

Contents

Part I Introduction

- 1 From Challenges to Sustainable Solutions for Upland Agriculture in Southeast Asia** 3
Pepijn Schreinemachers, Holger L. Fröhlich, Gerhard Clemens,
and Karl Stahr

Part II Environmental and Social Challenges

- 2 Beyond the Horizons: Challenges and Prospects for Soil Science and Soil Care in Southeast Asia** 31
Karl Stahr, Gerhard Clemens, Ulrich Schuler, Petra Erbe, Volker Haering,
Nguyen Dinh Cong, Michael Bock, Vu Dinh Tuan, Heinrich Hagel,
Bui Le Vinh, Wanida Rangubpit, Adichat Surinkum, Jan Willer,
Joachim Ingwersen, Mehdi Zarei, and Ludger Herrmann
- 3 Water and Matter Flows in Mountainous Watersheds of Southeast Asia: Processes and Implications for Management** . . . 109
Holger L. Fröhlich, Joachim Ingwersen, Petra Schmitter, Marc Lamers,
Thomas Hilger, and Iven Schad
- 4 Agricultural Pesticide Use in Mountainous Areas of Thailand and Vietnam: Towards Reducing Exposure and Rationalizing Use** 149
Marc Lamers, Pepijn Schreinemachers, Joachim Ingwersen,
Walaya Sangchan, Christian Grovermann, and Thomas Berger
- 5 Linkages Between Agriculture, Poverty and Natural Resource Use in Mountainous Regions of Southeast Asia** 175
Camille Saint-Macary, Alwin Keil, Thea Nielsen, Athena Birkenberg,
Le Thi Ai Van, Dinh Thi Tuyet Van, Susanne Ufer, Pham Thi My Dung,
Franz Heidhues, and Manfred Zeller

Part III Technology-Based Innovation Processes

- 6 Mango and Longan Production in Northern Thailand: The Role of Water Saving Irrigation and Water Stress Monitoring** 215
 Wolfram Spreer, Katrin Schulze, Somchai Ongprasert,
 Winai Wiriya-Alongkorn, and Joachim Müller
- 7 Soil Conservation on Sloping Land: Technical Options and Adoption Constraints** 229
 Thomas Hilger, Alwin Keil, Melvin Lippe, Mattiga Panomtaranichagul,
 Camille Saint-Macary, Manfred Zeller, Wanwisa Pansak, Tuan Vu Dinh,
 and Georg Cadisch
- 8 Improved Sustainable Aquaculture Systems for Small-Scale Farmers in Northern Vietnam** 281
 Johannes Pucher, Silke Steinbronn, Richard Mayrhofer, Iven Schad,
 Mansour El-Matbouli, and Ulfert Focken

Part IV Policies and Institutional Innovations

- 9 Participatory Approaches to Research and Development in the Southeast Asian Uplands: Potential and Challenges** 321
 Andreas Neef, Benchaphun Ekasingh, Rupert Friederichsen, Nicolas Becu,
 Melvin Lippe, Chapika Sangkapitux, Oliver Frör, Varaporn Punyawadee,
 Iven Schad, Pakakrong M. Williams, Pepijn Schreinemachers,
 Dieter Neubert, Franz Heidhues, Georg Cadisch, Nguyen The Dang,
 Phrek Gyphantasiri, and Volker Hoffmann
- 10 Integrated Modeling of Agricultural Systems in Mountainous Areas** 367
 Carsten Marohn, Georg Cadisch, Attachai Jintrawet,
 Chitnucha Buddhagoon, Vinai Sarawat, Sompong Nilpunt,
 Suppakorn Chinvanho, Krirk Pannangpetch, Melvin Lippe,
 Chakrit Potchanasin, Dang Viet Quang, Pepijn Schreinemachers,
 Thomas Berger, Prakrit Siripalangkanont, and Thanh Thi Nguyen
- 11 Rethinking Knowledge Provision for the Marginalized: Rural Networks and Novel Extension Approaches in Vietnam** 433
 Iven Schad, Thai Thi Minh, Volker Hoffmann, Andreas Neef,
 Rupert Friederichsen, and Regina Roessler
- 12 Policies for Sustainable Development: The Commercialization of Smallholder Agriculture** 463
 Manfred Zeller, Susanne Ufer, Dinh Thi Tuyet Van, Thea Nielsen,
 Pepijn Schreinemachers, Prasnee Tipraqsa, Thomas Berger,
 Camille Saint-Macary, Le Thi Ai Van, Alwin Keil, Pham Thi My Dung,
 and Franz Heidhues