Handbook of Climate Change Adaptation

Walter Leal Filho
Editor

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Volume 1

With xxx Figures and xxx Tables

Springer Reference

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Walter Leal Filho
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Foreword

Climate change is one of the most pressing challenges mankind currently faces, being a matter of great concern to people living in both industrialized and developing countries. Due to its scope and its implications to the economy of countries, to properties, and to human health and well-being, it is essential to make sure that we are able to adapt to climate change.

But even though the need for adaptation is a perceived one and in many parts of the world, urgent action in the field of climate change adaptation is needed, there is a paucity of scientific publications which tackle the subject matter of climate change adaptation in a holistic way.

In an attempt to address this problem and at the same time provide a contribution to foster a better understanding of the various aspects of climate change, the International Climate Change Information Programme (ICCIP)—in cooperation with Springer—have prepared this landmark multivolume reference work. This handbook is aimed at fostering a broader understanding of what climate change is, what it means to people, and how its impacts on the environment and ecosystems can be reduced via climate change adaptation strategies.

Consistent with its editorial aims, this Handbook is structured along four parts:

Part 1. Climate Change Impacts and Management (handling climatic, physical, human, and biodiversity impacts on land and water ecosystems)
Part 2. Policy and Climate Change (handling policy measures, planning procedures, and concrete action to cater for adaptation efforts)
Part 3. Climate Change Adaptation, Agriculture, and Water Security (handling concrete examples of adaptation efforts in the field of agriculture and water capture, storage, and use)
Part 4. Climate Change Adaptation Technologies (presentation of examples of technologies which allow adaptation to be pursued and implemented in the short and medium term)

A set of cross-cutting issues have been included across all parts, such as the socioeconomics of climate change, resilience, trade, growth, development, justice, poverty, health, populations, security, international politics, the UN process, democracy, education, as well as information and communication. Although the

Handbook is on the one hand grounded in the best science and meets the highest scientific standards, it aims on the other hand to be inclusive methodologically and be practice based.

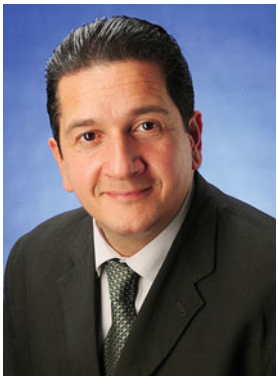
Specialists from across the world have provided a wide range of contributions addressing many of the variables associated with climate change adaptation with examples, case studies, and projects from all geographic regions. Their efforts are commendable since their willingness to document and disseminate their ideas, approaches, and projects via this Handbook makes it a very rich publication.

I want to thank all the authors who contributed to this Handbook for their time and effort. It is hoped that this Handbook may not only be used as a tool toward the greater understanding of different variables associated with climate change adaptation.

All in all, we have managed to produce a groundbreaking publication, which will hopefully provide practical assistance and support to climate change adaptation initiatives across the world. We also hope that it may serve as inspiration and guidance to many others, helping to tackle a problem which is global in its scope but often local in its impacts.

Walter Leal Filho
Editor-in-Chief

About the Editor



Professor Walter Leal (BSc, PhD, DSc, DPhil, DL, DLitt, DEd) is Professor and Head of the Research and Transfer Centre Applications of Life Sciences at the Hamburg University of Applied Sciences in Germany and holds the Chair of Environment and Technology at Manchester Metropolitan University, UK. He is Review Editor at Working Group II (Climate Change Adaptation) at the Intergovernmental Panel on Climate Change (IPCC) and founding editor of the *International Journal of Climate Change Strategies and Management* and heads the International Climate Change Information Programme (ICIIP). He is also Editor-in-Chief of the *Climate Change Management* series with Springer.

Prof. Walter Leal serves on the editorial board of various journals. He has in excess of 300 publications to his credit, among which are groundbreaking books such as *Universities and Climate Change*, *The Economic, Social and Political Aspects of Climate Change*, and *Climate Change and Disasters Management*. He teaches environmental management, information, and climate issues at various European universities. He has over 20 years of research experience on all aspects of environmental information and education and has a particular interest in the connections between environmental management, sustainability, climate, and human behavior.

Section Editors

Abul Quasem Al-Amin is currently Associate Professor at International Business School, Universiti Teknologi Malaysia, Malaysia. His research interests include environmental modeling, economic sustainability, modeling on optimal pollution taxation for environmental aspects, ecological economics, and economics of climate change. He is currently associated with Conference in Cooperative Green Growth Modeling Forum (C2GMF), Greenhouse Gas Inventory and Research Center, South Korea, Asia Pacific Network for Global Change Research (APN), and Institute for Global Environmental Strategies (IGES), Japan, and has a particular interest in the connections between environmental management, sustainability, climate, and human behavior.

Suani Teixeira Coelho is a chemical engineer with master's and doctorate degrees in Energy from the University of São Paulo's Energy Graduation Program, where she is currently lecturer and thesis advisor professor on bioenergy. She is also thesis advisor professor at the Integrated Graduate Program in Bioenergy (USP/UNICAMP/UNESP). She was member of the U.N. Secretary-General's Advisory Group on Energy and Climate Change (AGECC) from 2008 to 2011 chaired by Kandeh K. Yumkella from UNIDO and Deputy Secretary at São Paulo State Environment Secretariat (2003–2006), where she was responsible for the international agreements of the State Secretariat. Prof. Coelho has published papers in and was a reviewer for technical journals such as *Energy Policy* and *Biomass & Bioenergy* among others. She has also published several books and book chapters including "Land and

Water: Linkages to Bioenergy" in *Global Energy Assessment* (IIASA, Cambridge University, 2013)

Harry Polo Diaz is Professor of Sociology and Social Studies and former Director of the Canadian Plains Research Center (CPRC) at the University of Regina. His fields of research include adaptation and vulnerability to climate change, water scarcities, and environmental governance in Canada and Latin America. He is author and coauthor of several publications on the human dimension of climate change.

Ilan Kelman is a Reader in Risk, Resilience, and Global Health at University College London, England, and Senior Research Fellow at Norwegian Institute of International Affairs, Oslo. His overall research interest is linking disasters and health, including the integration of climate change into disaster research and health research. His geographic areas of particular interest are islands, the Arctic, and mountains. His personal website is http://www.ilankelman.org.

Maris Klavins is Professor and Head of Department of Environmental Science at University of Latvia (Riga, Latvia). His research background is in chemistry, but recent interests are related to environmental pollution analysis, natural organic substances, climate change, and long-term environmetal change. Prof. Klavins is author of several books, has supervised more than ten doctoral theses, and is active in promoting environmental education concepts.

Justice Nyamangara is Scientist at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Professor at Chinhoyi University of Technology (Zimbabwe). His research focuses on agronomy, climate change, and environmental pollution. He is a trained Soil Scientist, has supervised or cosupervised more than 20 postgraduate theses, and has in excess of 100 publications to his credit.

Anirudh Singh is Associate Professor at the University of the South Pacific (USP) within the School of Engineering and Physics. He teaches courses in renewable energy and basic physics and leads the regional component of a multinational project in renewable energy. His research interests are renewable energy and climate change, with specific interest in the areas of biofuels, energy efficiency in buildings, and energy policy. His most recent publications include four book chapters in renewable energy and a perspective paper in biofuels. He is currently supervising one Ph.D. and three M.Sc. students.

L. Vargas received an Electrical Engineer diploma and an M.Sc. degree from Universidad de Chile, Santiago, in 1985 and 1987, respectively, and a Ph.D. degree in 1994 in electrical engineering from the University of Waterloo, Waterloo, Ontario, Canada. Since 1994, he has worked at the Electrical Engineering Department, Universidad de Chile, where currently, he is Associate Professor. Dr. Vargas has been involved in applied projects for the main electric companies and energy institutions in Chile as well as international agencies. His main research interests are in the areas of wind energy, supply and demand forecasting, regulation, and expansion planning of energy systems.

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In the preparation of this Handbook, I need to thank many people and organizations. First and foremost, thanks are due to the authors for the willingness to share their know-how, their experience, and their work with an international audience. It is their inputs that have made this publication possible, and the richness of experiences combined with the diversity of perspectives documented here make this publication an invaluable one to anyone interested in the principles and practices of climate change adaptation.

Thanks are also due to the section editors for their hard work and support in checking all papers and for overseeing the revisions of the manuscripts. Their help was important and most appreciated.

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Contents

Contributors

ch 79 **Ghulam Abbas** Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad, Pakistan

ch 124 **Mohsen Aboulnaga** Professor of Sustainable Built Environment, Faculty of Engineering, Cairo University & Senior Advisor - Green Building Council of Egypt (EgyptGBC), Giza, Greater Cairo, Egypt

ch 87 **Vide Adedayo** University of Lagos, Lagos, Nigeria

ch 116 **C. O. Adeofun** Department of Environmental Management and Toxicology, Federal University of Agriculture, Abeokuta, Nigeria

ch 116 **Leo Adriaanse** Rijkswaterstaat, Middelburg, The Netherlands

ch 116 **Carolyn A. Afolami** Agricultural Media Resources and Extension Centre (AMREC), Federal University of Agriculture, Abeokuta, Nigeria

ch 38 **Shardul Agrawala** Climate, Biodiversity and Water Division, Environment Directorate, Organisation for Economic Co-operation and Development (OECD), Paris CEDEX 16, France

ch 102 **Patricia Aguirre** The postgraduate Institute, Technical University of the North, Ibarra, Ecuador

ch 102 **Frank Ahlhorn** Küste & Raum, Varel, Germany

ch 75 **Saleh Ahmed** Department of Sociology, Social Work and Anthropology, Utah State University, Logan, UT, USA

ch 76 **Javaid Akhtar** Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad, Pakistan

ch 76 **Ruben Akkermans** Province of Zeeland, Middelburg, The Netherlands

ch 16 **A. F. M. Ashraful Alam** Khulna University, Khulna, Bangladesh

ch 14 **Eike Albrecht** Brandenburg University of Technology Cottbus - Senftenberg Germany, Senftenberg, Germany

ch 84 **Edvin Aldrian** Agency for Assessment and Application of Technology BPPT, Central Jakarta, Indonesia

University of Indonesia, Jakarta, Indonesia

Bogor Agriculture Institute, Bogor, Indonesia

ch 54 **S. M. Alfieri** National Research Council, Institute for Mediterranean Agriculture and Forest, Ercolano, Italy

ch 110 **Godwin A. Ali** National Centre for Technology Management (NACETEM), Federal Ministry of Science and Technology, Ile-Ife, Nigeria

ch 79 **Muhammad Kashif Ali** National Engineering Services of Pakistan (NESPAK), Lahore, Pakistan

ch 79 **Yvonne Andersson-Sköld** COWI, Göteborg, Sweden

ch 79 **L. Anello** Universidade Federal do Rio Grande, Rio Grande, Brazil

ch 27 **Éva Anstett** Centre for Research and Expertise in Evaluation (CREXE), École nationale d'administration publique (National School of Public Administration), University of Quebec, QC, Canada

ch 31 **Irina Arakelyan** Scotland's Rural College (SRUC), Edinburgh, Scotland

ch 115 **Thiago Lima Klautau de Araújo** Faculty of Economics, University of Coimbra, Coimbra, Portugal

ch 44 **Michel Archambault** Transat Chair in Tourism – Montreal's School of Management, University of Quebec at Montreal, Montreal, QC, Canada

ch 44 **G. Areendran** Indira Gandhi Conservation Monitoring Centre, WWF India, New Delhi, India

ch 16 **Rumana Asad** Khulna University, Khulna, Bangladesh

ch 111 **Selina Asare-Baffour** Department of Geography and Resource Development, University of Ghana, Legon Accra, Ghana

ch 111 **M. Asmus** Universidade Federal do Rio Grande, Rio Grande, Brazil

ch 116 **I. A. Ayinde** Department of Agricultural Economics and Farm Management, Federal University of Agriculture, Abeokuta, Nigeria

ch 113 **Julián Báez** Dirección de Meteorología e Hidrología, DMH-DINAC, Asunción, Paraguay

ch 66 **Orlando F. Balderama** Department of Agricultural Engineering, Isabela State University, Echague, Isabela, Philippines

ch 99 **Soumyadeep Banerjee** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 17 **Galina M. Barinova** Department of Geoecology, Baltic Federal University of Immanuel Kant, Kaliningrad, Russia

ch 54 **A. Basile** National Research Council, Institute for Mediterranean Agriculture and Forest, Ercolano, Italy

ch 90 **Mohammad Hadi Bazrkar** Tarbiat Modares University, Tehran, Iran

ch 28 **Steffen Bender** Climate Service Center, Chilehaus – Eingang B, Hamburg, Helmholtz Zentrum Geesthacht, Germany

ch 78 **Lynn Bennett** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 113 **Mario Bidegain** Instituto Uruguayo de Meteorología (INUMET), Montevideo, Uruguay

ch 13 **A. Bilgo** Centre Régional AGRHYMET/CILSS, Niamey, Niger

ch 44 **Sylvie Blangy** Centre d'Ecologie Fonctionnelle et Evolutive, CEFE-CNRS UMR 5175, Montpellier, France

ch 44 **Stéphanie Bleau** Transat Chair in Tourism – Montreal's School of Management, University of Quebec at Montreal, Montreal, QC, Canada

ch 54 **A. Bonfante** National Research Council, Institute for Mediterranean Agriculture and Forest, Ercolano, Italy

ch 93 **Barrie Bonsal** Watershed Hydrology and Ecosystem Research Division, Environment Canada, Saskatoon, SK, Canada

ch 93 **Helge Bormann** Department of Civil Engineering, University of Siegen, Siegen, Germany

ch 27 **Jessica Bouchard** Centre for Research and Expertise in Evaluation (CREXE), École nationale d'administration publique (National School of Public Administration), University of Quebec, QC, Canada

ch 28 **Paul Bowyer** Climate Service Center, Chilehaus – Eingang B, Hamburg, Helmholtz Zentrum Geesthacht, Germany

ch 33 **Louise Bracken** Institute of Hazards, Risk and Resilience (IHRR), Department of Geography, Durham University, Durham, UK

ch 5 **Stéphane La Branche** Institute of Political Studies at Grenoble, Pierre-Mendes-France University, Grenoble, Cedex 9, France

ch 29 **Guy P. Brasseur** Helmholtz Zentrum Geesthacht, Climate Service Center, Hamburg, Germany

National Center for Atmospheric Research, Boulder, CO, USA

ch 99 **Nick Brooks** Garama 3C Ltd - Climate Change Consulting for Development, Norwich, UK

ch 104 653 **Barbara Buchner** Climate Policy Initiative (CPI), Venezia, Italy

ch 121 654 **Gaye Burpee** Catholic Relief Services, Baltimore, MD, USA

ch 106 655 **Tom Butlin** The Mersey Forest, Warrington, UK

ch 128 656 **Sonja Butzengeiger-Geyer** Perspectives GmbH, Hamburg, Germany

ch 106 657 **Gina Cavan** School of Science and the Environment, Manchester Metropolitan
658 University, Manchester, UK

659 School of Environment, Education and Development, The University of
660 Manchester, Manchester, UK

ch 69 661 **Jui-Wen Chen** Dingtai Co. Ltd., Shulin, New Taipei, Taiwan

ch 69 662 **Ting-Hao Chen** Dingtai Co. Ltd., Shulin, New Taipei, Taiwan

ch 23 663 **Hillary Kibet Cheruiyot** Crop Improvement and Management Programme,
664 Tea Research Institute, Kericho, Kenya

ch 1 665 **Julien Chevallier** IPAG Lab, IPAG Business School, Paris, France

ch 1 666 **C. Chreties** Universidad de la Republica, Montevideo, Uruguay

ch 72 667 **Ioannis Chrysostomidis** Sustainable Futures Ltd, London, UK

ch 117 668 **Joon-hyuk Chung** Ewha Womans University High School, Seoul, South Korea

ch 117 669 **D. Conde** Universidad de la Republica, Montevideo, Uruguay

ch 72 670 **Lisa Constable** Air Quality and Climate Change, Environmental Resources
671 Management, London, UK

ch 37 672 **Labintan Adeniyi Constant** Energy Research Centre (ERC), Faculty of
673 Engineering and the Built Environment, University of Cape-Town, Rondebosch,
674 South Africa

ch 113 675 **Genaro Coronel** Facultad Politécnica, Universidad Nacional de Asunción (FP–
676 UNA), San Lorenzo, Paraguay

677 Maestría en Cambio Global: Énfasis en Riesgos Climáticos (FP–UNA), Campus
678 Universitario San Lorenzo, San Lorenzo, Paraguay

ch 18 679 **Sining C. Cuevas** School of Geography, Planning and Environmental Manage-
680 ment, The University of Queensland, St. Lucia, Australia

ch 73 681 **S. Czunyi** Central European University, Budapest, Hungary

ch 105 682 **D. de Álava** Universidad de la Republica, Montevideo, Uruguay

ch 118 683 **Ger de Lange** Deltares, Utrecht, The Netherlands

ch 54 684 **Francesca De Lorenzi** National Research Council, Institute for Mediterranean
685 Agriculture and Forest, Ercolano, Italy

ch 54 **Carlo De Michele** Ariespace s.r.l., Spin-Off company of the University of Naples Federico II, Naples, Italy

ch 118 **Renaat De Sutter** Gent University, Gent, Belgium

ch 82 **Sara de Wit** Cologne African Studies Centre, University of Cologne, Cologne, Germany

ch 90 **Zohreh Dehghan** Department of Water Engineering, Isfahan University of Technology, Isfahan, Iran

ch 11 **Abigail Derby Lewis** The Field Museum, Chicago, IL, USA

Chicago Wilderness, Chicago, IL, USA

ch 42 **Aliou Diouf** Enda Energie-Environnement-Développement, Dakar, Sénégal

ch 89 **Murat Diren** Urban and Regional Planner, Advisor to the Kartal District Municipality, Kartal, Istanbul, Turkey

ch 113 **Roger Monte Domecq** Unidad de Estudios Hídro-Ambientales, Centro de Tecnología Apropiada, Universidad Católica Nuestra Señora de la Asunción, Asunción, Paraguay

ch 67 **Magali Dreyfus** Institute of Advanced Studies, United Nations University, Shibuya, Japan

ch 24 **Cheryl Durrant** Department of Defence, R1-2-D009, Russell Offices, Canberra, Australia

ch 82 **Irit Eguavoen** West African Science Service Center for Climate Change and Adapted Land Use (WASCAL), Center for Development Research, University of Bonn, Bonn, Germany

ch 60 **Emmanuel Emeka Ejim-Eze** Department of Science Policy and Development Studies, National Centre for Technology Management, South-South Office, Niger Delta University, WIlberforce Island, Bayelsa State, Nigeria

ch 124 **Manal El-Batran** Urban Planning, Housing and Building National Research Centre (HBRC), Egypt Green Building Council (EgyptGBC), Dokki-Giza, Egypt

ch 87 **Peter Elias** University of Lagos, Lagos, Nigeria

ch 90 **Alireza Eslamian** Concordia University, Montreal, QC, Canada

ch 91 **Saeid Eslamian** Department of Water Engineering, Isfahan University of Technology (IUT), Isfahan, Iran

ch 87 **Mayowa Fasona** University of Lagos, Lagos, Nigeria

ch 68 **Lucy Faulkner** Independent Consultant, London, UK

ch 23 **Walter Leal Filho** Applications of Life Sciences, Hamburg University of Applied Sciences, Hamburg, Germany

ch 23 **Ebinezer R. Florano** National College of Public Administration and Governance, University of the Philippines, Diliman, Quezon City, Philippines

ch 64 **Armando Gaetaniello** Eberswalde University for Sustainable Development, Brandenburg, Germany

ch 17 **Dara V. Gaeva** Department of Geoecology, Kaliningrad, Russia

ch 101 **Luis M. Galindo** ECLAC, Santiago, Chile

ch 42 **Amadou Thierno Gaye** Laboratoire de Physique de l'Atmosphère et de l'Océan Siméon-Fongang, Ecole Supérieure Polytechnique, Université Cheikh Anta Diop, Dakar, Sénégal

ch 99 **Jean-Yves Gerlitz** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 99 **Chris Gerrard** Anglian Water, Huntingdon, UK

ch 79 **Abdul Ghafoor** Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad, Pakistan

ch 89 **Michael S. Gibson** London South Bank University, London, UK

ch 106 **Susannah Gill** School of Environment, Education and Development, The University of Manchester, Manchester, UK

The Mersey Forest, Warrington, UK

ch 91 **Alireza Gohari** Department of Water Engineering, Isfahan University of Technology (IUT), Isfahan, Iran

ch 104 **José Juan Gomes Lorenzo** Inter-American Development Bank (IDB), Washington, DC, USA

ch 123 **Dhanapal Govindarajulu** UNDP-Centre for Climate Change and Environment, National Centre for Good Governance, Cozynook, Mussoorie, India

ch 102 **Sven Günter** Tropical Agricultural Research and Higher Education Center, Turrialba–Cartago, Costa Rica

Thünen–Institute of International Forestry and Forest Economics, Hamburg, Germany

ch 25 **Nicole Gurran** Faculty of Architecture, Design and Planning, The University of Sydney, New South Wales, Australia

ch 11 **Kimberly R. Hall** The Nature Conservancy, Lansing, MI, USA

ch 6 **Salisu Lawal Halliru** Geography Department, Federal College of Education Kano, Kano, Nigeria

ch 25 **Elisabeth Hamin** Landscape Architecture and Regional Planning, University of Massachusetts, Amherst, MA, USA

ch 11 **Jessica J. Hellmann** Department of Biological Sciences and Environmental Change Initiative, University of Notre Dame, IN, USA

ch 100 **Chinmai Hemani** Climate Change Consultant, Ahmedabad, India

ch 74 **J. S. (Pat) Heslop-Harrison** Department of Biology, Molecular Cytogenetics and Cell Biology lab, Leicester, UK

ch 102 **Leonith Hinojosa** Earth & Life Institute, Université Catholique de Louvain, Louvain-la-Neuve, Belgium

ch 24 **Jane Holloway** Department of Defence, F4-G-039, Defence Science and Technology Organisation, Canberra, Australia

ch 24 **Nelie Houtekamer** Houtekamer & Van Kleef, Veere, The Netherlands

ch 120 **Mark Howden** Climate Adaptation Flagship, Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra, Australia

ch 69 **Yin-Si Hsieh** Environmental Quality Protection Foundation, Taipei, Taiwan

ch 99 **Kiran Hunzai** Individual Consultant, former Poverty Specialist at ICIMOD, Manila, Philippines

ch 33 **Muhammad Jahedul Huq** Institute of Hazards, Risk and Resilience (IHRR), Department of Geography, Durham University, Durham, UK

ch 119 **Margot A. Hurlbert** Department of Justice Studies and Department of Sociology and Social Studies, CL 235, University of Regina, Regina, SK, Canada

ch 116 **S. B. Ibrahim** Department of Agricultural Economics and Farm Management, Federal University of Agriculture, Abeokuta, Nigeria

ch 110 **Femi M. Ilevbare** Department of Psychology, Obafemi Awolowo University, Ile-Ife, Nigeria

ch 110 **Oluwatosin E. Ilevbare** National Centre for Technology Management (NACETEM), Federal Ministry of Science and Technology, Ile-Ife, Nigeria

ch 83 **Tor Håkon Inderberg** Fridtjof Nansen Institute, Lysaker, Norway

ch 119 **Jorge Ivars** Quilmes National University and INCIHUSIA, Buenos Aires, Argentina

ch 28 **Daniela Jacob** Climate Service Center, Chilehaus – Eingang B, Hamburg, Helmholtz Zentrum Geesthacht, Germany

Max Planck Institute for Meteorology, Hamburg, Germany

ch 27 **Johann Jacob** Centre for Research and Expertise in Evaluation (CREXE), École nationale d'administration publique (National School of Public Administration), University of Quebec, QC, Canada

ch 93 **Jeannine-Marie St. Jacques** Prairie Adaptation Research Collaborative, University of Regina, Regina, SK, Canada

ch 79 **Wasim Javed** Air Quality Research Center, University of California, Davis, CA, USA

ch 2 **Ademola Oluborode Jegede** Centre for Human Rights, Faculty of Law, University of Pretoria, Pretoria, South Africa

ch 26 **Cassidy Johnson** The Bartlett Development Planning Unit, University College London, London, UK

ch 23 **Jokastah Wanzuu Kalungu** South Eastern Kenya University, Nairobi, Kenya

ch 127 **Aditi Kapoor** Alternative Futures-Development Research and Communication Group, New Delhi, India

ch 120 **Bhathiya Kekulandala** Practical Action, Colombo, Sri Lanka

ch 78 **Manohara Khadka** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 93 **Stefan W. Kienzle** Department of Geography, University of Lethbridge, Lethbridge, AB, Canada

ch 20 **Christian Kind** adelphi, Berlin, Germany

ch 38 **Nicolas Kingsmill** Climate, Biodiversity and Water Division, Environment Directorate, Organisation for Economic Co-operation and Development (OECD), Paris CEDEX 16, France

ch 106 **Richard Kingston** School of Environment, Education and Development, The University of Manchester, Manchester, UK

ch 89 **Arzu Kocabas** Department of Architecture, Urban Conservation and Renewal Division, Mimar Sinan Fine Arts University, Istanbul, Turkey

ch 128 **Michel Köhler** Perspectives GmbH, Hamburg, Germany

Climate Advisory Network the Greenwerk, Hamburg, Germany

ch 17 **Evgeny Krasnov** Department of Geoecology, Kaliningrad, Russia

ch 17 **Rajesh Kumar** Sharda UniversityKnowledge park – IIIGreater Noida, Noida, India

ch 8 **Asfaw Kumssa** United Nations Centre for Regional Development, Africa Office, Nairobi, Kenya

ch 8 **X. Lagos** Universidad de la Republica, Montevideo, Uruguay

ch 27 **Moktar Lamari** Centre for Research and Expertise in Evaluation (CREXE), École nationale d'administration publique (National School of Public Administration), University of Quebec, QC, Canada

ch 64 825 **Wooseop Lee** APEC Climate Center (APCC), Busan, South Korea

ch 106 826 **Sarah Lindley** School of Environment, Education and Development, The Univer-
827 sity of Manchester, Manchester, UK

ch 69 828 **Ming-Lone Liou** Graduate Institute of Environmental Engineering, National
829 Taiwan University, Taipei, Taiwan

ch 69 830 **Chung-Ming Liu** The Chinese Association of Low Carbon Environment, Taipei,
831 Taiwan

ch 69 832 **J. P. Lozoya** Universidad de la Republica, Montevideo, Uruguay

ch 99 833 **Mirjam Macchi** Federal Department of Foreign Affairs FDFA, Swiss Agency for
834 Development and Cooperation SDC, former Climate Change Adaptation Specialist
835 at ICIMOD, Bern, Switzerland

ch 70 836 **Gilma C. Mantilla** International Research Institute for Climate and Society,
837 Columbia University, Palisades, NY, USA

838 Centro de Estudios e Investigación en Salud, Fundación Santa Fe de Bogotá,
839 Bogotá, Colombia

ch 120 840 **Buddhi Marambe** Department of Crop Science, Faculty of Agriculture,
841 University of Peradeniya, Peradeniya, Sri Lanka

ch 105 842 **R. Marenzi** Universidade do Vale do Itajaí, Itajaí, Brazil

ch 105 843 **L. Marrero** Universidad de la Republica, Montevideo, Uruguay

ch 105 844 **F. Martins** Universidade de Aveiro, Aveiro, Portugal

ch 61 845 **Suzanna El Massah** Faculty of Economics and Political Science, Cairo
846 University, Cairo, Egypt

ch 22 847 **Ken'ichi Matsumoto** School of Environmental Science, The University of Shiga
848 Prefecture, Shiga, Japan

ch 38 849 **Arnoldo Matus Kramer** Climate, Biodiversity and Water Division, Environment
850 Directorate, Organisation for Economic Co-operation and Development (OECD),
851 Paris CEDEX 16, France

ch 112 852 **Benoît Mayer** Faculty of Law, National University of Singapore, Singapore,
853 Singapore

ch 102 854 **Oswaldo Jadán Maza** Universidad Nacional de Loja, Loja, Ecuador

ch 8 855 **Isaac M. Mbeche** University of Nairobi, Nairobi, Kenya

ch 23 856 **Duncan Onyango Mbuge** Department of Environmental and Biosystems
857 Engineering, University of Nairobi, Nairobi, Kenya

ch 109 858 **Nasiru Idris Medugu** Department of Urban and Regional Planning, Universiti
859 Teknologi Malaysia, Johor Bahru Johor, Malaysia

ch 54 **Massimo Menenti** Department of Geoscience and Remote Sensing, Delft University of Technology, Delft, The Netherlands

ch 128 **Axel Michaelowa** Center for Comparative and International Studies, University of Zurich, Zürich, Switzerland

Perspectives GmbH, Hamburg, Germany

ch 4 **Nour Mohammad** Assistant Professor of Law, Premier University, Chittagong, Bangladesh

ch 54 **E. Monaco** National Research Council, Institute for Mediterranean Agriculture and Forest, Ercolano, Italy

ch 54 **A. Moraes** Universidade do Vale do Itajaí, Itajaí, Brazil

ch 31 **Dominic Moran** Scotland's Rural College (SRUC), Edinburgh, Scotland

ch 22 **Kanako Morita** Graduate School of Media and Governance, Keio University, Kanagawa, Japan

ch 18 **Tiffany Morrison** School of Geography, Planning and Environmental Management, The University of Queensland, St. Lucia, Australia

ch 11 **Robert K. Moseley** The Nature Conservancy, Peoria, IL, USA

ch 8 **Aloysius C. Mosha** University of Botswana, Gaborone, Botswana

ch 70 **Salua Osorio Mrad** Instituto Nacional de Salud, Bogotá, Colombia

ch 38 **Michael Mullan** Climate, Biodiversity and Water Division, Environment Directorate, Organisation for Economic Co-operation and Development (OECD), Paris CEDEX 16, France

ch 82 **Detlef Müller-Mahn** Geographical Institute, University of Bonn, Bonn, Germany

ch 79 **Behzad Murtaza** Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad, Pakistan

ch 79 **Ghulam Murtaza** Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad, Pakistan

ch 77 **Manchiraju Sri Ramachandra Murthy** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 119 **Paula C. Mussetta** Human, Social and Environmental Sciences Institute, Scientific and Technical National Research Council CCT- CONICET-Mendoza, Mendoza, Argentina

ch 64 **Nidhi Nagabhatla** Institut für Umweltplanung (IUP), Gottfried Wilhelm Leibniz Universität, Hannover, Germany

ch 50 **K. Nagasree** Transfer of Technology Section, Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad, India

ch 113 **Gustavo J. Nagy** IECA, Facultad de Ciencias, UdelaR, Montevideo, Uruguay and MaestrÚa en Cambio Global: Énfasis en Riesgos ClimÃticos (FP-UNA), Campus Universitario San Lorenzo, San Lorenzo, Paraguay

ch 104 **Maria Netto** Inter-American Development Bank (IDB), Washington, DC, USA

ch 77 **Nilhari Neupane** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 125 **Natalie Nicholles** NEF consulting, London, UK

ch 120 **Uday Nidumolu** Ecosystem Sciences, Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra, Australia

ch 120 **M. Nin** Universidad de la Republica, Montevideo, Uruguay

ch 50 **G. Nirmala** Transfer of Technology Section, Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad, India

ch 103 **Sarah Marie Nischalke** Food Security Analyst, International Centre for Integrated Mountain Development, Kathmandu, Nepal

ch 8 **Enos H. N. Njeru** College of Humanities and Social Sciences, University of Nairobi, Nairobi, Kenya

ch 74 **Ijaz Rasool Noorka** University College of Agriculture, University of Sargodha, Sargodha, Pakistan

ch 74 **Anders Norrby** Arvika Kommun, Arvika, Sweden

ch 63 **Melissa Nursey-Bray** Discipline of Geography, Environment and Population, University of Adelaide, Adelaide, South Australia, Australia,

ch 32 **Janet O. Obayomi** Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan, Nigeria

ch 111 **Peter Bilson Obour** Department of Geography and Resource Development, University of Ghana, Legon Accra, Ghana

ch 14 **Chika Ubaldus Ogbonna** Brandenburg University of Technology Cottbus - Senftenberg Germany, Senftenberg, Germany

ch 87 **Felix Olorunfemi** Nigerian Institute for Social and Economic Research, Ibadan, Nigeria

ch 87 **Grace Oloukoi** Department of Environmental Management, Lead City University, Ibadan, Nigeria

ch 32 **John O. Oluwasusi** Afebabalola University, Ekiti State, Nigeria

ch 61 **Gehad Omran** Faculty of Economics and Political Science, Cairo University, Cairo, Egypt

ch 9 **Martin Oulu** Environment, Energy and Climate Change Consultant, Inscape Research and Consulting, Nairobi, Kenya

ch 13 **T. Ourbak** Centre Régional AGRHYMET/CILSS, Niamey, Niger

ch 111 **Kwadwo Owusu** Department of Geography and Resource Development, University of Ghana, Legon Accra, Ghana

ch 114 **Bhaskar Padigala** Center for Environmental Planning & Technology, Ahmedabad, India

ch 108 **Ranga Pallawala** Janathakshan, Colombo, Sri Lanka

ch 127 **Gyana Ranjan Panda** Department of Public Policy, Law and Governance, Central University of Rajasthan (India), Kishangarh, Bandersindri, Rajasthan, India

ch 26 **Afroza Parvin** Architecture Discipline, Khulna University, Khulna, Bangladesh

ch 113 **Max Pastén** Facultad Politécnica, Universidad Nacional de Asunción (FP–UNA), San Lorenzo, Paraguay

Maestría en Cambio Global: Énfasis en Riesgos Climáticos (FP–UNA), Campus Universitario San Lorenzo, San Lorenzo, Paraguay

ch 49 **Yogesh Patil** Symbiosis Institute of Research and Innovation (SIRI), Symbiosis International University (SIU), Lavale, Pune, Maharashtra, India

ch 73 **J. Perry** International Institute for Sustainable Development, Winnipeg, MB, Canada

University of Minnesota, Minneapolis, MN, USA

ch 18 **Ann Peterson** School of Geography, Planning and Environmental Management, The University of Queensland, St. Lucia, Australia

ch 73 **L. Pintér** Central European University, Budapest, Hungary

International Institute for Sustainable Development, Winnipeg, MB, Canada

ch 105 **C. Píriz** Universidad de la Republica, Montevideo, Uruguay

ch 19 **Ales Podgornik** Energy Efficiency Centre, Jozef Stefan Institute, Ljubljana, Slovenia

ch 19 **M. Polette** Universidade do Vale do Itajaí, Itajaí, Brazil

ch 50 **M. S. Prasad** Transfer of Technology Section, Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad, India

ch 120 **Sarath Premalal** Department of Meteorology, Colombo, Sri Lanka

ch 120 **Ranjith Punyawardena** Natural Resource Management Centre, Department of Agriculture, Peradeniya, Sri Lanka

ch 108 962 **Gamini Pushpakumara** Department of Crop Science, Faculty of Agriculture,
963 University of Peradeniya, Peradeniya, Sri Lanka

ch 76 964 **Riaz H. Qureshi** Institute of Soil and Environmental Sciences, University of
965 Agriculture, Faisalabad, Pakistan

ch 52 966 **Prakash Rao** Department of Energy and Environment, Symbiosis Institute of
967 International Business (SIIB), Symbiosis International University (SIU), Pune,
968 India

ch 15 969 **Christoph Rapp** Director of the Verein zur Förderung des internationalen
970 Wissensaustauschs e.V., Munich, Germany

ch 81 971 **Golam Rasul** International Center for Integrated Mountain Development
972 (ICIMOD), Kathmandu, Nepal

ch 120 973 **Varuna Rathnabharathie** Practical Action, Colombo, Sri Lanka

ch 53 974 **Sabrina Regmi** Asian Development Bank, Manila, Phillipines

ch 68 975 **Hannah Reid** International Institute for Environment and Development (IIED),
976 London, UK

ch 54 977 **M. Riccardi** National Research Council, Institute for Mediterranean Agriculture
978 and Forest, Ercolano, Italy

ch 101 979 **Ana R. Rios** Inter-American Development Bank, Washington, DC, USA

ch 101 980 **L. Rodriguez** Universidad de la Republica, Montevideo, Uruguay

ch 101 981 **Jayant K. Routray** Regional and Rural Development Planning, and Disaster
982 Prevention and Mitigation Management Program, School of Environment,
983 Resources and Development (SERD), Asian Institute of Technology (AIT),
984 Pathumthani, Bangkok, Thailand

ch 64 985 **Sobhan Kumar Sahu** APEC Climate Center (APCC), Busan, South Korea

ch 101 986 **Joseluis Samaniego** ECLAC, Santiago, Chile

ch 32 987 **Nathaniel S. Sangotegbe** Department of Agricultural Extension and Rural
988 Development, University of Ibadan, Ibadan, Nigeria

ch 110 989 **Maruf Sanni** National Centre for Technology Management (NACETEM),
990 Federal Ministry of Science and Technology, Ile-Ife, Nigeria

ch 76 991 **Muhammad Saqib** Institute of Soil and Environmental Sciences, University of
992 Agriculture, Faisalabad, Pakistan

ch 45 993 **M. Mustafa Saroar** Urban and Rural Planning, and Development Studies Disci-
994 pline, Khulna University, Khulna, Bangladesh

ch 93 995 **David Sauchyn** Prairie Adaptation Research Collaborative, University of Regina,
996 Regina, SK, Canada

ch 28 **Michaela Schaller** Climate Service Center, Chilehaus – Eingang B, Hamburg, Helmholtz Zentrum Geesthacht, Germany

ch 82 **Karsten Schulz** Center for Development Research, University of Bonn, Bonn, Germany

ch 104 **Lucila Serra** Inter-American Development Bank (IDB), Washington, DC, USA

ch 84 **Pudji Setyani** Agency for Meteorology Climatology and Geophysics BMKG, Jakarta, Indonesia

ch 50 **K. Ravi Shankar** Transfer of Technology Section, Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad, India

ch 81 **Bikash Sharma** International Center for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 77 **Arun B. Shrestha** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 127 **Saumya Shrivastava** Centre for Budget and Governance Accountability, New Delhi, India

ch 108 **Pradeepa Silva** Department of Animal Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

ch 121 **Brent M. Simpson** Department of Agricultural, Food, and Resource Economics, Michigan State University, East Lansing, MI, USA

ch 104 **Diana Smallridge** International Financial Consulting Ltd., Ottawa, ON, Canada

ch 50 **Ch. Srinivasa Rao** CRIDA, Parbhani, Maharashtra, India

ch 128 **Martin Stadelmann** Climate Policy Initiative, Venezia, Italy

ch 19 **Damir Stanicic** Energy Efficiency Centre, Jozef Stefan Institute, Ljubljana, Slovenia

ch 83 **Knut Bjørn Stokke** Norwegian University of Life Sciences, Ås, Norway

ch 19 **Boris Sucic** Energy Efficiency Centre, Jozef Stefan Institute, Ljubljana, Slovenia

ch 3 **Vakur Sümer** Department of International Relations, Selcuk University, Konya, Turkey

ch 84 **Takeshi Takama** Stockholm Environment Institute, Oxford, UK

ch 24 **Michael Durant Thomas** School of Physical, Environmental and Mathematical Sciences and School of Humanities and Social Sciences, University of New South Wales, Sydney, NSW, Australia

ch 102 **Bolier Torres** Universidad Estatal Amazónica, Puyo–Napo, Ecuador

Institute of Forest Management, Center of Life and Food Sciences Weihenstephan, Technische Universität München, Freising, Germany

ch 104 **Chiara Trabacchi** Climate Policy Initiative (CPI), Venezia, Italy

ch 70 **Tam Tran** International Research Institute for Climate and Society, Columbia University, Palisades, NY, USA

ch 77 **Kabir Uddin** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 118 **Rob van der Krogt** TNO, Utrecht, The Netherlands

ch 118 **Niels van Oostrom** Deltares, Utrecht, The Netherlands

ch 93 **Jessica Vanstone** Prairie Adaptation Research Collaborative, University of Regina, Regina, SK, Canada

ch 125 **Olivier Vardakoulias** NEF consulting, London, UK

ch 50 **B. Venkateswarlu** VNMKV, Parbhani, Maharashtra, India

ch 101 **Walter Vergara** World Resources Institute, Washington, DC, USA

ch 101 **N. Verrastro** Universidad de la Republica, Montevideo, Uruguay

ch 20 **Andreas Vetter** Federal Environment Agency (UBA), Dessau-Rosslau, Germany

ch 77 **Shahriar M. Wahid** International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

ch 108 **Jeevika Weerahewa** Department of Agricultural Economics and Business Management, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

ch 82 **Florian Weisser** Geographical Institute, University of Bonn, Bonn, Germany

ch 64 **Lijuan Wen** Chinese Academy of Sciences, Key Laboratory of Land Surface Process and Climate Change in Cold and Arid Regions, Cold and Arid Regions Environmental and Engineering Research Institute, Lanzhou, Gansu, China

ch 93 **Elaine Wheaton** Department of Geography and Planning, University of Saskatchewan, Saskatoon, SK, Canada

ch 37 **Harald Winkler** Energy Research Centre (ERC), Faculty of Engineering and the Built Environment, University of Cape-Town, Rondebosch, South Africa

ch 83 **Marte Winsvold** Norwegian Institute for Urban and Regional Research, Oslo, Norway

ch 20 **Rupert Wronski** Green Budget Germany, Berlin, Germany

ch 20 **M. Zaguini** Universidade do Vale do Itajaí, Itajaí, Brazil

ch 90 **Negin Zamani** Department of Water Engineering, Isfahan University of Technology, Isfahan, Iran

ch 91 **Mohammad Javad Zareian** Department of Water Engineering, Isfahan University of Technology (IUT), Isfahan, Iran

ch 15 **Andreas Zeiselmair** Commissioner of the Verein zur Förderung des internationalen Wissensaustauschs e.V., Munich, Germany

ch 34 **Siarhei Zenchanka** Department of International Relations and Marketing, Minsk Branch of Moscow State University of Economics, Statistics and Informatics, Minsk, Belarus

ch 62 **Sane Pashane Zuka** Department of Land Economy, University of Malawi, The Polytechnic, Blantyre 3, Malawi