

The book cover features a vibrant green background with a subtle pattern of leaves. A large white circle is centered on the page, containing the main title and subtitle. The authors' names are listed in white text above the circle. The overall design is clean and modern, emphasizing the connection between nature and public health.

VALERIE A. BROWN

JOHN GROOTJANS

JAN RITCHIE

MARDIE TOWNSEND

GLENDIA VERRINDER

SUPPORTING GLOBAL
ECOLOGICAL INTEGRITY
IN PUBLIC HEALTH

SUSTAINABILITY AND HEALTH

Radical changes in the biosphere and human interaction with the environment are increasingly impacting on the health of populations across the world. Diseases are crossing the species barrier, and spreading rapidly through globalised transport systems. From new patterns of cancer to the threat of global pandemics, it is imperative that public health practitioners acknowledge the interdependence between the sustainability of the environment and the sustainability of the human species.

- Why are issues of global and local sustainability of increasing importance to the public's health?
- Why do issues of sustainability require new practices within the professions of public health?
- How can future and current public health practitioners develop those new practices?

Drawing on scientific evidence of global and local environmental changes, *Sustainability and Health* offers a thorough background and practical solutions to the overlapping issues in environment and health. It examines potential and existing responses to global and local environment and health issues involving individuals, community, industry and government.

The authors introduce a range of emerging conceptual frameworks and theoretical perspectives, link IT and epidemiology and explain how scoping can link program design, delivery, data collection and evaluation in projects from their very beginning. Public health practitioners need to be able to manage health issues that cut across environmental, economic and social systems and to develop the capacity for leadership in facilitating change.

Incorporating learning activities, readings, international case studies and an open learning approach, this is a valuable resource for students of public and environmental health, as well as medical, environmental and health science professionals.

Visit www.allenandunwin.com/sustainhealth for extra resources and activities.

Valerie A. Brown AO, is one of the leading international experts on the links between environment and health. She is Director of the Local Sustainability Project at the Australian National University and Emeritus Professor of Environmental Health at the University of Western Sydney. **John Grootjans** lectures in public, community and indigenous health at Charles Sturt University, having established a graduate program on Sustainable Development at Griffith University. **Jan Ritchie** is Associate Professor in the School of Public Health and Community Medicine, University of New South Wales and Regional Director (South Western Pacific) of the International Union for Health Promotion and Education. **Mardie Townsend** is a Senior Lecturer in the School of Health and Social Development, Deakin University, with a research interest in environmental amenity and health. **Glenda Verrinder** lectures on environmental and public health in the School of Health and Environment at La Trobe University, Bendigo Campus.

BROWN GROOTJANS RITCHIE
SUSTAINABILITY AND HEALTH

11 AM

6/09/05



9 781741 144420

R.R.P. \$59.95

Our Price \$53.96



ALLEN & UNWIN

ISBN 1-74114-442-6



9 781741 144420

www.allenandunwin.com

PUBLIC HEALTH

Sustainability and Health

Supporting global ecological integrity in public health

Editors:

**Valerie A. Brown, John Grootjans, Jan Ritchie,
Mardie Townsend and Glenda Verrinder**


ALLEN & UNWIN

First published in 2005

Copyright © Valeric A. Brown, John Grootjans, Jan Ritchie, Mardie Townsend and
Glenda Verrinder 2005

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without prior permission in writing from the publisher. The *Australian Copyright Act 1968* (the Act) allows a maximum of one chapter or 10 per cent of this book, whichever is the greater, to be photocopied by any educational institution for its educational purposes provided that the educational institution (or body that administers it) has given a remuneration notice to Copyright Agency Limited (CAL) under the Act.

An Innovation Project of the Public Health Education and Research Program, the Australian Government Department of Health and Ageing. This text represents the views of the authors, and may not represent the views of the Commonwealth.

Allen & Unwin
83 Alexander Street
Crows Nest NSW 2065
Australia
Phone: (61 2) 8425 0100
Fax: (61 2) 9906 2218
Email: info@allenandunwin.com
Web: www.allenandunwin.com

National Library of Australia
Cataloguing-in-Publication entry:

Sustainability and health : supporting global ecological
integrity in public health.

Bibliography.
Includes index.
ISBN 1 74114 442 6.

1. Public health. 2. World health. 3. Global
environmental change - Health aspects. 4. Globalization -
Health aspects. I. Brown, Valeric A.

362.1

Set in 10.5 pt Garamond by Big Island Graphics, Canberra
Printed by South Wind Production, Singapore

10 9 8 7 6 5 4 3 2 1

Contents

Learning Activities	vii
Boxes and Figures	viii
Acknowledgements	x
Glossary	xiii
Prologue: The way in	xvii
Chapter 1 Living:	
Public health and the future of life on the planet	1
1.1 Health and sustainability: a new direction for public health	3
1.2 Defining sustainable development: moving to sustainability	11
1.3 New ideas for new public health: overview of recommended readings	18
1.4 Integrative decision-making about place-based issues (D4P4): an open learning framework	21
1.5 Sustainability as public health practice: criteria for future-oriented practitioners	28
Chapter 2 Listening:	
Co-ordinating ideas on sustainability and health	39
2.1 Sustainability and health	41
2.2 Sustainability and science	43
2.3 Sustainability and economics	48
2.4 Sustainability and environmentalism	59
Chapter 3 Grounding:	
Co-ordinating contexts for sustainability and health	81
3.1 Frameworks and tools	83
3.2 Strategic frameworks	84
3.3 Health-based frameworks	93
3.4 Environmental frameworks	106
3.5 Holistic frameworks	121
Chapter 4 Knowing:	
Linking the knowledge cultures of sustainability and health	131
4.1 Evidence-based public health	133
4.2 Multiple knowledges	143
4.3 Strategies for synthesis	149
4.4 Tools for synthesis	152

Chapter 5 Scoping:

Designing and monitoring sustainability and health programs	163
5.1 Monitoring strategies: what we believe we need to know	165
5.2 The decision-making spiral: what we know we need to know	169
5.3 The file, the grid and the cycle: what we know we don't know	173
5.4 Working with others: what we don't know we don't know	183
5.5 Scoping the program stages: what we now know we need to know	187

Chapter 6 Acting:

Practitioners as actors for sustainability and health	199
6.1 Systems thinking	201
6.2 Planning the action	212
6.3 Acting together	226
6.4 Acting individually	235

Chapter 7 Innovating:

Practitioners as innovators for sustainability and health	243
7.1 Structural change for sustainability	245
7.2 Capacity building for structural change	251
7.3 Education for sustainability	262
7.4 Research for sustainability	267

Chapter 8 Managing:

Public health leadership and management for sustainability	273
8.1 The challenge to public health of managing for sustainability	275
8.2 Analysing issues at multiple levels	277
8.3 Managing complex systems: three organisational forms	278
8.4 Managing hierarchical or formal organisations for sustainability	282
8.5 Managing networks and communities for sustainability	290
8.6 Managing markets for sustainability	296
8.7 Leadership and drivers for sustainability: the role of public health	300

Epilogue: The way forward	307
----------------------------------	------------

The editors	315
--------------------	------------

Index	319
--------------	------------

Learning activities

1.1	Value line: clarifying ideas of sustainability and health	6
1.2	Reality check: what holds this planet together?	10
1.3	Decision-making frameworks: how do we put knowledge into action?	27
1.4	Practitioner as change agent: continuum of change	33
2.1	Chinese whispers spiral	43
2.2	Where all the rivers flow: working collaboratively in complex ecological systems	72
3.1	Mind-mapping complex ideas	92
4.1	Assessing the evidence: how do we tell the truth?	140
4.2	Linking the knowledges: case study of decision-making on persistent organic pollutants (POPS)	145
4.3	Using the rules of dialogue: group negotiation exercise	151
4.4	Who do we involve in linking the knowledges?	155
5.1	Synoptic workshop designs	172
5.2	Participatory rapid appraisal (PRA)	183
5.3	Sharing ideas: brainstorming	190
5.4	Scoping and grounding: guided visioning exercise	192
6.1	Systems thinking: the futures wheel	211
6.2	Intersectoral action	220
6.3	Rich pictures or priority-setting: nominal group process	224
6.4	Conflict resolution styles	233
6.5	Acting individually: measure your ecological footprint	239
7.1	Reflection	249
7.2	Diffusion of innovation game	250
7.3	Imagining, settings for innovation	256
7.4	Writing a media release	262
8.1	Building a tower	280

Boxes and Figures

Boxes

1.1	Global indicators of loss of sustainability 1950-95	9
1.2	Sustainable development as principles, issues and processes	12
1.3	Sustainability definitions	13
1.4	Sustainability 2003	16
1.5	Parallels between sustainability, health and environment-based frameworks	18
1.6	Universal competencies and core disciplinary areas in public health education	29
2.1	Indigenous knowledge	71
3.1	Our clients for this chapter	83
3.2	Universal Declaration of Human Rights	86
3.3	Declaration of Alma-Ata	94
3.4	Health for All by the year 2000	98
3.5	Ottawa Charter for Health Promotion	101
3.6	Stockholm Convention on Persistent Organic Pollutants	108
3.7	Montreal Protocol on Substances that Deplete the Ozone Layer	110
3.8	Rio Declaration on Environment and Development	112
3.9	Kyoto Protocol on Greenhouse Gases	118
3.10	Talloires Declaration	119
3.11	Earth Charter Principles	121
4.1	A letter to the editor: being scared of GM	137
4.2	Sustainability in action	146
4.3	Rules for dialogue in a multiple knowledge learning community	150
6.1	Subsystems	205
6.2	The systemic nature of environmental health issues	206
6.3	The Bellagio Principles	215
6.4	Rural City Farm: cultivating a vital urban community	219
6.5	Spectrum of participation	228
6.6	Approaches to participation	229
6.7	Twenty participatory techniques in participatory evaluation	230
6.8	The transformation of Curitiba, Brazil	234
6.9	Ethical guidelines for practice	236
6.10	Climate change: ten solutions for individuals	239
7.1	Overcoming barriers to change	248
7.2	The innovation diffusion game from <i>Believing Cassandra</i>	250

7.3	Appreciative inquiry	254
7.4	The shared action story	258
7.5	<i>Local Heroes</i>	260
7.6	Seven kinds of intelligence	266
8.1	Three organisational forms co-existing in a complex system	282
8.2	Ideal type characteristics of a bureaucracy	283
8.3	Ideal type characteristics of a network	290
8.4	Ideal type characteristics of a market	296

Figures

1.1	Three eras of public health practice	5
1.2	The Mandala of Health: a systems model of the human ecosystem	17
1.3	Sustainability decision-making framework 1	23
1.4	Change agent continuum	34
4.1	Five paradigms of knowledge	139
4.2	Knowledge cultures within Western decision-making systems	142
4.3	Web of community-based action for sustainability and health	153
5.1	Deductive and inductive problem-solving	167
5.2	A Rose is a rose is a rose	168
5.3	Sustainability decision-making framework 2: decisions-into-practice (D4P4)	171
5.4	Information sources for environment and health reporting	175
5.5	DPSEEA grid for environmental health monitoring	179
5.6	Three-circle diagram of sustainability	179
5.7	Framework for developing environmental health indicators	182
5.8	Extended pressure-state-response framework	183
6.1	Futures wheel using 'no oil' as an example	213
6.2	Windows on environment and health	222
6.3	Grounding the environment for health	222
6.4	A chequerboard model of integrated action for sustainability	223
8.1	Management domains	278
8.2	Three organisational forms for sustainability management	279