

Contents

1	Introduction	1
1.1	Problem Statement	1
1.1.1	The International Perspective	1
1.1.2	The Chinese Perspective	4
1.2	Aim and Scope	6
1.2.1	Research Aim.	6
1.2.2	Research Scope	7
1.3	Overview of the Book	9
	References	10
2	Water Governance in a Changing World: China and Beyond	13
2.1	Water Scarcity in China	13
2.2	Challenges Around Water and Water Governance	19
2.2.1	Understanding Basics of Water and Water Governance	19
2.2.2	Water as a Human Right vs. Water as an Economic Good	21
2.2.3	Alternative Property Regimes as a Water Policy Instrument	24
2.2.4	The Water Allocation Mechanisms Debate	26
2.2.5	Climate Change Adaptation and Integrated Water Resources Management (IWRM)	31
2.3	Concluding Remarks	37
	References	38
3	China's Water Law and Policy Reform: How Far Have We Travelled?	43
3.1	China's Legal Framework for Water Governance.	43
3.2	Institutional Framework of Water Governance in China	49
3.2.1	Regulatory Organisations of Water Governance	49
3.2.2	Environmental Non-Governmental Organisations (NGOs).	54

3.3	China's Ongoing Water Policy Reform.	57
3.3.1	Building a Water Saving Society.	57
3.3.2	Establishing a Water Rights System	59
3.3.3	Implementing the Strictest Water Resources Management System	60
3.3.4	Nationwide Water Rights Piloting.	62
3.4	Concluding Remarks.	64
	References	65
4	Alternative Water Governance Mechanisms in China:	
	Examination of Current Practices	69
4.1	Supply-Side Approaches to Water Management and Allocation	69
4.2	The Administrative Approach to Water Allocation.	73
4.2.1	Beijing: Paramount Priority.	74
4.2.2	Ecological Emergency	76
4.2.3	Less Favoured Agriculture.	77
4.3	Other Economic Instruments: Water Pricing, Water Resources Fees, and Sewage Treatment Fees.	78
4.3.1	From Free Water Use to Administrative Fee Collection to Government-Set or Government-Guided Water Prices	79
4.3.2	Climbing Water Prices	80
4.3.3	Water Resources Fees and Sewage Treatment Fees	83
4.4	Water Rights Trading	85
4.4.1	Water Trading Between Dongyang and Yiwu	85
4.4.2	Zhangye "Water Notes" Transfer.	88
4.4.3	Paid Water Transfer from Agriculture to Industry in the Yellow River Basin	91
4.5	Major Governance Gaps for Water Rights Trading in China	94
4.5.1	Ill-Defined Water Rights	94
4.5.2	Underperformed Water Rights Administration	96
4.5.3	Failure in Monitoring and Enforcing Water Rights.	101
4.6	Concluding Remarks.	103
	References	105
5	Initialising Tradable Water Rights	109
5.1	Application of the Concept of Water Rights.	109
5.2	The Changing Philosophy of Water Use: Towards Sustainable Water Use	112
5.3	Three Steps of Water Rights Initialisation	115
5.3.1	Water Planning.	115
5.3.2	Water Quantity Allocation	120
5.3.3	Water Abstraction Permits	123

5.4	Deficiencies in the Current Legal Systems and Implications for Reform	134
5.4.1	Ambiguous Regional Water Rights	134
5.4.2	Limited Coverage of Water Abstraction Rights	135
5.4.3	Less Protected Irrigation Water Rights	136
5.4.4	Unclear Boundary for Government Intervention	138
	References	139
6	Designing Tradable Water Rights for China	141
6.1	Origins of Water Rights	141
6.1.1	The Riparian Doctrine	142
6.1.2	Prior Appropriation	143
6.1.3	Permits	144
6.1.4	Statute	146
6.1.5	China's Practices	148
6.1.6	Reflections in the Context of China's Water Reform	150
6.2	Definition of Tradable Water Rights	151
6.2.1	Duration	151
6.2.2	Predictability and Priority	154
6.2.3	Government Intervention in the Exercise of Water Rights	159
6.2.4	Transferability and Divisibility of Water Rights	161
6.3	Defining Tradable Water Rights for the South-to-North Water Diversion Project	166
6.3.1	The Ministry of Water Resources Proposal	167
6.3.2	A New Proposal of Water Rights Arrangements for the Project	176
6.4	Concluding Remarks	178
	References	180
7	Administering Water Rights and Trading	185
7.1	The Current System of China's Water Rights Administration	185
7.1.1	Hierarchy of Water Rights Administration	185
7.1.2	Division of Power in Issuing Water Abstraction Rights	186
7.1.3	Issuance of Water Abstraction Permits	188
7.1.4	Modification and Transfer of Water Abstraction Permits	192
7.1.5	Loss of Water Abstraction Rights	195
7.2	Deficiencies in the Current System and Implications for Reform	196
7.3	Reflections on Experiences from Overseas	201
7.3.1	Centralised Water Rights Administration	201
7.3.2	Sophisticated Titling/Registration Systems	206
7.3.3	Accessible Trading Platforms and Expanded Trading Range	209
7.3.4	Increasingly Accommodated Third-Party Effects	214

7.4	Implications and Recommendations for China's Water Reform	218
7.4.1	Water Rights Administration: Decentralisation or Centralisation?	218
7.4.2	Water Rights Titling/Registration System	222
7.4.3	Regulation of Water Rights Trading Markets and Provision of Trading Platforms	225
7.4.4	Protection of Third-Party Interests	226
7.5	Concluding Remarks	227
	References	229
8	Conclusion	233
8.1	Overview	233
8.2	Summarising the Key Messages	236
8.3	The Way Forward	238
	References	240
	Index	241