# Planning for a Sustainable Future



# Planning for a Sustainable Future

Edited by Antonia Layard, Simin Davoudi and Susan Batty



by Spon Press

11 New Fetter Lang Landon FC4D 4F

First published 2001

11 New Fetter Lane, London EC4P 4EE

Simultaneously published in the USA and Canada by Spon Press 29 West 35th Street, New York, NY 10001

Spon Press is an imprint of the Taylor & Francis Group

© 2001 Selection and editorial matter: Antonia Layard, Simin Davoudi and

Susan Batty; individual chapters: the contributors

The right of the editors and contributors to be identified as the authors of this work has been asserted by them in accordance with the Copyright,

Designs and Patents Act 1988

Typeset in Sabon by Keystroke, Jacaranda Lodge, Wolverhampton

Printed and bound in Great Britain by Biddles Ltd, Guildford and King's

Lynn

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.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
Planning for a sustainable future / edited by Antonia Layard, Simin Davoudi,

Susan Batty.

p. cm. Includes bibliographical references and index.

1. Sustainable development. I. Layard, Antonia. II. Davoudi, Simin III. Batty, Susan.

III. Batty, Susan.

HC79.E5 P525 2001

338.9′7-dc21

ISBN 0-415-23227-9 (hbk)

2001020710

ISBN 0-415-23408-5 (pbk)

## Planning for a Sustainable Future

Sustainable development is now firmly on the planning agenda and is an issue neither practitioner nor academic can afford to ignore. *Planning for a Sustainable Future* provides a multi-disciplinary overview of sustainability issues in the land use context, focusing on principles and their application, the legal, political and policy context and the implications of sustainable development thinking for housing, urban design and property development as well as waste and transport. The book concludes by considering how sustainable and unsustainable impacts alike can be measured and modelled, providing real tools to move beyond rhetoric into practice.

Planning for a Sustainable Future is aimed at undergraduate and post-graduate students as well as practitioners – its mix of introductory and advanced chapters aims to provide something for everyone. Its editors and contributors all work at (or have close links with) the Bartlett School of Planning at University College London. Dr Antonia Layard is a lecturer at the Bartlett, where she teaches and researches on aspects of environmental and planning law and policy. Simin Davoudi is Professor of Planning and Environment and Director of the Centre for Urban Development and Environmental Management at Leeds Metropolitan University. Dr Susan Batty is a senior lecturer at the Bartlett where she teaches and researches on the politics and theory of planning and urban development.

Contributors to the book are: Professor David Banister, Professor Mike Batty, Dr Matthew Carmona, Professor Harry Dimitriou, Michael Edwards, Dr Nick Gallent, Professor Sir Peter Hall, Chris Marsh, Dr Stephen Marshall, Daniel Mittler, Robin Thompson, Mark Thurstain-Goodwin, Helena Titheridge and Jo Williams.

### **Contributors**

Professor David Banister is Professor of Transport Planning at the University of London and Director of Research at the Bartlett School of Planning at University College London. From 1994 to 1996 he was Visiting VSB Professor at the Tinbergen Institute in Amsterdam. His research interests lie in transport analysis and in particular the contribution that the social scientist can make to the investigation of these problems. Recent research has been on transport investment decisions and economic development, policy scenarios for sustainable mobility, transport and sustainable development (reducing the need to travel) and modelling energy and emissions from transport nodes in urban areas.

Professor Michael Batty is Professor of Spatial Analysis and Planning and Director of the Centre for Advanced Spatial Analysis (CASA) at UCL. In the 1980s he was Professor and Head of the Department of City and Regional Planning in the University of Cardiff, and before coming to UCL he was Director of the National Center for Geographic Information and Analysis at the State University of New York at Buffalo. His research interests are the use of computers in planning, spatial analysis, fractal cities and geographical information systems.

Dr Sue Batty is Senior Lecturer at the Bartlett School of Planning, University College London. She teaches urban and environmental politics and comparative planning, and also has research interests in planning institutions and town centre analysis. She is associated with the CASA Town Centres group and recent work with this group has included user testing and expert panel evaluation for the Department of Environment, Transport and the Regions' (DETR) Town Centres Project.

Dr Matthew Carmona is a Senior Lecturer in planning and urban design at the Bartlett School of Planning. He is an expert on the policy context for delivering better design quality in the built environment, having worked on a range of research projects examining design policies in local plans, residential design policy and guidance, delivering urban renaissance, and the value of urban design. Matthew teaches urban design at the Bartlett and is Director of the BSc and MSc/Diploma programmes in planning. His research interests lie in the areas of design control, urban design and urban regeneration.

#### Contributors

Professor Simin Davoudi is Professor of Planning and Environment and Director of the Centre for Urban Development and Environmental Management (CUDEM) at Leeds Metropolitan University. She has previously conducted research and lectured in the Bartlett School of Planning and Newcastle University. She has extensive research experience and has published widely particularly in the three areas of UK and European spatial planning, urban policy and regeneration and environmental sustainability and waste management. She is the co-author/co-editor of five books and has written several academic and professional articles. She has worked on a range of research projects funded by research councils, the European Commission, UK central and local governments and other public agencies.

Professor Harry Dimitriou is Bartlett Professor of Planning Studies at University College London and Head of the Bartlett School of Planning. He has been a consultant to several international development agencies and adviser to numerous government agencies throughout the world on transport and urban development issues. His research interests lie in the area of land use/transport planning, institution building for development, risk analysis in the planning of large-scale transport infrastructure investments, and Third World city development.

Michael Edwards studied economics in Oxford and planning at the Bartlett, then worked for Nathaniel Lichfield for some years before joining the Bartlett School of Planning. His work has mainly focused on property markets and how they interact with planning systems and practices – arguing that the two phenomena should always be studied and taught in an integrated way. He is currently working with Dr Emmanuel Mutale on a long-term study of urban change at King's Cross in London and on development processes in European cities.

Dr Nick Gallent is a lecturer at the Bartlett School of Planning at UCL. He has previously lectured and conducted research at the Universities of Manchester and Cardiff. His research is chiefly concerned with UK housing policy and, in particular, the problems of providing affordable housing via planning mechanisms. This work has been disseminated in various formats, both through academic and professional publications. Past research has included studies of housing requirements in the north of England. More recent work has focused on the relationship between housing providers and planners (for the Royal Town Planning Institute), housing pressure in rural Europe (for Scottish Homes) and the characteristics of sustainable suburban areas (for the Civic Trust).

Sir Peter Hall is Professor of Planning at the Bartlett School of Planning. From 1991 to 1994 he was Special Adviser on Strategic Planning to the

Secretary of State for the Environment. In 1998–99 he was a member of the Deputy Prime Minister's Urban Task Force. He is author or editor of nearly thirty books on urban and regional planning and related topics and holds seven honorary doctorates from universities in the UK, Sweden and Canada. He was a founder-member of the Regional Studies Association and the past Chairman of the Town and Country Planning Association. He has been a member of many British official committees. He is convener of the World Commission on Twenty-First-Century Urbanization and co-editor of its report, which was the subject of a major conference in Berlin in July 2000.

Antonia Layard is a lecturer at the Bartlett School of Planning, University College London. She is a qualified solicitor and has studied law, public policy and public health at the Universities of Oxford, Columbia (New York) and the London School of Economics. Antonia's research interests lie in environmental law and policy and her recent projects have focused on aspects of environmental justice and environmental rights. Her DPhil thesis was called *Environmental Victims: An Argument for Compensation* and is due to be published (in a format to be decided) in the near future.

Christopher Marsh is a surveyor and planner, active in research and practice and Head of the School of Estate Management at Westminster University. His current work emphasises sustainable property development and includes research on the impacts of London's Jubilee Line Extension. He contributes courses to the MSc in European Property Development and Planning which is a joint programme with the Bartlett.

Stephen Marshall graduated with a BEng in Civil Engineering from Glasgow University and a MSc in Transport Planning and Engineering from Leeds University. He was a transport planning consultant for five years in Edinburgh, with Acer Consultants and Halcrow Fox, and gained a Postgraduate Diploma in Urban Design from Edinburgh College of Art. For the last five years he has been undertaking research at the Bartlett School of Planning, where he is Research Fellow. His principal research interests are in the relationships between transport and land use planning, and the integration of transport and urban design through urban structure.

Daniel Mittler is an international campaigner at Friends of the Earth Germany (BUND) and is based in Berlin. He studied Politics, African Studies and Philosophy at Edinburgh University and Queen's University, Canada. Since 1997, he has been studying at the Bartlett School of Planning, University College London. He is writing a PhD thesis comparing the rhetoric and reality of local sustainability policies in Edinburgh and Wuppertal (Germany). Daniel Mittler has published widely on urban sustainability, Local Agenda 21, Scottish and German politics, as well as environmental philosophy. He is a

#### Contributors

Member of the Sustainable Europe Research Institute, Vienna, and a Fellow of the Centre for Human Ecology, Edinburgh. His other publications can be downloaded from his website at http://www.seri.at/dme.htm.

Mark Thurstain-Goodwin is Scnior Research Fellow in the Centre for Advanced Spatial Analysis at UCL where he runs the Town Centres group. He has extensive experience of property analysis in his previous role as research associate with Property Market Analysis, and his current work is focused on statistical analysis of large data sets. He is active in retail market research and spatial analysis, with particular emphasis on town centres.

Robin Thompson is Strategic Planning Director at Kent County Council and Visiting Professor at the Bartlett School of Planning. He has been involved in partnerships in the Thames Gateway since its inception, first as Director of Development in Southwark and then in Kent. He is a former President of the Royal Town Planning Institute and is the current President of the European Council of Town Planners.

Helena Titheridge is a Research Fellow at the Bartlett School of Planning, University College London. Her expertise focuses on the development of decision support tools for local authorities, and she is particularly experienced in transport and energy modelling. Since joining UCL in 1997 she has worked on a number of projects aimed at developing models to assist local authorities in siting new housing developments sustainably – examining land use, transport and sustainability with database analysis and spatial modelling. She played a key role in the development of ESTEEM (a GIS-based travel, energy and emissions model). Previously, Helena worked in the Energy and Environment Research Unit of the Open University, where she was involved with the development of a Dynamic Regional Energy Analysis Model (DREAM) and an information system to evaluate energy strategies and improve energy management in urban areas.

Jo Williams is a lecturer at the Bartlett School of Planning, University College London. She specialises in aspects of sustainable development in the fields of housing, travel and community and has produced a number of publications in these areas. She has also completed work focusing on the use of IT in promoting social inclusion and reduction travel. In addition, her research interests include alternative lifestyles and communities. Her PhD thesis focuses on the development of new design solutions to accommodate the growth of one-person households in the future, in a manner that reduces resource consumption and encourages the development of social networks. She is also actively involved in various governmental, academic and professional panels.

# Preface and Acknowledgements

This book is a collection of papers by researchers and practitioners on the impact of sustainable development on planning. Their backgrounds are heterogeneous, their disciplines mixed. The one trait the authors all share is a commitment to bring greater clarity and understanding to the sustainable development agenda. They do not, of course, share a consistent view of what sustainable development means or what it requires. Indeed, in some respects, this collection can be seen as a reflection of the diversity of interpretations surrounding the principle and the difficulties implementation entails.

Given the scope of concerns that might fall under the 'sustainable' label, no single text could claim to be totally comprehensive. It is for this reason that the volume's authors take different perspectives, analysing sustainable development from their own disciplinary and professional standpoints. The collection is the Bartlett School of Planning's contribution to the debate on sustainable development and planning at the start of a new century.

The collection is divided into three parts. The first is concerned with principles of sustainable development and their theoretical, political, legal and policy context. The second focuses on contemporary debates on how best to implement sustainability in planning practice. The third part then presents some new ways in which the theory of sustainable development is being put to the test.

Putting this book together has been a remarkable experience in colleagiality. The idea for the volume came from David Banister and was enthusiastically taken up by all our colleagues. Initial seminars provided the intellectual framework where central ideas were discussed and debated. We would like to thank all those who attended the seminars and sharpened our thinking in this respect, in particular Dr Emmanual Mutale.

Once the chapters were written they were peer reviewed both internally and externally. We are grateful to all those who took time to comment on drafts; individual chapters contain their own acknowledgements on this point. Within the Bartlett School of Planning, some colleagues read all the papers – out of intellectual curiosity alone – and provided fruitful and constructive comments. For all of us the book has been a fascinating exercise in discovering the research interests and styles of all our colleagues, displaying a compelling

#### Preface and Acknowledgements

range of expertise and interests. Like the Bartlett School of Planning where many of the contributors work, this book represents a real commitment to the interdisciplinary work that infuses planning, as well as consistently mixing theory and practice.

Finally, as the book neared production Emma Bailey and Rachael Coffey were once again quite simply brilliant. Reliable and calm, able to retrieve complicated computer images and deal with ever-mounting piles of paper, they ensured that the book did not falter at the last hurdle. It is here also that we would like to express our thanks and appreciation for all the hard work of Caroline Mallinder and Rebecca Casey at Spon Pross. They have dealt with our requirements exceptionally well and ensured that the book reached its intended audience as quickly as possible.

# **Contents**

Preface and Acknowledgements	X
Part I Introduction: Sustainable Development – Principles and Practice Antonia Layard	1
CHAPTER 1 Sustainable Development and Planning: An Overview SIMIN DAVOUDI AND ANTONIA LAYARD	7
CHAPTER 2 The Politics of Sustainable Development SUE BATTY	19
CHAPTER 3 The Legal Framework of Sustainable Development Antonia Layard	33
CHAPTER 4 Hijacking Sustainability? Planners and the Promise and Failure of Local Agenda 21  DANIEL MITTLER	53
CHAPTER 5 The Planning of Sustainable Urban Development: The Institutional Dimension HARRY T. DIMITRIOU AND ROBIN THOMPSON	61
CHAPTER 6 Planning and the Twin Discourses of Sustainability SIMIN DAVOUDI	81
Part II The Challenge of Sustainable Development: Exploring the Complexities SIMIN DAVOUDI	95
CHAPTER 7 Sustainable Cities or Town Cramming? PETER HALL	101
	٧

#### Contents

CHAPTER 8 Housing, Homes and Social Sustainability NICK GALLENT	115
CHAPTER 9 The Challenge of Sustainable Transport STEPHEN MARSHALL	131
CHAPTER 10 Sustainable Property Development MICHAEL EDWARDS AND CHRISTOPHER MARSH	149
CHAPTER 11 Sustainable Urban Design – A Possible Agenda Matthew Carmona	165
CHAPTER 12 Planning and Sustainable Waste Management SIMIN DAVOUDI	193
Part III Sustainable Development in Practice	211
CHAPTER 13 The People: Where Will They Travel and How? HELENA TITHERIDGE	217
CHAPTER 14 Achieving Local Sustainability in Rural Communities Jo Williams	235
CHAPTER 15 The Sustainable Town Centre  Mark Thurstain-Goodwin and Michael Batty	253
CHAPTER 16 Conflicts and Resolutions DAVID BANISTER	269
CHAPTER 17 Concluding Remarks: Towards a	
Sustainable Future Sue Batty	283
Bibliography	289
Index	313

### PART I

# Introduction: Sustainable Development – Principles and Practice

Antonia Layard

Land use planning and sustainable development seem to be ever more inextricably intertwined. References to the ideas, principles and policies underpinning sustainability are everywhere – from planning policy guidance to good practice guides to inclusions in development plans. Yet it is also widely acknowledged that there is no single way forward to pursue sustainability. In fact, some even dispute that it is desirable at all; others disagree over what the concept means. Diverse views also exist as to its interpretation and implementation.

In practice, however, the principle has garnered widespread support. Even if it means different things to different people at different times in different places, it can provide a touchstone for reflection. Is cycling or driving a more sustainable form of transport? Should we build on green fields or brownfield sites to ensure that we meet the needs of current generations whilst protecting the interests of future ones? Even if we are unable to find a simple maxim to sum up the dictates of sustainability in a nutshell, we can simply and intuitively reflect on which of these two alternatives is the more 'sustainable' taking into account environmental, social and economic concerns. The answer may not be simple – driving has major ecological and safety effects but promotes mobility and personal freedom; greenfield developments reduce our

open spaces but provide residents with a desirable place to live. By thinking about sustainability we can understand the tensions and dilemmas these issues pose, and we have an intuition of the outcome we wish to achieve. Sustainability is more than just 'quality of life' – it requires us also to consider the interests of 'strangers in time and space' as well as considering ecological limits and other species. It requires a holism that is often missing when we concern ourselves solely with the here and now.

To a large extent these are concerns that planners have always had to consider in a spatial context: they have long needed to balance social, economic and amenity issues, sometimes with an eye to environmental concerns as well. The new emphasis on sustainability, however, means that they must mediate between still more interests. There are new matters to be taken on board or concerns to resolve. This is a point stressed in Chapter 1 of this part by Simin Davoudi and Antonia Layard. If sustainability is to be more than merely a mantra on quality of life, spoken in the interests of electoral longevity, rather than long-term reform, we must integrate true concerns for intra- and inter-generational equity into our policies, in the spatial context and elsewhere.

The political context for such development is explored in Chapter 2 by Sue Batty. She analyses sustainability in its political context, considering how the principles can be used to inspire consensus rather than merely identifying causes. Sustainable development is more than merely a set of technical analyses, measuring emissions and absorptive capacities, depletion rates and waste generation statistics. The concept goes beyond these indices of measurement and assessment to call for ways to resolve the global political problem of the redistribution of scarce and limited resources. Scientific knowledge is also now more than merely technocratic - it empowers citizens and is no longer the prerogative of suited civil servants and scientists in white coats. Indeed, calls for sustainability now come from throughout the political spectrum, some see the consensual basis for sustainable development as implying bottom-up, participatory democracy, some even believe that anarchy holds the key to viable progress. Others hold more mainstream communitarian beliefs. In contrast, many believe that sustainable development is inevitably associated with the process of liberal democracy while others still opt for an element of authoritarian government or at least strong central regulatory powers. Advocates of sustainable development come from a broad range of political perspectives, and interpreting these is crucial if we are to understand what the political aspect of sustainability means, and how we are to implement it should we desire to do so.

Another key aspect of sustainability and one considered here is the legal dimension, as Chapter 3 by Antonia Layard explains. Laws can either underpin strategies by providing a legislative framework for subsequent policy development, or they can provide mandatory objectives and targets, requiring operators to reduce emissions or states to take responsibility for the harm

they cause. There is, however, no central legal authority capable of implementing sustainability by legislative fiat. Under public international law countries need only make commitments on curbing greenhouse gas emissions or promoting equitable forms of trade if they wish to; should they refuse to sign up to such initiatives or breach laws once agreed, there is little the international community can do in law. It will be up to patient diplomatic negotiations or political persuasion to bring recalcitrant governments (back) into line.

On occasion, alliances can be set up, to promote sustainability and other goals, and these can be spectacularly successful. The most impressive of these is undoubtedly the European Union, where states have pooled sovereignty on an impressive scale adopting the guideline of subsidiarity, pursuing together what can best be achieved at the collective level while otherwise leaving governments to legislate alone. Here the pursuit of sustainability (so far focusing primarily on environmental protection) is steady and productive. Environmental standards have risen significantly throughout the Community as a whole, laggards have been brought into line and impacts on trade have generally been delicately defused. It is for this reason that the vast majority of United Kingdom law and legislation concerned with sustainability and environmental protection begins in Brussels.

Another key aspect of the political changes underway is an increased focus on public participation: it is widely accepted that sustainable development will not be achieved by 'top-down' approaches alone. And so the fourth chapter in this part is by *Daniel Mittler* who explains the origins and objectives of Local Agenda 21, analysing the extent to which these can be achieved in practice. There are real difficulties in achieving this end. Resources are lacking, institutional hierarchies are inflexible, planners prefer to stay 'on top' rather than being 'on tap' and it is much harder to actually implement progress than merely redefine it. And yet there are changes underway. The most important of these, Mittler submits, is the way Local Agenda 21 inspires and underpins calls for local empowerment. It provides a valuable focus to revisit relationships between local and central government and it is here that the potential for sustainable progress truly exists.

A further aspect of the political and legal framework for sustainability is the importance of institutions. The best principles and most coherent philosophies in the world cannot be introduced without effective and continuing institutions that both deliver and oversee implementation. This is a point stressed by *Harry Dimitriou* and *Robin Thompson* in Chapter 5. They refer to the work of Brinkerhoff and Goldsmith in developing a generic framework for understanding institutional sustainability. These authors believe that longevity alone is an insufficient goal for institutions; to be truly successful, two other aspects should be borne in mind. The first of these is that both an organisation's internal capabilities and its external environment matter, the second, that an organisation must chart a balanced course if it is

#### Antonia Layard

to reflect its own internal strengths and weaknesses as well as external threats and opportunities. In the event of a mismatch between the two, it is said, institutional decline or demise will occur.

Dimitriou and Thompson broadly agree with this analysis and apply it to an urban development in the United Kingdom. The project they choose is the ambitious urban regeneration initiative in the Thames Gateway area on the premise that if the institution delivering the regeneration is itself unsustainable, then the outcomes of the project (sustainable regeneration) must themselves be in doubt. At first sight they certainly agree that the institutional arrangements in place for the regeneration strategy of the area represent a model of stability and sustainability in which an explicitly stated strategy is carried forward by a set of powerfully entrenched institutions. On closer analysis, however, they believe the initiative to have been characterised by institutional instability with many of the failing features evident in unsustainable institutions. Their analysis leads them to be cautious about the possibility of successful sustainable urban regeneration in the Thames Gateway area, though they note that improvements to the institutional structure can be, and are being, made.

The final chapter in Part I reflects two innovative theories on sustainability: that of a risk society (promulgated by the German sociologist Ulrich Beck) and the idea of ecological modernisation, a theory and practice developed largely in the Netherlands. Beck's risk society thesis argues that 'we are eyewitnesses - as subjects and objects - of a break within modernity, which is freeing itself from the contours of classical industrial society and forging a new form - the industrial risk society . . . Just as modernization dissolved the structure of feudal society in the nineteenth century and produced the industrial society, modernization today is dissolving industrial society and another modernity is coming into being' (Beck 1996: 9). Ecological modernisation, on the other hand, is an altogether more optimistic approach. Its advocates start 'from the conviction that the ecological crisis can be overcome by technical and procedural innovation' (Hajer 1996: 249). They 'propose that policies for economic development and environmental protection can be combined to synergistic effect ... [and rather] than perceiving economic development to be the source of environmental decline, ecological modernisation seeks to harness to forces of entrepreneurship for environmental gain' (Gouldson and Murphy 1997: 94).

In Chapter 6 Simin Davoudi takes these two theories and considers their implications for sustainability in the planning context. Her conclusion is that they mirror two different forms and views of planning: one ideological, the other technocratic. Like these, the risk society thesis is moral; ecological modernisation meanwhile is rational. Her conclusion is that planning needs to take both these agendas into account. Both inspiration and application will be needed to implement sustainable development effectively in the spatial context.

Overall, then, the aim of Part I of this book is to provide an overview of sustainable development's central principles whilst also considering the concept's political, legal and planning context. The chapters are heterogeneous both in form and content, they make no attempt to provide a single definition of sustainability, nor do they advocate a single way in which to carry the idea forward. What they do, in conjunction with the other chapters in this collection, is to provide a snapshot of current thinking and analysis on the issue. The authors explore pivotal concepts and consider the issue critically. The idealistic and holistic worldview the notion of sustainable development incorporates provides a valuable focus, yet it is crucial to underpin this with analytical rigour if the vision is to provide a useful and tangible guide to future development. We often have a basic intuition about what is sustainable and what is not: these chapters illustrate some of the considerations on which these early (and often accurate) judgements are based.