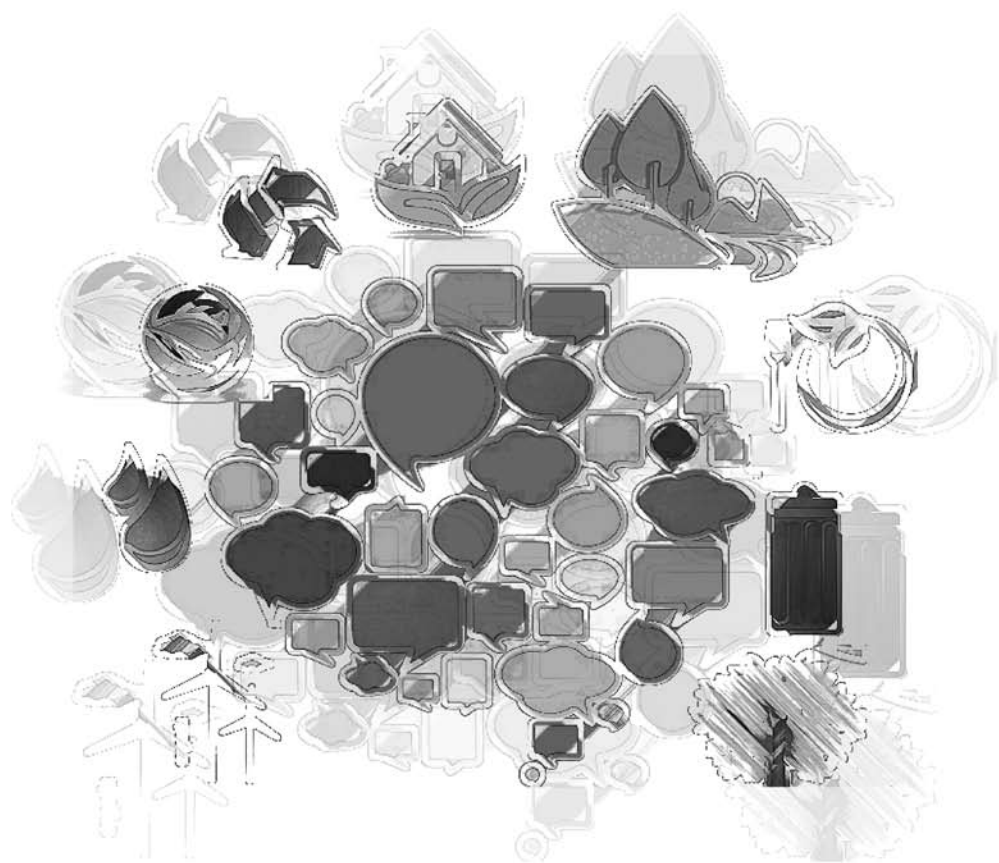


Thoughts and Tools in Environmental Management



Thoughts and Tools in Environmental Management

VUN LEONG WAN

PENERBIT UNIVERSITI MALAYSIA SABAH

Kota Kinabalu • Sabah • Malaysia

<http://www.ums.edu.my>

2014

A Member of the Malaysian Scholarly Publishing Council (MAPIM)

© **Universiti Malaysia Sabah, 2014**

All rights reserved. No part of this publication may be reproduced, distributed, stored in a database or retrieval system, or transmitted, in any form or by any means, electronics, mechanical, graphic, recording or otherwise, without the prior written permission of Penerbit Universiti Malaysia Sabah, except as permitted by Act 332, Malaysian Copyright Act of 1987. Permission of rights is subjected to royalty or honorarium payment.

Penerbit Universiti Malaysia Sabah makes no representation – express or implied, with regard to the accuracy of information contained in this book. Users of the information in this book need to verify it on their own before utilizing such information. Views expressed in this publication are those of the author(s) and do not necessarily reflect the opinion or policy of Universiti Malaysia Sabah. Penerbit Universiti Malaysia Sabah shall not be responsible or liable for any special, consequential, or exemplary problems or damages resulting in whole or part, from the reader's use of, or reliance upon, the contents of this book.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Vun, Leong Wan, 1969-

Thoughts and Tools In Environmental Management / VUN LEONG WAN.
ISBN 978-967-0521-32-9

1. Environmental management. 2. Management--Environmental aspects.
I. Title.
363.7

Typeface for text:	Myriad Pro
Text type and leading size:	11/13.2 points
Published by:	Penerbit Universiti Malaysia Sabah Tingkat Bawah, Perpustakaan Universiti Malaysia Sabah Jalan UMS 88400 Kota Kinabalu, Sabah
Printed by:	Percetakan CCS Sdn. Bhd. P. O. Box 21760, 88775 Kota Kinabalu, Sabah

For

Peik Lin and Cassandra Vun

Who has taught me a lot about love and also the environment

My parents

Who have given me their best

Family and friends

Who have given me opportunities to be a part of their lives

CONTENTS

List of Figures	viii
List of Tables	viii
Preface	ix
1. What is Environmental Management?	1
2. 4C of the Environment	12
3. 3R and 5R	14
4. The Ecology of Sustainability	16
5. Sustainable Communities	21
6. Environmental Science, Environmental Engineering, Environmental Biotechnology, Environmental Ecology and Environmental Management	23
7. EIA and SEA	26
8. SIA and Other IA Tools	30
9. Precautionary Principles	33
10. Environmental Policy	34
11. Design for the Environment	36
12. Environmental Management System (EMS)	38
13. Environmental Law and Regulations	42
14. Environmental Indicators	44
15. Environmental Audit and Review	46
16. Environmental Informatics	49
17. Creativity and Innovation in Environmental Management	50
18. Environmental Problem Solving	53
19. Environmental Forensics	55
20. Critical Thinking in Environmental Management	57
21. Quality of an Environmental Manager	59
22. Principles-Centred Environmental Management	60
23. Life Cycle Assessment	62
24. Trust in Environmental Management	66
25. Biodiversity	67
26. Effective, Efficient and Feasible	69
27. Just Closing Thoughts, Not Final	71

LIST OF FIGURES

Figure		Page
1.1	Disciplinary influences on environmental management	3
1.2	Environmental management and its decision-making framework	5
2.1	A conceptual model of processes of change in environmental management	13
3.1	Creative image showcases 3R	16
4.1	Sustainable development as depicted by Our Common Future	17
4.2	A new look at the ecology of sustainability	19
5.1	Egan Wheel for Sustainable Communities	22
7.1	The EIA processes in sequences of application	28
8.1	Framework of Sustainability Assessment Tools	32
11.1	Design for the environment label from USEPA	37
12.1 (a)	Plan-do-check-act diagramme	39
12.1 (b)	The environmental management system model under ISO14001	39
12.2	Flowchart for ISO14001 implementation	41
15.1	A healthy audit cycle	48
23.1	Illustration on what is cradle-to-cradle (life cycle assessment)	63
23.2	Simplified overview of what is life cycle assessment	65
25.1	Logo for the 2010 International Year of Biodiversity	68
26.1	The illustration of a wheel for feasibility, effectiveness and efficiency	

LIST OF TABLES

Table		Page
3.1	All the Rs related to environmental management of resources	16
6.1	Selected branch of environmental thrusts and their description	24
7.1	Phases of SEA	
18.1	DOC'S KEYS approach to environmental problem solving	
20.1	Good critical thinkers vs poor thinkers (adapted from Ruggiero (1984)).	
21.1	Qualities of a Competent Environmental Manager	58
22.1	Principles for Environmental Management	

Preface

In the movie of Dead Poet Society, the character of John Keating has a very famous quote and it was "*carpe diem*", which means, seize the day. This quote has prompted many to make lives extraordinary and I think it is a good one!

There was another quote that he said, "*No matter what anybody tells you, words and ideas can change the world*", indeed; words and ideas do change the world.

When I first started to journey into the field of environmental management, I have read and encountered numerous environmental problems and issues that I just do not know how to deal with them; of course I admit that I am ignorant because of the lack of exposures and experience. I had hoped that there will be a manual for me to choose my tools and shape my thinking of how to manage the environment.

This little book is a result of that.

This little book here is a brief collection of some useful tools that I have come across (they are however not exhaustive and there are no favourite) and also some of my thoughts on environmental management. The tools have opened my eyes to the possibility and opportunity of managing the environment. The thoughts are the result of the thinking exercise that I have put in and I hope they will serve as a guide for the way forward in environmental management.

Of course, I appreciate your feedback and correction; we learn from mistakes and truth, so your feedback is very much welcome.

Agree to disagree is what I have always practised. As people changes, thoughts and tools evolve as well, nothing stays the same, except the truth.

So, I encourage you to use this little book as a guide to manage the environment (if helpful) and also a supplement to good sleep (if unhelpful and boring).

Vun Leong Wan

Faculty of Science and Natural Resources
Universiti Malaysia Sabah
2014