

Contents

Foreword to the First Edition <i>by Albert Bates</i>	ix
Foreword to the Second Edition <i>by Bill Steen</i>	xi
Acknowledgments	xiii
Introduction: An Open Door <i>by Michael G. Smith</i>	1

Part One: The Context for Natural Building

1. The Case for Natural Building <i>by Michael G. Smith</i>	11
2. Natural Building: A Global Tradition <i>by Catherine Wanek</i>	17
3. The Importance of Housing Ourselves <i>by Ianto Evans</i>	23
4. Natural Building and Social Justice <i>by Rob Bolman</i>	27
5. Sustainability and Building Codes <i>by David Eisenberg</i>	31
6. Can My Natural Home Get a LEED Rating? <i>by Joseph F. Kennedy and Ann V. Edminster</i>	37
7. Life-Cycle Cost and Value of Four Houses <i>by David A. Bainbridge</i>	43
8. In Defense of Craft <i>by Patrick Webb</i>	49

Part Two: Design and Planning

9. Designing for Vitality <i>by Carol Venolia</i>	55
10. The Healthy House <i>by Paula Baker-Laporte</i>	61
11. Eighteen Design Principles to Make Square Feet Work Harder <i>by Robert Gay</i>	65

12. Designing with the Sun <i>by Susie Harrington</i>	69
13. Natural Building for Cold Climates <i>by Jacob Deva Racusin</i>	73
14. Hybrid Homes: Combining Natural Materials for Energy Efficiency <i>by Catherine Wanek and Michael G. Smith</i>	81
15. Remodeling with Natural Materials <i>by Joseph F. Kennedy and Janine Björnson</i>	91
16. Siting a Natural Building <i>by Michael G. Smith</i>	99
17. The Permaculture House <i>by Peter Bane</i>	107
18. Complementary Systems for Energy-Efficient Homes <i>by Michael G. Smith</i>	115
19. Regenerative Building: An Ecological Approach <i>by Michael G. Smith</i>	131
20. Building the Natural Village: A Strategy for Repairing Cities <i>by Mark Lakeman</i>	137

Part Three: Natural Building Materials and Techniques

21. Natural Building Materials: An Overview <i>by Joseph F. Kennedy</i>	145
22. Foundations for Natural Buildings <i>by Michael G. Smith</i>	155
23. Stone Masonry <i>by Michael G. Smith</i>	163
24. Adobe Building <i>by Paul G. McHenry</i>	171
25. A Brief History of Cob Building <i>by Michael G. Smith</i>	181
26. Rammed Earth: From Pisé to PISE <i>by Scott Grometer</i>	189
27. Compressed Earth Blocks <i>by Hubert Guillaud</i>	195
28. Building with Earthbags <i>by Joseph F. Kennedy and Kelly Hart</i>	203
29. Digging in for Comfort <i>by Kelly Hart</i>	211
30. Cordwood Masonry: An Overview <i>by Rob Roy</i>	215
31. Straw Bale Building: Lessons Learned <i>by Catherine Wanek</i>	221
32. Building with Hemp <i>by Tom Woolley</i>	233
33. Light-Clay: An Introduction to German Clay Building Techniques <i>by Frank Andresen</i>	245
34. Wattle and Daub <i>by Joseph F. Kennedy</i>	253

35. The Evolution of Timber Framing <i>by Steve Chappell</i>	257
36. The Art of Timber Framing <i>by Devin Smith</i>	263
37. Small-Diameter Roundwood: An Underused Building Material <i>by Owen Geiger</i>	271
38. Bamboo Construction <i>by Darrel DeBoer</i>	273
39. Waste Not, Want Not: Building with Trash <i>by Joseph F. Kennedy</i>	283
40. Earthships: An Ecocentric Model <i>by Jack Ehrhardt</i>	289
41. Papercrete: Homes from Waste Paper <i>by Barry Fuller</i>	293
42. Roofs for Natural Building <i>by Joseph F. Kennedy</i>	301
43. Green Roofs with Sod, Turf or Straw <i>by Paul Lacinski, Michel Bergeron and John Swearingen</i>	309
44. Thatching Comes to America <i>by Deanne Bednar</i>	313
45. Natural Insulation <i>by Joseph F. Kennedy and Michael G. Smith</i>	321
46. Rice Hulls for Insulation <i>by Catherine Wanek and Paul Olivier</i>	327
47. Earthen Floors <i>by Sukita Reay Crimmel and James Thomson</i>	331
48. Earth Plasters and Alis <i>by Carole Crews</i>	339
49. Working with Lime <i>by Barbara Jones</i>	347
50. Natural Paints and Finishes <i>by Janine Björnson</i>	357

Part Four: Building the Global Village

51. Shelter and Sustainable Development <i>by Susan Klinker</i>	367
52. Sustainable Building as Appropriate Technology <i>by David A. Bainbridge</i>	375
53. Woodless Construction in the Sahel <i>by John Norton</i>	383
54. Straw Bales in China: Housing for the People <i>by Catherine Wanek and Kelly Lerner</i>	391
55. Improving Vernacular Housing in Western China <i>by Liu Yang, Jiaping Liu and David A. Bainbridge</i>	397
56. PAKSBAB: Seismically Safe Straw Bale Homes in Pakistan <i>by Catherine Wanek</i>	403
57. Earthen Building Comes to Thailand <i>by Janell Kapoor</i>	407

58. Natural Building Thrives in Argentina <i>by Max Edleson</i>	413
59. Builders Without Borders <i>by Catherine Wanek</i>	421
60. Ecovillages and Sustainable Communities <i>by Joseph F. Kennedy</i>	429
61. Tlholego Village: A Sustainable Community in South Africa <i>by Paul Cohen</i>	435
62. Building with Earth in Auroville <i>by Hilary Smith and Satprem Maïni</i>	441
63. Friland: Affordable Housing in Community <i>by Lars Keller and Joanna Morandin</i>	447
64. Evolving a Village Vernacular in Missouri <i>by Mark Mazziotti</i>	453
Index	459

The information in this book is based on the experience and opinions of the individual authors and has not been independently verified by the editors. Some of the techniques described herein are quite new and still under development; others are ancient, but may lack extensive scientific and technical study. The resurgence of natural building is still in an experimental stage. Claims as to the insulation value, structural strength, fire safety, health benefits, environmental benefits and so on of the various materials and techniques should be considered preliminary. Always do your own research and testing and/or consult a qualified professional before embarking on a building project.