

Contents

Part I Addressing Water Governance Challenges
 in the Anthropocene

1 Addressing Water Governance Challenges in the Anthropocene	3
1.1 Climate Change and Uncertainty: The Great Acceleration	3
1.2 Shifting Lens: Sustainability to Adaptability	8
1.3 Converging Threats	10
1.4 Summary	12
References	13
2 A Starting Point: Understanding Governance, Good Governance and Water Governance	17
2.1 Understanding Governance	17
2.2 Good Governance	21
2.3 Water Governance: The Rise of New Standards	23
2.4 Integrated Water Resources Management	24
References	26
3 Adaptive Capacity, Adaptive Governance and Resilience	29
3.1 New Approaches for New Challenges: Integrating Uncertainty and Climate Change	29
3.2 Adaptation, Vulnerability and Adaptive Capacity	32
3.3 Building Adaptive Capacity Through Adaptive Governance and Management Approaches	36
3.3.1 The Role and Rule of Law in Adaptive Governance	40
3.4 Navigating Change in Socio-ecological Systems	44
References	46

4 The Assessment of Adaptive Capacity	53
4.1 Adaptive Capacity	53
4.2 Good Governance Determinants	56
4.2.1 Accountability, Participation, Transparency	56
4.2.2 IWRM & Integration	57
4.3 Resilience, Adaptive Governance and Adaptive Management Determinants	57
4.3.1 Leadership, Trust, Commitment	57
4.3.2 Experience	58
4.3.3 Resources	58
4.3.4 Networks & Connectivity	59
4.3.5 Predictability – Flexibility	59
4.3.6 Knowledge & Information	60
4.3.7 Decentralisation	61
4.4 Analytical Challenges	61
4.5 Developing the Approach	63
4.6 Summary	66
References	68
5 Applying a Multi-pronged Approach to Assessing Adaptive Capacity	73
5.1 Introduction	73
5.2 Qualitative Research	76
5.3 Governance Assessment	78
5.4 Adaptive Capacity	79
5.4.1 Proxy Events	80
5.4.2 Data Collection	82
5.5 Qualitative Data Analysis	89
5.6 Summary	94
References	95

Part II The Case Areas in Chile and Switzerland

6 Introducing the Case Study Areas: Hydro-climatic and Governance Contexts	99
6.1 General Overview	99
6.2 Rhône Basin, Canton Valais, Switzerland	102
6.2.1 Climatic Detail	104
6.3 Aconcagua Basin, Chile	105
6.3.1 Climatic Detail	108
6.4 Development of the Governance Regimes	110
6.5 Summary	120
References	122

7	Water Governance in the Context of IWRM: Switzerland	125
7.1	Introduction to the Assessment	125
7.2	Swiss Water Governance Assessment	126
7.2.1	Accountability	126
7.2.2	Transparency	132
7.2.3	Participation	133
7.2.4	IWRM	133
7.3	Conclusion	137
	References	139
8	Water Governance in the Context of IWRM: Chile	141
8.1	Development of Water Rights in Chile	141
8.2	Chilean Assessment	142
8.2.1	Accountability	143
8.2.2	Transparency	143
8.2.3	Participation	148
8.2.4	IWRM	149
8.3	Conclusions	152
8.4	Summary of Chilean and Swiss Governance in the IWRM Context	153
	References	154
9	Converging Threats: Driving Pressures for Adaptive Capacity	155
9.1	Switzerland	155
9.1.1	Focusing Events	157
9.1.2	Converging Threats: Non-climatic Drivers	162
9.2	Chile	163
9.2.1	Focusing Events	165
9.2.2	Converging Threats: Non-climatic Drivers	167
	References	168

Part III Applying the Assessment

10	Governance in the Face of Uncertainty and Change	173
10.1	Adaptive Mechanisms Across Scales	173
10.2	Characterising Adaptive Responses	185
10.2.1	Transformative Adaptation	186
10.2.2	Persistent Adaptation	192
10.2.3	Passive	197
	References	200
11	Bridges and Barriers to Adaptive Capacity	201
11.1	Bridges and Barriers in Studies of Adaptive Capacity	201
11.2	Bridges and Barriers Across Scales	202
11.3	Common Barriers Across the Cases	219
11.4	Common Bridges Across the Cases	223
	References	225

12	Operationalising Adaptive Capacity	227
12.1	Triangulating Towards a More Nuanced and Empirically Based Set of Adaptive Capacity Indicators	227
12.2	Regime	228
12.3	Knowledge	229
12.4	Networks	229
12.5	Contextual Sensitivities.....	244
12.6	Synthesis: Commonalities and Linkages Across Indicators	252
12.6.1	Regime	252
12.6.2	Knowledge	254
12.6.3	Networks	259
	References.....	267
13	Assessing Adaptive Capacity.....	269
13.1	Analysing the Case Evidence: Indicator Coding	269
13.1.1	Regime	270
13.1.2	Knowledge	275
13.1.3	Networks	282
13.2	Synthesis	289
13.3	Part III Conclusion.....	291
	References.....	294
 Part IV Challenges in Developing and Mobilising Adaptive Capacity		
14	Balancing Structural Conflicts Across Scales to Develop and Mobilise Adaptive Capacity.....	297
14.1	The Spatial Scale.....	297
14.1.1	Regime	300
14.1.2	Knowledge	302
14.1.3	Networks	304
14.2	Speeds and Scales of Change.....	307
14.3	Navigating Structural Tensions and Trade-Offs Across Multiple Governance Scales.....	309
14.4	Conclusion	316
	References.....	317
15	Coping with and Communicating Uncertainty	321
15.1	A Wicked Challenge	321
15.2	Finding the Tools	322
	References.....	325
16	Addressing the Challenge of Institutional Infrastructure in a Technically Focussed World.....	327
16.1	Overview	327
16.2	Summary of Findings.....	328

16.2.1 Governance..... 328

16.2.2 Adaptive Capacity 329

16.3 Assessing Adaptive Capacity 332

16.4 Contributions and Ways Forward..... 334

16.5 Policy Recommendations..... 337

16.6 Final Thoughts 341

References..... 343

<http://www.springer.com/978-94-007-5795-0>

Climate Change and Water Governance
Adaptive Capacity in Chile and Switzerland
Hill, M.

2013, XXIV, 348 p., Hardcover

ISBN: 978-94-007-5795-0