



Sustainability, the Environment and Urbanization

Edited by Cedric Pugh

earthscan
from Routledge



The 1992 Rio Summit and subsequent literature and debate has focused on 'green' issues such as biodiversity, climate change and marine pollution. Much less has been written concerning the 'brown' agenda: factors such as poor sanitation and water quality, air pollution and housing problems, which are particularly prevalent in Third World cities.

Sustainability, the Environment and Urbanization provides a comprehensive overview of the 'brown' agenda, with case studies and examples from a number of Southern countries. It looks at the broad economic context behind the problems and covers the conceptual issues of sustainability, infrastructure and health programmes, as well as assessing environmental appraisal methods.

Clearly written, with contributions from some of the leading experts in the field, the book will appeal to students on environmental and development courses, researchers and all those concerned with the 'healthy cities' movement.

earthscan
from Routledge



Routledge
Taylor & Francis Group
www.routledge.com

an informa business

ISBN 978-1-138-17999-8



9 781138 179998

Sustainability, the Environment and Urbanization

Cedric Pugh



ROUTLEDGE

SUSTAINABILITY,

the Environment and Urbanization

Edited by
Cedric Pugh

earthscan
from Routledge

First published by Earthscan in the UK and USA in 1996

For a full list of publications please contact:

Earthscan

2 Park Square, Milton Park, Abingdon, Oxfordshire OX14 4RN

Simultaneously published in the USA and Canada by Earthscan

711 Third Avenue, New York, NY 10017

First issued in hardback 2017

Earthscan is an imprint of the Taylor & Francis Group, an informa business

Copyright © Cedric Pugh, 1996

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

A catalogue record for this book is available from the British Library

ISBN 13: 978-1-138-17999-8 (hbk)

ISBN 13: 978-1-85383-357-1 (pbk)

Copy-edited and typeset by Selro Publishing Services, Oxford

SUSTAINABILITY, *the* ENVIRONMENT
and URBANIZATION

This book is dedicated to disabled scholars and to the
disabled poor in the developing countries

Preface

To engage discussion on 'sustainable development' is to be open to a diverse range of concepts, meanings and relevant applications. Nevertheless, an editor of a book should have some purposes, some boundaries and some directions. The boundaries were related to urbanization and especially to developing countries, though these boundaries necessarily had to have some contact with recent histories of environmentalism, with selected aspects of economic development, and with a new and growing literature which addresses the idea of sustainability. Purposes and directions for the book have very much been influenced by a mid-1990s context in which the urbanization aspects of research in sustainable development are surprisingly thin. Nevertheless, a number of urban specialists had commenced empirical studies in cities in developing countries or had started to develop some interesting conceptualizations and interpretations. A few urban specialists had a continuity of experience in environmentalism, dating from the 1970s. Thus the purposes and directions were set as drawing together the new research, and placing it within reflective characteristics of writing. The empirical content would primarily cover environmental conditions in large cities in developing countries, supported by review and evaluation chapters on infrastructure and developments in international health programmes. Conceptualization and interpretation were selected in application to broad structural economic changes in cities, to the changing nature of sustainability, and to the dependence of sustainable development upon institutional, social and political conditions.

At the outset it was clear that the researchers had earlier given thought to meaning and interpretation in the idea of sustainability and its relationship to development. However, as with the case in the wider literature, the authors had differing perspectives and arguments. My role as editor was not to compress thinking into any prescriptive definition, but care was taken to exchange some ideas on 'ecological', 'economic' and 'social' sustainability. The book has some bias in selection, mainly reflecting the present availability of good urban environmental research. Good arguments could be presented that the urban-relevant evaluations of greenhouse gases and of environment law should be included among the chapters. However, specialist urban research in these spheres is currently quite thin and elaborated treatment of these topics will have to

wait on future work, though some authors in this volume do refer to these matters.

A book should do more than report progress in research. In a subject such as urban sustainable development interests and concerns for policy should have some thematic awareness and treatment. Policy issues are strongly to the fore in most chapters. Also, new research should be examined for its contribution to the development of knowledge in this emerging subject specialism. The final chapter has a commentary on the development of knowledge.

The production of a book such as this one owes much to collaboration. I have been grateful to the contributing authors who had to work to tight deadlines, to my secretary, Lynn Fox, and to Jonathan Sinclair Wilson and Jo O'Driscoll at Earthscan.

Cedric Pugh
April 1996

Foreword

One of the major themes in the book is the interrelatedness of many problems in urban environments. For example, the reduction of childhood health risks depends upon the education of mothers and carers. In its turn, better health induces improved attendance at school, and, in the longer term, this can increase GDP and reduce the incidence of poverty. The authors in the book give emphasis to the multi-faceted nature of sustainable urban environments, and, at the time of first publication, sometimes anticipated that ideas for the environment and development would change in due course.

Some important policies changed at the World Bank during the years 1997 to 2000, with new strategic policies joining together development, urban and poverty reduction policies. The World Development Report 1999–2000, *Entering the 21st Century*, brought urban agglomeration economics into the centre of development policies. Next, the urban strategic report *Cities in Transition* revealed the theory and statistics indicating the characteristics of cities as engines of growth. It also advocated poverty reduction, improved governance and sustainability as the major guiding principles for ‘liveable’ cities. All of this was consolidated and, again, joined together, in the World Development Report 2000–2001, *Attacking Poverty*.

This book continues to have significance for intellectuals and practitioners who wish to have an interrelated view of environmentalism, poverty and development.

Cedric Pugh,
January 2001

Notes on Contributors

Charles Choguill is Professor of Town and Regional Planning at the University of Sheffield, UK. In addition, he is director of the University's Centre for Development Planning Studies and editor of the journal *Habitat International*. He has had extensive consulting experience with the Asian Development Bank, the United Nations Development Programme, the International Civil Aviation Organization and the Arab Planning Institute, Kuwait. He is author of, among other books, *New Communities for Urban Squatters: Lessons from the Plan that Failed in Dhaka, Bangladesh* and co-editor of the Asian Development Bank's *Urban Policy Issues*. Charles Choguill's correspondence address is: University of Sheffield, Centre for Development Planning Studies, Sheffield, S10 2TN, UK.

Marisa Choguill is an architect who also holds Master's and PhD degrees in Urban Planning. She has taught architecture, landscape architecture, urban design and urban planning for more than 15 years in Brazil. Since coming to the United Kingdom in 1988, she has been a research officer at the University of Sheffield Centre for Development Planning Studies and taught at Sheffield Hallam University. A number of her papers have been published in *Habitat International* and *Third World Planning Review*. In 1993, she won the Otto Koenigsberger prize for the best paper in *Habitat International*. Marisa Choguill's correspondence address is: University of Sheffield, Centre for Development Planning Studies, Sheffield, S10 2TN, UK.

Trudy Harpham PhD is Professor of Urban Development and Policy at South Bank University, London, UK. She was previously the Head of the Urban Health Research Programme at the London School of Hygiene and Tropical Medicine. Her publications include two main texts on urban health, *In the Shadow of the City* (Oxford University Press, 1988) and *Urban Health in Developing Countries* (Earthscan, 1995). She has advised the Overseas Development Administration UK, UNICEF, the World Bank the World Health Organization and OXFAM on urban health development. Professor Harpham currently directs research projects in Brazil, Zambia, South Africa, India and Pakistan and manages a PhD programme at South Bank University. Together with

Edmundo Werna and Ilona Blue she is working with the WHO on 'Healthy City' projects in Egypt, Bangladesh, Pakistan and Burma. Trudy Harpham's correspondence address is: School of Urban Development and Policy, South Bank University, London, SW8 2JZ, UK.

Ernie Jowsey is a graduate of Sheffield University with a masters degree in economics from Nottingham Trent University. Currently a senior lecturer in the School of Urban and Regional Studies at Sheffield Hallam University, he specializes in minerals and environmental economics and his current research interests are in the fields of sustainable use of resources, the economics of renewable resources and methods of appraisal for environmental goods and services. Ernie Jowsey's correspondence address is: Sheffield Hallam University, School of Urban and Regional Studies, Pond Street, Sheffield, UK, S1 1WB.

Jon Kellett is a chartered town planner and senior lecturer in the School of Urban and Regional Studies at Sheffield Hallam University. His specialist interests are environmental issues, renewable energy developments, minerals and natural resource exploitation and techniques for assessing the impact of both existing and new projects on the environment. He has published extensively on these issues, and is responsible for the MSc Environmental Management for Business and Commerce course at Sheffield Hallam University. Jon Kellett's correspondence address is: Sheffield Hallam University, School of Urban and Regional Studies, Pond Street, Sheffield, UK, S1 1WB.

Marianne Kjellén is Research Fellow at the Stockholm Environment Institute (SEI). She is an economist with publication in the urban environmental research reports of the SEI. Marianne Kjellén's correspondence address is: Stockholm Environment Institute, Box 2142, 10314 Stockholm, Sweden.

Gordon McGranahan is Senior Research Fellow in the Urban Environment at the Stockholm Environment Institute. He has doctorate qualifications in development economics from University Wisconsin, Madison. Recent publications on urban sustainability are in the international journals *Habitat International* and *Environment*. Gordon McGranahan's correspondence address is: Stockholm Environment Institute, Box 2142, 10314 Stockholm, Sweden.

Diana Mitlin is Senior Research Assistant at the International Institute of Environment and Development (IIED). She is a development economist with postgraduate qualifications, and with extensive publication in the

journal literature and in books on the subject of urban sustainable development. Diana Mitlin's major book is (with Jorge Hardoy and David Satterthwaite), *Environmental Problems in Third World Cities*, Earthscan, London, 1992. Diana Mitlin's correspondence address is: IIED, 3 Endsleigh Street, London, UK, WC1H 0DD.

Cedric Pugh is Reader in Urban Economic Development at Sheffield Hallam University. He is a development economist who has lived and researched in Europe, Australasia and Asia. Cedric Pugh has undertaken UN research contracts and he has written for international journals since the early 1970s: his major book on developing countries is *Housing and Urbanization: A Study of India*, Sage, New Delhi, 1990. Cedric Pugh's address for correspondence is: Sheffield Hallam University, School of Urban and Regional Studies, Pond Street, Sheffield, S1 1WB, UK.

David Satterthwaite is Director of Human Settlements at the International Institute of Environment and Development (IIED). His research work has been closely associated with Barbara Ward, in the years 1974 to 1979, and Jorge Hardoy, all developing leading international publications in sustainable development. David Satterthwaite's major publications are (with Jorge Hardoy), *Squatter Citizen: Life in the Urban Third World*, Earthscan, London, 1989, and (with Jorge Hardoy and Sandy Cairncross), *The Poor Die Young: Housing and Health in Third World Cities*, Earthscan, London. The journal *Environment and Urbanization* is edited by David Satterthwaite and published by IIED. David Satterthwaite's correspondence address is: IIED, 3 Endsleigh Street, London, UK, WC1H 0DD.

Jacob Songsore is Associate Professor of Urban and Regional Development in the Department of Geography at the University of Ghana. He has doctorate qualifications, and has published on urban sustainability in the international journals *World Health Statistics Quarterly* and *Environment and Urbanization*. Jacob Songsore's correspondence address is: University of Ghana, Department of Geography and Resource Development, Box 59, Legon-Accra, Ghana.

Peter Townroe is Director of the School of Urban and Regional Studies (and Professor) at the Sheffield Hallam University. His work on urban economic sustainability dates from 1987, expanding from a research base in urban locational economics in industrial and developing countries. Peter Townroe is author of books and journal articles in the international literature, and he has held visiting fellowships in overseas universities. Research consultancies have been undertaken for the World

Bank and UN agencies. Peter Townroe's correspondence address is: Sheffield Hallam University, School of Urban and Regional Studies, Pond Street, Sheffield, S1 1WB, UK.

Edmundo Werna is an urbanist with a PhD from the University of London and a master's degree from the Institute of Development Studies (University of Sussex). He works as a researcher and consultant in urban development, and has wide experience in low- and middle-income countries. His special interests include urban management, the environment, health and housing. Dr Werna has also published extensively about urban development issues; his latest work includes the books *Urban Health Research: Implications for Policy* (co-edited with S Atkinson and J Songsoe) and *Business as Usual: small-scale contractors and the production of low-cost housing in developing countries*. Previously at the Urban Health Programme of the London School of Hygiene and Tropical Medicine, he now has a joint research fellowship at the South Bank University (UK) and the University of São Paulo (Brazil). Edmundo Werna's correspondence address is: School of Urban Development and Policy, South Bank University, Wandsworth Road, London, SW8 2JZ, UK.

Contents

Preface ix

Foreword xi

Notes on Contributors xiii

Introduction	1
<i>Cedric Pugh</i>	
• The 1980s rethinking on environmental stability	3
• Institutions and the urban environment	5
• International policy and institutional conditions in the 1990s	8
• Examples of progress	12
• The scope and themes of the following chapters	15
 1 Sustainable Development and Cities	 23
<i>Diana Mitlin and David Satterthwaite</i>	
• What is to be sustained?	24
• A framework for considering sustainable development and cities	30
• What is currently unsustainable?	36
• Global warming and cities	47
• Linking global and local sustainability	53
 2 The Idea of Healthy Cities and its Application	 63
<i>Trudy Harpham and Edmundo Werna</i>	
• Health in urban areas	64
• The concept of healthy cities	67
• Case studies	71
• Conclusion	77
 3 Towards Sustainable Infrastructure for Low-income Communities	 83
<i>Charles L Choguill and Marisa B G Choguill</i>	
• Abstract	83
• Introduction	84
• The state of urban infrastructure	85
• The development of infrastructure systems	86
• The bottom rung of the improvement ladder	91
• Learning from experience	98
• The way ahead in infrastructure development	99

4	Sustainability, Poverty and Urban Environmental Transitions	103
	<i>Gordon McGranahan, Jacob Songsore and Marianne Kjellén</i>	
•	Urban environmental transitions	106
•	From environmental health to sustainability: evidence from a three-city study	111
•	The environmental problems of unserved households and their neighbourhoods	120
•	Conclusion	129
5	Sustainability and Sustainable Cities	135
	<i>Cedric Pugh</i>	
•	Abstract	135
•	Introduction	136
•	The history	137
•	Sustainability and some applications	143
•	Conceptual significance in economics	146
•	Ideas and research in sustainable cities	152
•	Multi-institutional theory and practice	159
•	Conclusions	166
•	Annex: the Coase theory and its extension in the new institutional economics (NIE)	170
6	Urban Sustainability and Social Cohesion	179
	<i>Peter M Townroe</i>	
•	Sustainability and flexibility	181
•	Pressures for change	185
•	The political economy of urban sclerosis	186
•	Social exclusion and social sustainability	187
•	Sclerosis in the static city	189
•	Sclerosis in the dynamic city	192
•	Conclusion	194
7	Sustainability and Methodologies of Environmental Assessment for Cities	197
	<i>Ernie Jowsey and Jonathan Kellett</i>	
•	Environmental impact of cities	198
•	Assessment techniques	201
•	Strategic environmental assessment (SEA)	203
•	Project level environmental impact assessment	208
•	Environmental audit (EA)	212
•	Cost-benefit analysis (CBA)	213
•	Hedonic pricing	217