security person and waiting for 15 minutes, we were informed that the owner had left for Delhi a few minutes back. We were also told to call next time before coming. This process of calling continued and every time we were told that either the owner had not come or was out of station or he had gone to other unit. Surprise visits yielded more surprises to us as a few times watchman told us that he was inside, but when we sent our card, we got a different reply. On one instance, we saw him going to his other unit and when we chased him and reached the other unit, we were told that he had left for Delhi. This process of hide and seek continued 7-8 times till the luck smiled on us. One evening, again a non-planned and uninformed visit, we saw the factory gate open and the owner was sitting in the open instructing his supervisor. Without looking for the security, we barged in and caught the owner. The chase which started on August 28, finally ended successfully on October 07, but at a huge cost of time and money and resources.

Financial Information

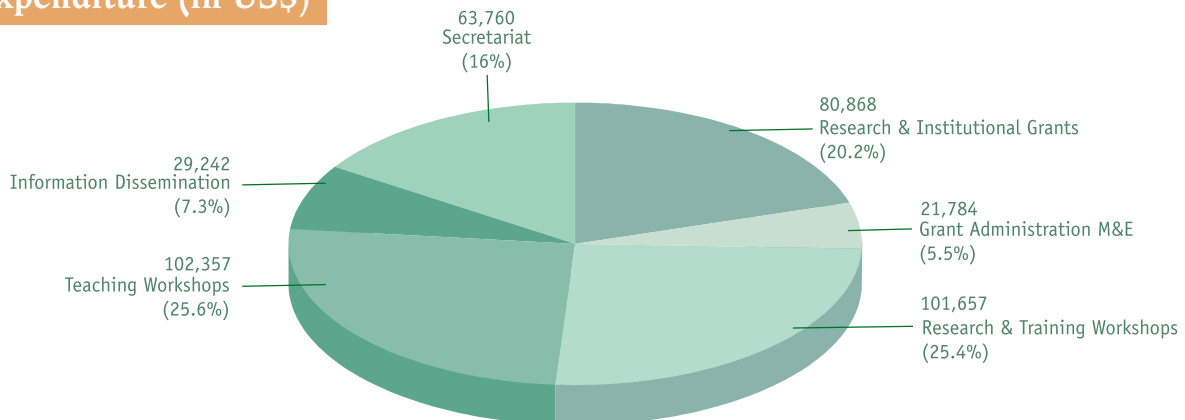
Income and Expenditure

January-December 2003

Income (in US\$)



Expenditure (in US\$)



Key Environmental Indicators for South Asia

	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka	Region
Population (millions)	133.3	0.8	1,032.4	0.3	23.6	141.5	18.7	1,377.8
GNI per capita, Atlas method (\$)	360	640	460	2,000	250	420	880	450
GDP (\$ billions)	47	1	477	1	6	59	16	614
AGRICULTURE								
Land area (1,000 sq. km)	130	47	2,973	0	143	771	65	4,781
Agricultural land (% of land area)	69	10	61	13	33	35	36	55
Irrigated land (% of crop land)	49.4	25.0	32.3	—	38.2	82.4	34.8	40.0
Fertilizer consumption (100 grams/ ha of arable land)	1,629	0	1,034	—	262	1,392	2,766	1,051
FORESTS AND BIODIVERSITY								
Forest area (% of total land area)	10.2	64.2	21.6	3.3	27.3	3.2	30.0	16.3
Annual deforestation (% change, 1990-2000)	-1.3	0.0	-0.1	0.0	1.8	1.1	1.6	0.1
Forest Area (1,000 sq km)	13	30	641	0	39	25	19	782
Nationally Protected Area (% of land area)	0.8	25.1	5.2	0.0	8.9	4.9	13.5	4.8
ENERGY, EMISSIONS AND POLLUTION								
GDP per unit of energy use (PPP\$ per kg of oil equivalent)	10.8	—	5.5	—	3.7	4.0	7.8	5.5
Share of electricity generated by coal (%)	—	—	77.4	—	—	0.4	—	66.2
Electric power consumption per capita (kWh)	96	—	355	—	56	352	293	323
CO ₂ emissions per unit of GDP (kg/PPP \$ of GDP)	0.1	—	0.4	—	0.1	0.4	0.2	0.4
CO ₂ emissions per capita (mt)	0.2	0.5	1.1	1.7	0.1	0.7	0.5	0.9
WATER & SANITATION								
Access to improved water sources (% of total population)	97	62	84	100	88	90	77	84
Access to sanitation in rural areas (% of rural population)	48	70	28	41	28	43	93	80
Freshwater resources per capita (cubic meters)	9,238	118,012	1,878	—	9,122	1,610	2,708	2,777
Total freshwater withdrawal (% of total water resources)	1.2	—	26.2	—	13.8	70.0	19.6	—
Under-5 mortality rate (per 1,000 live births)	77	95	93	77	91	109	19	99
NATIONAL ACCOUNTING AGGREGATES -2001								
Gross national savings (% GNI)	20.8	22.1	22.9	31.8	31.7	19.4	23.2	22.5
Consumption of fixed capital (% GNI)	6.1	8.0	9.6	10.7	2.3	7.7	5.0	9.0
Education expenditure (% GNI)	1.7	2.4	3.2	6.1	3.2	2.3	2.9	3.0
Energy depletion (% of GNI)	1.6	0.0	1.9	0.0	0.0	5.0	0.0	2.1
Mineral depletion (% GNI)	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.3
Net forest depletion (% GNI)	0.8	3.7	0.0	0.0	2.6	0.8	0.5	0.2
CO ₂ damage (% GNI)	0.4	0.6	1.7	0.5	0.4	1.1	0.3	1.5
Adjusted net savings (% GNI)	13.3	—	11.8	—	29.5	6.1	20.1	11.8

Source: Little Green Data Book, 2003, World Bank.



South Asian Network for Development
and Environmental Economics

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