

Water Institutions: Policies, Performance and Prospects

Contents

Preface

1. Water Allocation and Management in Hawaii: A Case of Institutional Entropy, by Chennat Gopalakrishnan

1.1 Introduction	1
1.2 Institutions: An Overview	1
1.3 Institutional Entropy	3
1.4 Hawaii's Water Institutions: An Evolutionary Perspective	4
1.5 Performance of Hawaii's Water Institutions: A Case Study	12
1.6 Hawaii's Water Institutions: A Case of Institutional Entropy	18
1.7 Future Directions	19
1.8 References	21

2. Institutions for Resources Management: A Case Study from Sri Lanka, by Asit K. Biswas

2.1 Introduction	24
2.2 Public and Private Institutions	25
2.3 Analysis of a Sri Lankan Institution	29
2.4 Concluding Remarks	44
2.5 References	45

3. Water Institutions in India: Structure, Performance, and Change, by R. Maria Saleth

3.1 Introduction	47
3.2 Objectives and Scope	48
3.3 Analytical Framework	48
3.4 Water Institutional Environment: An Overview	52
3.5 Water Institutional Structure: A Macro Perspective	54
3.6 Water Institutional Structure: Micro Perspective	65
3.7 Evaluating the Performance of Water Institutions	69
3.8 Institutional Change: Nature, Extent, and Causes	72
3.9 Concluding Remarks	77
3.10 References	78

4. Uphill Flow of Reform in China's Irrigation Districts, by James E. Nickum

4.1 Introduction	81
------------------	----

4.2	Locating the Irrigation Districts in Contemporary China	81
4.3	Recent History and the Disabling Environment	84
4.4	Reform Initiatives	89
4.5	Interpretation and Meanings	95
4.6	Acknowledgements	96
4.7	References	96
5. Institutions for Water Management in Mexico, by Cecilia Tortajada and Nancy Contreras-Moreno		
5.1	Introduction	99
5.2	River Basin Commissions, 1946-1986	100
5.3	Factors which influenced the performance of the river basin commissions	118
5.4	Regional approach for water policies and institutions	122
5.5	Concluding Remarks	125
5.6	Acknowledgements	127
5.7	References	127
6. Water Institutions in the Middle East, by Peter Beaumont		
6.1	Introduction	131
6.2	The Beginnings of Water Institutions	131
6.3	Islam and Water	133
6.4	Modern Water Institutions	135
6.5	National Case Studies	136
6.6	Overall Assessment of Water Institutions in the Middle East	150
6.7	References	152
7. Institutions in South African International River Basins, by Anthony R. Turton and Anton Earle		
7.1	Introduction	154
7.2	The Southern African Hydropolitical Complex	154
7.3	History of Development in the South African Water Sector	157
7.4	An Assessment of Post-Apartheid Institutional Development	164
7.5	Concluding Remarks	168
7.6	References	168
8. Property Rights, Water Rights and the Changing Scene in Western Water, by Charles W. Howe		
8.1	Introduction	175
8.2	The Definition and Evolution of Property Rights	175
8.3	“Optimising” the Property Rights System	176
8.4	The Evolution of Western U.S. Water Rights	178

8.5 The Need for Change in Western U.S. Water Administration	180
8.6 Specific Steps	182
8.7 References	184
9. Finding a Modern Role for the Prior Appropriation Doctrine in the American West, by Ray Huffaker	
9.1 Introduction	187
9.2 The Prior Appropriation Doctrine	188
9.3 Flaws in Principle and in Application	189
9.4 A Modern Role for the Prior Appropriation Doctrine	196
9.5 Concluding Remarks	198
9.6 References	198
Index	201