

Handbook of Disaster Policies and Institutions

Improving emergency management and
climate change adaptation

Second Edition

John Handmer and Stephen Dovers



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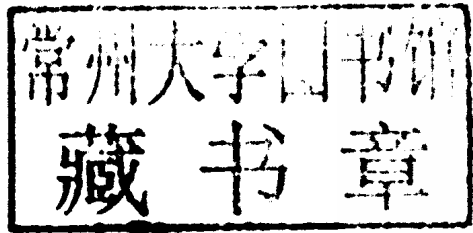
ROUTLEDGE

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Handbook of Disaster Policies and Institutions

Disasters, both natural and human-induced, are leading to spiralling costs in terms of human lives, lost livelihoods and damaged assets and businesses. Yet these consequences and the financial and human crises that follow catastrophes can often be traced to policies unsuited to the emerging scales of the problems they confront, and the lack of institutional capacity to implement planning and prevention or to manage disasters. This book seeks to overcome this mismatch and to guide development of a more strategic policy and institutional framework.

This updated and revised second edition includes new coverage of climate change adaptation, which has rapidly become central to disaster and emergency planning and management. This is an essential handbook for practitioners across the world seeking to improve the quality, robustness and capacity of their disaster management mechanisms.

John Handmer is Innovation Professor at RMIT University, Melbourne, Adjunct Professor at The Fenner School of Environment and Society, The Australian National University, and Visiting Professor, Flood Hazard Research Centre, Middlesex University, UK.

Stephen Dovers is Professor and Director at The Fenner School of Environment and Society, The Australian National University and Adjunct Professorial Research Fellow, Research Institute for Environment and Livelihoods, Charles Darwin University, Australia.

Both authors are affiliated with the Bushfire Cooperative Research Centre in Australia.

‘This is a terrific book. Handmer and Dovers make a much-needed and very welcome foray into the scant world of emergency management policy. The addition of the climate change dimension adds to its compelling argument and makes this book necessary reading for all involved in any aspect of emergency management today.’ – *Naomi Brown, Chief Executive Officer, Australasian Fire & Emergency Service Authorities Council, Australia*

‘An essential companion for anyone seeking to understand the policy context of disaster management. This new edition is especially welcome because it engages fully with the emerging thinking on the intersection of disaster management and climate change adaptation. Policy-making for disaster management also addresses the climate change adaptation challenge, making this book an important resource for those working in both adaptation and disaster management.’ – *Jean Palutikof, Professor and Director, National Climate Change Adaptation Research Facility (NCCARF), Griffith University, Australia*

‘The contents of this book are very rich in precious material about emergency and disaster management. Handmer and Dovers successfully address the hot issues, taking into account local beliefs and indigenous knowledge and covering the areas of weakness we face in the least developed countries. This book is good guidance...I am very glad to have a copy of the second edition.’ – *Ismail Fadl El Moula Mohamed, Director, Disaster Management, Sudan Meteorological Authority, Sudan*

Praise for the first edition

‘Too much emergency response to disasters has the hallmarks of panic or the deployment of immediate tactics without a strategic vision. This book is a significant contribution to seeking to correct this tendency. It does this admirably, by emphasizing both the practical and the tactical within a strong strategic framework that should help to make emergency response both better and more sustainable.’ – *Edmund Penning-Rowsell, Head, Flood Hazard Research Centre, Middlesex University, UK*

‘In this timely and insightful book, Handmer and Dovers develop a systematic understanding of the policy processes and frameworks needed to set the foundations for success when hazards threaten. It will be highly appreciated by policy makers and practitioners in rich and poor countries alike.’ – *Reid Basher, Coordinator, Policy and Inter-Agency Coordination, UN International Strategy for Disaster Reduction, Australia*

‘Emergency management, public policy and institutional settings are inextricably linked but the interactions are poorly understood. Handmer and Dovers have provided new and perceptive insights which will have far-reaching influences on understanding and future directions. I wish this book had been available when I was head of Australia’s federal emergency management agency.’ – *Alan Hodges, AM, Former Director General Emergency Management Australia*

‘This book is a must-read for anyone who hopes to understand and influence emergency policy. Covering the nature of emergency management and the complex institutional framework within which it operates, the authors’ comprehensive treatment of the subject is learned, internationally relevant and, yes, passionate.’ – *Paul Gabriel, Manager, Emergency Management Policy, Office of the Emergency Services Commissioner, Melbourne, Australia*

‘This is a fresh, invigorating and above all challenging look at emergency management. It takes a big-picture view, going beyond mere “disaster events” to explore the links between emergency management and sustainability in the contexts of institutions and policy. All those who have leadership roles in the field should read it carefully: it will re-shape the way they approach their task.’ – *Chas Keys, former Deputy Director General of the New South Wales State Emergency Service, Australia*

Acknowledgements

Acknowledgements for the second edition

When we wrote the first edition of this *Handbook*, climate change was an important issue, but seen as largely separate from those concerned with disaster management. However, in the few years since, the linkage, if not the integration, of the two areas of emergency management (often termed disaster risk reduction) and climate change adaptation is on the way to becoming orthodoxy. At the international level the UN's IPCC (Intergovernmental Panel on Climate Change) worked with the UN ISDR (United Nation's International Strategy for Disaster Reduction) and others to produce a *Special Report on Extremes* (IPCC 2011, 2012). Within Australia the newly established NCCARF (National Climate Change Adaptation Research Facility) established a Network on Emergency Management. Both authors work closely with NCCARF and one worked on the IPCC special report. We are grateful for these opportunities and insights. Our appreciation goes to all eight NCCARF Networks, the members of the networks, and the staff at NCCARF, especially Professor Jean Palutikof, for the interesting range of research and capacity building activities it has encouraged and funded.

Our colleagues in the Australian fire and emergency service agencies are concerned about the capacities of their organizations to meet the challenges of climate and social changes, and continue to pose difficult questions. Both authors continue to be active in the Bushfire Cooperative Research Centre's (Bushfire CRC) research and outreach activities, and thank the CRC and AFAC (Australasian Fire and Emergency Service Authorities Council) for the continuing opportunities and insights the relationship provides. As always, our students and university colleagues bring their diverse backgrounds, experiences and perspectives challenging us to broaden our own perspectives and improve our arguments. The support and enthusiasm of Earthscan and now Taylor & Francis publishers, especially the support shown by Helena Hurd, for this second edition is acknowledged with gratitude.

Our topic of interest continued to provide challenges and surprises: the hottest period in recorded history helped precipitate severe wildfires across the Australian State of Victoria in February 2009, with devastating results. One author was involved over the following 18 months with the subsequent public enquiry. He

was also kept busy as a contributor to the IPCC's report on extremes, where his co-authors ensured that he was regularly confronted with the consequences of emergencies and disasters from around the world. We were reminded that in the eyes of many, extreme conditions and extreme impacts are harbingers of what the future climate may bring. Our purpose in this second edition is to set out where and how emergency management can contribute to adaptation for climate change. We acknowledge the considerable debts owed from the first edition, in particular to our families.

John Handmer and Stephen Dovers

October 2012

Acknowledgements for the first edition: Handbook of Disaster and Emergency Policies and Institutions (2007)

This book is a collaboration between an environmental policy specialist and an applied researcher in emergency management. We both owe debts to many people and organizations, and our thanks go to the many who are not named below. While we are collectively responsible for the scope and detail of this book, we have benefited enormously from countless interactions with colleagues, students, policy-makers and emergency managers from many parts of the world. In conceiving of and writing the book, we have in many ways drawn on one author's previous experience in writing *Environment and Sustainability Policy: Creation, Implementation, Evaluation* (2005), a project that itself had many debts.

Chas Keys, former Deputy Director of the New South Wales State Emergency Service, and Sarah Norman, New Zealand's national emergency planner, both encouraged the project, along with Rob West, Mike Fells and Alison Kuznets of Earthscan. A draft was reviewed with care by Tom Lowe of RMIT University's Centre for Risk and Community Safety, Chas Keys and Paul Gabriel, Policy Director of Victoria's Office of the Emergency Services Commissioner. They provided many suggestions that we have tried to incorporate. Most importantly, they were very positive about the project, and we hope the result does justice to their support. Ramona, Michele, Stuart and Emma had to endure in various ways the indirect impacts of a book-writing project.

Work on the book was disrupted at times by the very emergencies we write about, although thankfully not ones of great tragedy. Hot dry conditions helped ensure that New Years Day 2006 was one of many extreme wildfire days in Victoria and kept one author busy as a volunteer fire-fighter through early 2006. Continuing drought and very hot weather saw an exceptionally early start to the fire season for the 2006–2007 Australian summer. Again fire-fighters were busy, albeit largely on standby in the Mount Macedon area. A major urban interface fire during early October in Hobart meant unscheduled fieldwork. The other author experienced a summer and autumn of unusually intense storm activity, involving routine clearance of blocked and flooding guttering systems. One storm stalled

the central business district (CBD) of Australia's capital city and damaged dozens of buildings at his university, including an overnight flooding of his computer. Such events focus the mind on trends influencing the incidence of emergencies, in our lifestyles, in the earth's climate and in policy styles seen in response.

In future, it is inevitable that societies will face more and more emergencies and disasters, and regrettably it seems similarly inevitable that the severity of these will increase in terms of impacts on people, livelihoods, economies and environments. Emergency management and disaster policy must rise to that challenge. This book seeks to provide focus and ideas on the broader policy and institutional settings that serve to enable or constrain what individuals, communities and emergency managers do to handle emergencies, in the hope that their crucially important tasks can be made easier and more effective. The book is dedicated to those people.

John Handmer
Mount Macedon, Victoria

Stephen Dovers
Queanbeyan, New South Wales

Australia
July 2007

List of acronyms and abbreviations

ADPC	Asian Disaster Preparedness Centre
AFAC	Australasian Fire and Emergency Service Authorities Council
BBC	British Broadcasting Corporation
CBD	central business district
CFU	community fire unit
CUP	complex unbounded problem
DEFRA	UK Department for Environment, Food and Rural Affairs
DHS	US Department of Homeland Security
EMA	Emergency Management Australia
EMATrack	a database maintained by Emergency Management Australia
ERM	Emergency Risk Management
FEMA	US Federal Emergency Management Agency
GBE	government business enterprise
GDP	gross domestic product
HDC	highly developed country
ICOLD	International Committee on Large Dams
ICT	information and communications technology
IFRC	International Federation of Red Cross and Red Crescent Societies
IPCC	Intergovernmental Panel on Climate Change
ISDR	International Strategy for Disaster Reduction
km	kilometre
LDC	least developed country
M&E	monitoring and evaluation
MAFF	UK Ministry of Agriculture, Fisheries and Food
MCA	multi-criteria analysis
MDC	medium developed country
NCCARF	National Climate Change Adaptation Research Facility
NGO	non-government organization
NPM	new public management
NSW	New South Wales
PNS	post-normal science

xvi *Acronyms and abbreviations*

UCL	University College London
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction (implementing the International Strategy for Disaster Reduction)
WSSD	World Summit on Sustainable Development

Contents

<i>List of figures, tables and boxes</i>	x
<i>Acknowledgements</i>	xii
<i>List of acronyms and abbreviations</i>	xv

Introduction: the context and aims of this book	1
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PART I

Constructing the problem 7

1 The nature of emergencies and disasters and climate change adaptation 9

Overview of disaster trends 11

Emergency and disaster institutions 12

The nature of disasters and emergencies: cause and effect 15

Evolution of emergency management: from 'acts of God' to socially constructed disasters 20

Key challenges 34

2 The nature of policy and institutions 37

Core concepts and terms 38

Traditions and trends in policy analysis 41

Policy styles and the political environment 50

Emergencies and disasters as policy and institutional problems 54

Reconciling policy with emergencies and disasters 56

PART II

Constructing the response 57

3 A policy and institutional framework for emergencies and disasters 59

Policy cycles meet emergency risk management 59

A framework for policy and institutional analysis 63

Using the framework 67

4 Owning the problem: politics, participation and communication 69

Policy and politics 69

Who? Defining 'community' 70

Why? Purposes and degrees of participation 75

How? Options for community engagement 80

Communication: the lifeblood of participation 89

Communication challenges 91

Conclusion 93

5 Framing the problem: identifying and analysing risk 95

Problem framing 95

Cause-effect linkages 98

Pervasive uncertainty 101

Attributes of emergency management policy problems 103

A typology of disasters and emergencies 105

Routine 107

Non-routine 107

Complex emergencies 108

The risk standard 111

Hierarchy of goals, issues and problems 113

Conclusion 114

6 Responding to the problem: policy formulation and implementation 116

Broad policy choice: generic resilience or specific instruments? 116

Generic approaches to hazards management 118

Specific approaches to hazards management 120

For crisis response: flexibility and adaptability 121

Policy problems and policy instruments 122

<i>Policy instruments and styles for implementation</i>	124
<i>Policy styles and attributes required for implementation</i>	129
<i>Implementation attributes</i>	134
<i>Concluding comment</i>	136
7 Not forgetting: monitoring, evaluation and learning	137
<i>Uncertainty, time and learning</i>	137
<i>Policy and institutional learning: purposes and forms</i>	140
<i>Basic information capture</i>	149
<i>Evaluation: the precondition for learning</i>	150
<i>Research and education</i>	154
<i>Prospects for learning</i>	155
8 Institutional settings for emergencies and disasters: form, function and coordination	157
<i>Institutions: the key to common endeavours</i>	157
<i>Institutions and emergencies: Status and issues</i>	161
<i>Purpose, form and principles</i>	169
<i>Learning, law and liability</i>	172
<i>Conclusion</i>	174
PART III	
Constructing the future	175
9 Future prospects	177
<i>How disastrous a future?</i>	177
<i>Key challenges</i>	182
<i>International and regional leadership</i>	184
<i>Prospects: anticipation, resilience and adaptation</i>	184
<i>Notes</i>	186
<i>References</i>	187
<i>Index</i>	196

List of figures, tables and boxes

Figures

2.1	Linear versus cyclic constructions of policy	46
3.1(a)	Framework for environment and sustainability policy	61
3.1(b)	The extended emergency risk management process	62
3.2	Framework for policy and institutional analysis for emergencies and adaptation (within the context of emergency management)	64
5.1	The Australian/New Zealand risk management process from AS/NZS 4360: 2004 (now embodied in ISO 31000: 2009)	112

Tables

1.1	Hierarchy of activities in disasters and adaptation	14
1.2	Trends in emergency management	21
1.3	The book's themes and illustrative case studies	23
2.1	Approaches to policy and politics	45
2.2	Key components of the governing state	49
4.1	Defining community	72
4.2	Main purposes of public participation	77
5.1	Emergency management typology by attributes	106
5.2	Attributes of Complex Unbounded Problems	110
5.3	Hierarchy of goals, issues, problems and instruments	115
6.1	A menu of policy instruments for emergencies and adaptation	126
6.2	Criteria for selecting policy instruments	129
6.3	Coercive, cooperative and exhortative policy designs	131
7.1	Forms and purposes of policy learning	142
8.1	Components of the institutional system with typical roles regarding emergencies and disasters	162

Boxes

1.1	Hurricane Katrina, New Orleans, US	24
1.2	Longford gas explosion, Victoria, Australia	25
1.3	The South Asian tsunami	26
1.4	Heat waves in Europe	27
1.5	Floods at Nyngan, New South Wales, Australia	29
1.6	Mozambique floods of 2000	29
1.7	Flooding in The Netherlands, 1993 and 1995	30
1.8	Refugees and a volcano in Goma, Democratic Republic of Congo	31
1.9	London smog: long antecedent, slow response	32

Introduction

The context and aims of this book

It is too easy to be critical of emergency managers. In a major event, for them the stakes are high, with lives and economies at immediate risk, resources inadequate and political and media scrutiny intense, interfering and unforgiving. Information will be inadequate, modelling ambiguous and rumours rife. Emergency management is often tested in public with immediate feedback, and in front of a constituency too often dedicated to allocating blame.

Disasters challenge societies and governments, and will challenge even more with likely social, economic, climatic and environmental change. They can undermine the legitimacy of government by creating apparent chaos and disruption and highlighting the weaknesses and limits of government. They can result in deaths and destruction, and disruption to every aspect of society. Poorer countries may find that '[T]he consequences of disasters erase years of development and take years to reverse...' (Egeland, 2006). Such events also provide opportunities, with the media, political and local constituencies generally endowing with special status those who show leadership and empathy with the affected. As short lived as this topicality and celebratory status may be, there are clear political benefits from many disasters. Paradoxically, the less visible process of strategic policy development and implementation for disaster risk reduction (here seen as synonymous with emergency management) may carry little political reward, and its success in reducing the impacts of events that might otherwise become disasters may even result in budget cuts and reduced status and profile for those involved. Another issue often faced by strategic planners is attacks by those who would profit from activities restricted by risk reduction, such as the development of risky locations. This is because the media and political rewards are not unnaturally skewed towards the heroes of response, rather than strategic planners.

This all points to the desirability of developing policy that serves a number of aims – national and local; social, economic and environmental; focused on preparedness, response and long-term recovery – and that is flexible enough to cope with shifts in community and political priorities, while ensuring a high positive media and political profile. Such strategic policy is dependent on the suitability of the institutional settings within which policy is formulated and developed, implemented, monitored and within which it evolves. Emergency management