

Environment and Development Economics

Volume 23 Part 1 February 2018



ENVIRONMENT AND DEVELOPMENT ECONOMICS

published in association with the Beijer Institute of Ecological Economics,
Royal Swedish Academy of Sciences

AIMS AND SCOPE *Environment and Development Economics* aims to publish papers on the environmental problems associated with the process of economic development. It encourages submission of two categories of paper. The first comprises scientific papers. The second comprises environmental policy discussion papers. The first is carried in a section on Theory and Applications. The second is carried in a regular section, Policy Options, and an occasional more focussed Policy Forum.

The journal publishes on a wide range of topics including:

- * the environmental impact of economy-wide policies
- * optimal environmental regulation and incentives in a development context
- * the valuation of environmental resources in developing countries and incentives in environmental policy
- * the environmental effects of institutional change
- * modelling interdependent economic and environmental processes

SUBSCRIPTIONS *Environment and Development Economics* (ISSN 1355-770X) is published bimonthly in February, April, June, August, October and December. Six parts form a volume. The subscription price (excluding VAT), which includes print and electronic access, and postage, of Volume 23 in 2018 is £409 (\$662 in the USA, Canada and Mexico), for institutions and £67 (\$108 in the USA, Canada and Mexico) for individuals ordering direct from the publisher and certifying that the journal is for their personal use. The electronic-only price available to institutional subscribers is £319 (US\$532 in the USA, Canada and Mexico). Single parts are £73 (US\$118 in the USA, Canada and Mexico). Prices include delivery by air where appropriate. Orders which must be accompanied by payment, may be sent to a bookseller, subscription agent or direct to the publisher: Cambridge University Press, Journals Fulfillment Department, UPH, Shaftesbury Road, Cambridge, CB2 8BS, UK: or in the USA, Canada and Mexico: Cambridge University Press, Journals Fulfillment Department, 1 Liberty Plaza, Floor 20, New York, NY 10006, USA. EU subscribers who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Japanese prices for institutions are available from Kinokuniya Company Ltd, PO Box 55, Chitose, Tokyo 156, Japan. Special arrangements exist for subscribers in most low-income countries. Apply to: Journals Marketing Department, Cambridge University Press, University Printing House, Shaftesbury Road, Cambridge, CB2 8BS, UK.

Periodicals postage is paid at New York, NY, and at additional mailing offices. POSTMASTER: send address changes in the USA, Canada and Mexico to: *Environment and Development Economics*, Cambridge University Press, 1 Liberty Plaza, Floor 20, New York, NY 10006, USA.

Copying This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of U.S. Copyright law) subject to payment to C.C.C. of the per-copy fee of \$12.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 1355-770X/2018.

ISI Tear Sheet Service, 3501 Market Street, Philadelphia, PA 19104, USA, is authorised to supply single copies of separate articles for private use only.

Organizations authorised by the Copyright Licensing Agency may also copy material subject to the usual conditions.

For all other use, permission should be sought from Cambridge or from the American Branch of Cambridge University Press.

This journal is included in the Cambridge Core service which can be found at <http://cambridge.org/core>.

ISSN 1355-770X © Cambridge University Press

CONTENTS

RINTARO YAMAGUCHI Wealth and population growth under dynamic average utilitarianism	1
JOHANNES EMMERLING Discounting and intragenerational equity	19
WIJAYA DASSANAYAKE, SANDEEP MOHAPATRA, MARTIN K. LUCKERT and WIKTOR ADAMOWICZ Households' responses to climate change: contingent behavior evidence from rural South Africa	37
ARTHUR J. CAPLAN and MAN-KEUN KIM A note on mitigating the adverse scale effects associated with daily driving restrictions	63
HASEEB AHMED, DOUGLAS R. CALL, ROBERT J. QUINLAN and JONATHAN K. YODER Relationships between livestock grazing practices, disease risk, and antimicrobial use among East African Agropastoralists	80
DAVID WUEPPER, JOHANNES SAUER and LINDA KLEEMANN Sustainable intensification amongst Ghana's pineapple farmers: the complexity of an innovation determines the effectiveness of its training	98

ENVIRONMENT AND DEVELOPMENT ECONOMICS

published in association with the Beijer Institute, Royal Swedish Academy of Sciences

EDITOR

Eswaran Somanathan, *Indian Statistical Institute, Delhi*

ASSOCIATE EDITORS

Allen Blackman, *Resources for the Future, Washington, DC*

Susana Ferreira, *University of Georgia*

Mads Greaker, *Statistics Norway*

Sumeet Gulati, *The University of British Columbia*

Louis Hotte, *University of Ottawa*

Alemu Mekonnen, *Addis Ababa University*

Katrin Millock, *CNRS, Paris School of Economics*

Ping Qin, *Renmin University of China*

Martin Quaas, *Christian-Albrechts-University of Kiel*

Juan Robalino, *CATIE and Universidad de Costa Rica*

Elizabeth Robinson, *University of Reading*

Elisabetta Strazzera, *University of Cagliari*

Anant Sudarshan, *Energy Policy Institute at Chicago, India*

ASSISTANT EDITOR

Dimi Xepapadeas

EDITORIAL BOARD

Kenneth Arrow, *Stanford University*, Edward B. Barbier, *Colorado State University*, Carlos Chávez, *Universidad de Talca*, Margaret Chitiga, *University of Pretoria*, Partha Dasgupta, *Cambridge University*, Salvatore Di Falco, *University of Geneva*, Carl Folke, *Beijer Institute*, George Halkos, *University of Thessaly*, Razack Lokina, *University of Tanzania*, Karl-Göran Mäler, *Beijer Institute*, Subhrendu Pattanayak, *Duke University*, Charles Perrings, *Arizona State University*, Karen Pittel, *Ifo Institute for Economic Research and University of Munich*, Jeff Vincent, *Duke University*, Anastasios Xepapadeas, *Athens University of Economics and Business*, Mahmud Yesuf, *American University*, Aart de Zeeuw, *Tilburg University and Beijer Institute*.