Environmental Valuation
in South Asia

Edited by

A.K. Enamul Haque, M.N. Murty and Priya Shyamsundar

CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town,
Singapore, São Paulo, Delhi, Tokyo, Mexico City

Cambridge University Press
4381/4, Ansari Road, Daryaganj, Delhi 110002, India

Published in the United States of America by Cambridge University Press, New York
www.cambridge.org
Information on this title: www.cambridge.org/9781107007147

First published 2011

Printed in India at ……..

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloguing in Publication data
Environmental valuation in South Asia / edited by A.K. Enamul Haque, M.N. Murty, and Priya Shyamsundar.
p. cm.
Includes bibliographical references and index.
Summary: "Provides an overview of different environmental problems in South Asia and examines how economic valuation techniques can be used to assess these problems"--Provided by publisher.
ISBN 978-1-107-00714-7 (hardback)
1. Environmental economics--Asia, South. 2. Environmental quality--Asia, South.
I. Haque, A. K. Enamul. II. Murty, M. N. (Maddipati Narasimha), 1942- III. Shyamsundar, Priya, 1964- IV. Title.

HC430.6.Z9E5425 2011
333--dc22 2010040402

ISBN 978-1-107-00714-7 Hardback

Contents

List of Figures

List of Tables

List of Appendices

List of Contributors

M. Jahangir Alam
Department of Economics and Social Sciences
BRAC University
Dhaka, Bangladesh

Shrinivas Badiger
Centre for Environment and Development
Ashoka Trust for Research in Ecology and the Environment,
Bangalore, India

Avishek Banerjee
Institute of Economic Growth
Delhi University Enclave
Delhi, India

Caroline van den Berg
World Bank
1818 H. Street NW
Washington DC, USA

Cyril Bogahawatte
Department of Agricultural Economics
University of Peradeniya
Peradeniya, Sri Lanka

Saudamini Das
Institute of Economic Growth
University of Delhi Enclave
Delhi, India

Santadas Ghosh
Department of Economics and Politics
Visva-Bharati
Santiniketan, West Bengal, India

Indrila Guha
Department of Economics
Vidyasagar College for Women
Kolkata, West Bengal, India

S.C. Gulati
Institute of Economic Growth
Delhi University Enclave
Delhi, India

Herath Gunatilake
South Asia Department
Asian Development Bank
6 ADB Avenue,
Mandaluyong City 1550,
Metro Manila, Philippines

Usha Gupta
Department of Business Economics
Bhim Rao Ambedekar College
University of Delhi
Main Wazirabad Road
Delhi, India

A.K. Enamul Haque
Department of Economics
United International University (UIU)
Satmasjid Road, Dhanmondi
Dhaka, Bangladesh

K. Omar Hattab
Department of Soil Science and Agricultural Chemistry
Pandit Jawaharlal Nehru College of Agriculture and Research Institute
Puducherry U.T., India

Janaranjana Herath
Department of Agricultural Economics and Business Management
Faculty of Agriculture
University of Peradeniya
Peradeniya, Sri Lanka

Md. Zakir Hossain
Transparency International Bangladesh
Dhaka, Bangladesh

Ratna Kumar Jha
District Agriculture Development Office, Bhaktapur
Department of Agriculture , Nepal

Himayatullah Khan
Institute of Development Studies
NWFP Agricultural University
Peshawar, Pakistan

Rajeeva Kumara
Sobaganahalli, Kothigere Post
Kunigal Taluk
Tumkur District, Karnataka, India

Sharachchandra Lele
Centre for Environment and Development
Ashoka Trust for Research in Ecology and the Environment
Bangalore, India.

S. Madheswaran
Centre for Economic Studies and Policy
Institute for Social and Economic Change
Bangalore, India

Ajit Menon
Madras Institute of Development Studies
andhinagar, Adyar
Chennai
Tamil Nadu, India

M. N. Murty
Institute of Economic Growth
Delhi University Enclave
Delhi, India

P. Nasurudeen
Department of Agricultural Economics and Extension
Pandit Jawaharlal Nehru College of Agriculture and Research Institute

Karaikal
Puducherry U.T., India

Min Bikram Malla
Practical Action Nepal Office
Pandol Marg, Lazimpat
Kathmandu, Nepal

Iswaragouda Patil
Head Post Kunnur
Shiggaon Taluk
Haveri District
Karnataka, India

Subhrendu Pattanayak
Sanford School of Public Policy
and Nicholas School of the
Environment
Duke University
Durham, NC, USA

Adhrit Prasad Regmi
Centre for Rural Development
and Self-help
Dallu Residential Area, Chhuni
Kathmandu, Nepal

W.R. Rohita
No. 56, Darshanapura
Kundasale, Sri Lanka

K. R. Shanmugam
Madras School of Economics
Gandhi Manadapam Road, Kottur
Chennai, India

Priya Shyamsundar
South Asian Network for
Development and Environmental
Economics
32/25 Sukhumvit Soi 67
Bangkok, Thailand

P. Selvaraj
Fisheries College and Research
Institute
Chidambaranagar
Thoothukudi
Tamil Nadu, India

L. Umamaheswari
Department of Agricultural
Economics
Pandit Jawaharlal Nehru College of
Agriculture and Research Institute
Karaikal
Puducherry U.T., India

Jeffrey R. Vincent
Nicholas School of the
Environment
Duke University
Durham, NC, USA

Jui-Chen Yang
Research Triangle Institute (RTI)
Research Triangle Park, USA

Preface

Applied research in environmental economics has gained momentum in recent times and is viewed as a means to aid environmental management. The South Asian Network for Development Economics and Environment (SANDEE) has contributed to this momentum in South Asia, a region with a vast and growing ecological footprint. During the last ten years, SANDEE has sponsored research on several aspects of environment and development. It has also organized numerous workshops to meet training needs.

SANDEE uses innovative strategies to build capacity in environmental economics. Researchers and managers from universities, governments and NGOs are provided with repeated opportunities to improve their skills. The process for an economist to produce a useful piece of research is detailed. It involves his/her attending a teaching workshop, writing a research proposal related to an environmental problem in his/her country, presenting ongoing research to receive comments, receiving guidance from a SANDEE advisor and writing a manuscript. The final research output is peer-reviewed by an international expert. Thus, SANDEE research is grounded in the realities of local problems but benefits from the advice of scholars from around the world.

This book contains contributions from SANDEE researchers and advisors. The papers in the book are on environmental valuation in South Asia and provide information for designing sustainable development policies. They constitute detailed micro case studies of air, water, land and forest resources from the region.

The studies in this book have benefited from comments from many experts including Kenneth Arrow, Partha Dasgupta, Jean-Marie Baland, Kanchan Chopra, Herath Gunathilake, K. G. Maler, Subhrendu Pattanayak, E. Somanathan, Rehana Siddiqui and Jeff Vincent, to name a few. Many chapters have also been anonymously peer-reviewed. The editors have acted as advisors on specific projects and worked with several researchers from the beginning to the final culmination of this book.

The credit for producing the research presented in this book also goes to the highly motivated team at the SANDEE Secretariat. Manik Duggar, Pranab Mukhopadhyay, Kavita Shresta, and Anuradha Kafle, who were at SANDEE when these studies were done, have made the development of these projects possible. Current staff, including Mani Nepal and Krisha Shresta, has continued to work with the same spirit.

The task of preparing this book from SANDEE projects was entrusted to the Institute of Economic Growth (IEG) with M. N. Murty as coordinator. The IEG organized three book-related workshops and brought together contributors so that they could further develop their chapters. The former Director, Kanchan Chopra and several IEG faculty and staff provided intellectual and administrative support. We express our thanks to them.

Finally, we are thankful to SANDEE'S donors – IDRC (International Development Research Center), Sida (Swedish International Development Cooperation Agency), NORAD (Norwegian Agency for International Cooperation) and the World Bank for their financial assistance, and, to the staff who represent these agencies on SANDEE's Board for their advice and support.

Enamul Haque, M. N. Murty and Priya Shyamsundar