

# Contents

<i>List of Contributors</i>	page ix
<i>Preface and acknowledgements</i>	xiii
1. Introducing resilience	1
<i>Sarah M. Gardner and Stephen J. Ramsden</i>	
PART I: BIODIVERSITY, ECOSYSTEM SERVICES AND RESILIENCE IN AGRICULTURAL SYSTEMS	
2. Complexity and resilience in agriculture	11
<i>Sarah M. Gardner</i>	
3. Biodiversity and agriculture	13
<i>David Tilman</i>	
4. Determining the value of ecosystem services in agriculture	39
<i>Rosemary S. Hails, Rebecca Chaplin-Kramer, Elena Bennett, Brian Robinson, Gretchen Daily, Kate Brauman and Paul West</i>	
5. Resilience in agricultural systems	60
<i>Stephen J. Ramsden and James Gibbons</i>	
6. Building resilience into agricultural pollination using wild pollinators	90
<i>Neal M. Williams, Rufus Isaacs, Eric Lonsdorf, Rachael Winfree and Taylor H. Ricketts</i>	
7. Conflicts and challenges to enhancing the resilience of small-scale farmers in developing economies	109
<i>Richard Ewbank</i>	
8. Modern biotechnology and sustainable intensification: chances and limitations	135
<i>Rolf Meyer</i>	
9. Pastoralism, conservation and resilience: causes and consequences of pastoralist household decision-making	159
<i>Katherine Homewood, Marcus Rowcliffe, Jan de Leeuw, Mohamed Y. Said and Aidan Keane</i>	
	180

## viii CONTENTS

PART II: INTEGRATING BIODIVERSITY AND BUILDING RESILIENCE INTO AGRICULTURAL SYSTEMS		209
10. Delivering sustainability in agricultural systems: some implications for institutional analysis		211
<i>Ian Hodge</i>		
11. The resilience of Australian agricultural landscapes characterised by land-sparing versus land-sharing		232
<i>David J. Abson, Kate Sherren and Joern Fischer</i>		
12. Ecological–economic modelling for designing cost-effective incentives to conserve farmland biodiversity		253
<i>Martin Drechsler and Frank Wätzold</i>		
13. Viability analysis as an approach for assessing the resilience of agroecosystems		273
<i>Sophie Martin</i>		
14. Integrating economics and Resilience Thinking: the context of natural resource management in Australia		295
<i>Michael Harris, Graham R. Marshall and David J. Pannell</i>		
15. Integrating biodiversity and ecosystem services into European agricultural policy: a challenge for the Common Agricultural Policy		315
<i>Allan Buckwell</i>		
16. Using environmental metrics to promote sustainability and resilience in agriculture		340
<i>Jonathan R. B. Fisher and Peter Kareiva</i>		
17. Conclusions on agricultural resilience		362
<i>Sarah M. Gardner, Stephen J. Ramsden and Rosemary S. Hails</i>		
<i>Index</i>		380

*Colour plates can be found between pages 208 and 209.*