SUSTAINING OUR SOCIAL AND NATURAL CAPITAL Proceedings of the 12th ANZSYS Conference

ISBN: 978-0-9791688-8-8

Edited by

Roger Attwater & John Merson

Published and distributed by:



395 Central Street Mansfield, MA 02048

Sustaining Our Social and Natural Capital: Proceedings of the 12th ANZSYS Conference Library of Congress Control Number: 2007936998 ISBN: 978-0-9791688-8-8

Copyright © 2007 ISCE Publishing, 395 Central Street, Mansfield, MA 02048, USA

All rights reserved. No part of this publication may be reproduced, stored on a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the publisher.

Printed in the United States of America

Sustaining Our Social and Natural Capital: Editoriali Roger Attwater & John Merson
THEME ONE Resilience, Ecology and Governance Rosalie Chapple, Blue Mountains World Heritage Institute Peter Ampt, Future of Australia's Threatened Ecosystems (FATE) program, University of New South Wales
Giving Shape and Structure to the Mess of Sustainability Accounting7 Dick Osborn
A Systemic Understanding of Environmental Degradation of the River Ganga
North Katoomba Catchment Restoration and Action Project
Bhutan's Gross National Happiness Project: Lessons from the East43 <i>Geoffrey Lamberton</i>
Between Council and Community: Public Participation and Sustainability in Local Government51 <i>Cesidio Parissi</i>
Causal Model of Beach Erosion with Inland Sand Transport: Political and Urban Planning Implications61 <i>Terence Love & Trudi Cooper</i>

THEME TWO

Cultural Knowledge and Heritage Shaun Hooper, Blue Mountains World Heritage Institute

New Zealand Communities Forever: Integrating Sustainability, Education and the Treaty of Waitangi Sylila Monteiro & Rashika Sharma	71
Recording My Mum's Songs Fiona Brady & Tina Asela	79
Knowledge and Wiradjuri: Who is Telling the Truth? A Wiradjuri Perspective <i>Yalmambirra</i>	87
Towards a Metadesign Approach for Building Indigenous Multimedia Cultural Archives Laurel Evelyn Dyson & Mike Leggett	97

Integrating Indigenous Cultural Traditions in the Management of Protected Marine Resources: The Fiordland example10 James M. Mize)5
The Beauty of the Place	.5
The Material Component of the Aboriginal Cultural Landscape: Mapping Country Through Predictive Modelling12 Malcolm Ridges	23
THEME THREE Creativity, Organization and Complexity <i>Kay Fielden, Unitec</i>	
Sustainable Workplace: A Study of Mobile Knowledge Work - Practice Motivating Theory Development13 Duska Rosenberg	\$5
Systems Thinking for Sound Management in Hostile and Other Complex Adaptive Environments	53
From Industry Practitioner to Educational Professional: Evaluating the Learning Institute as a Learning Organization	55
Here Be Dragons: Mapping Future Possibilities Using an Emergent Framework17 Lynn Allen & Trudi Lang	'9
The Story in Leadership19 David Green)1
Every Journey Starts with a Single Step: Yarra Valley Water's Journey Towards Environmental Sustainability20 <i>Francis Pamminger & Julian Crawford</i>)1
Mentoring Three Local Association Staff: Our Experiences With Being Integrative and Sometimes Innovative20 <i>Richard Monypenny</i>)9
Meditating in the Margins	21

Creativity, Complexity and Organization in the DPI&F Ecology229 J. Vargese & G. Ching
A Reflection on the Use of Action Research in a Major Change Project237 <i>John Molineux</i>
THEME FOUR Systems Thinking and Dynamics John Barton, Barton Consulting Bob Cavana, Victoria University of Wellington
Contribution of System Tools to Dynamic Decision-Making251 Rajat Dhawan, Marcus O'Connor & Mark Borman
Agent Based Modelling of Real Issues: Acquisition of Data to Support AB Models of Social Phenomena259 Susanne Tepe, Tim Haslett & Charles Osborne
A Paradigmatic and Methodological Survey of the Knowledge Management Literature: 2000 to 2004267 James Sheffield & Zining Guo
Reflecting on the Dynamics of Our Intervention
History Repeats Itself: Current Traps in Complexity Practice from a Systems Perspective
A Boundary Based Typology of Language Games: Making Sense of Systemic Interventions
Ethical Inquiry in Knowledge Management
Identifying the Philosophical Assumptions of Knowledge Management Perspectives
Social Capital and Health: Preliminary Work on a System Dynamics 'Concept Model'

THEME FIVE Social Sustainability and Community

Wendy Gregory, Environmental Science & Research Jack W. Meek, University of La Verne

Residential Property Values In Gated and Nongated Barrier Island Communities <i>J. Pompe</i>	351
Sustaining the World: Against Religious Maniacs and a Selfish Superpower? Arnis Vilks	359
A Complex Systems Perspective on Incommensurable Evaluations within Triple-Bottom-Line Reporting Elaine Hartley	365
The Value of Community Participation Bronwen Maxwell & Cheryle Yin-Lo	373
THEME SIX Livelihood, Innovation and Opportunity Ian Knowd, University of Western Sydney, Australia	
Sustaining Our Social and Natural Capital: Enhancing the Resilience of Dairy Farmers Lucia Boxelaar, Michelle Sharma & Mark Paine	383
Ethic of Interdependence as a Basis for Ethic of Social Responsibility and Sustainable Society <i>Matjaz Mulej, Jozica Knez-Riedl & Vojko Potocan</i>	395
Exploring the Real-Time Enterprise From Systemic Perspective: The Case of Korean Enterprise	403
Farming and Urbanizing Environments: Hawkesbury Harvest and the Cultural Landscape of Western Sydney Ian Knowd	415
THEME SEVEN Language, Learning and Transdisciplinary Practice Susan Goff, University of Western Sydney, Australia	
Principles of Participatory Practice S. Goff & J. Gregg	431

The Core Briefing: Helping People Understand the Big	
Picture Via Diagrams	441
Andrew Gaines	

Theory, Identity, Language and Practice: The Value of Participatory Practices to Sustainability J. Fisher, S. Goff, J. Lavarack, L. Porter & P. Whitecross	451
Learning to be a "Transdisciplinary" Sustainability Researcher: A Community of Practice Approach Juliet Willetts & Cynthia Mitchell	461
Learning Together for Sustainability: The Value of Group Based Peer Learning Jade Herriman, Juliet Willetts & Emma Partridge	469
How the Common Language of 'Child Abuse' Makes Enemies of Parents Suzanne Regan & David Thorpe	485
How to Teach Oral Ecology Using Complexity Approach? Vladimir D. Dimitrov & Harald M. Eriksen	493

THEME EIGHT

Engineering Systems and Infrastructure Design Stephen C. Cook & Timothy L.J. Ferris, University of South Australia

	01
The Bounds of Systems Engineering5 Timothy L.J. Ferris & Stephen C. Cook	01
Long Term Preservation of Electronic Information5 Viveca Asproth	21
Implementation of a Multimethodology Rural Telecommunications Planning Framework: Reflections on the Case Study and Some Lessons Learned	527
Complex Infrastructure Projects: A Systemic Model for Management5 <i>Kaye Remington & Julien Pollack</i>	37
Fleet Management System for an Advanced Helicopter Platform: A Research Program5 Axel Schauenburg, Arvind Kumar Sinha & Simon Atyeo	45
Appendix One: Conversation Mapping Workshop5	55
Appendix Two: Workshop Summaries5	65

EDITORIAL Sustaining Our Social and Natural Capital

Roger Attwater & John Merson

ur efforts to sustain our communities, and the natural environments that support them, are challenged by our ability to communicate effectively between our different forms of knowledge. Respect for diversity and difference, drawing upon all our methods of inquiry, advocacy, and learning to find common ground, are all part of the integrative approach needed to address the complexity of the challenges we face. This conference was an opportunity for practitioners from broad ranging traditions to share their experiences regarding integrative and innovative approaches that can make a difference.

Systems thinkers from across the globe were invited to participate in the conference through submitting a paper, contributing to workshops, and involvement in the range of planned and emergent activities. Papers were invited, on any aspects of relevance to the conference themes, and were peer reviewed prior to the conference by contributors within each thematic panel. The intent of this was to assist a process of dialogue between contributing authors. The conference themes included:

- Resilience, ecology and governance;
- Cultural knowledge and heritage;
- Creativity, organization and complexity;
- Systems thinking and dynamics;
- Social sustainability and community;
- Livelihood, innovation and opportunity;
- Language, learning and transdisciplinary practice;
- Engineering systems and infrastructure design.

The following chapters reflect these thematic plenary panels in which papers were presented and discussed. Each chapter begins with a brief overview from the chairperson(s) of each theme. The structure of these themes was also followed through into a conversation mapping exercise which followed the plenary panels of papers. A brief outline of the conversation mapping exercise is provided in Appendix 1, along with a summary of some of the key issues and discussion points which emerged. As well as this dialogue around thematic issues, planned activities included a 'circle of elders' discussion, workshops, and field trips.

The 'circle of elders' term was an after dinner round table discussion including a number of respected systems practitioners. The conversation was moderated by Stuart Hill, and included Richard Bawden, Bob Dick, Kay Fielden, Gerald Midgley, and Ray Ison. Workshops were contributed over the last two days of the conference by Bob Dick, Andrew Gaines, Susan Goff Janet McIntyre, and Jim Sheffield. A local field trip on the last morning of the conference enabled delegates to visit the local landscape, drawing upon local government initiatives with Geoffrey Smith and Jasmine Payget, and indigenous cultural perspectives with Chris Tobin. Within the conference venue, an exhibition of artwork reflecting cultural and indigenous perspectives was organized by Cheryle Yin-Lo, Tracey Allen and Rosie Forsyth-Jackson. Other exhibits included photographs of Californian coastal issues by Kathy Pompe, local conservation initiatives by the Blue Mountains City Council, and the East Timor Sisters, all of which contributed to a vibrant venue. We would also like to acknowledge the support of the Blue Mountains City Council, along with funding from Sydney Catchment Authority. Finally, we'd like to thank our colleagues at the Blue Mountains World Heritage Institute for their involvement.