

**The London School of Economics and Political
Science**

*The institutional development and outcomes of water
partnerships in Korea: A comparative case study based
on a modified Institutional Analysis and Development
(IAD) framework*

KoUn Kim

A thesis submitted to the Department of Geography and
Environment of the London School of Economics for the
degree of Doctor of Philosophy, London, October 2012

Declaration

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

The copyright of this thesis rests with the author. Quotation from it is permitted, provided that full acknowledgement is made. This thesis may not be reproduced without my prior written consent.

I warrant that this authorisation does not, to the best of my belief, infringe the rights of any third party.

I declare that my thesis consists of 74,518 words of which 70,732 are in the maintext and the rest are in the bibliography and appendices.

Statement of use of third party for editorial help (if applicable)

I can confirm that two chapters of my thesis (Chapters 1 and 8) were copy edited for conventions of language, spelling and grammar by proofreading service of LSE Language Centre.

Abstract

This thesis examines how new types of water governance institutions, water partnerships, emerged and performed in Korea, a centralised state-driven society. Beyond conventional water management by either government or market, new forms of governance have been sought to address problems such as under-provision, pollution and water conflict. This study investigates voluntary water partnerships as a leading example of new water governance in East Asia. Conceptually, it uses a modified institutional approach, the Institutional Analysis and Development (IAD) framework, to examine how global water reform discourses informed social actors in the design and implementation of regional and urban water partnerships in Korea. A comparative case analysis of six water partnerships finds that co-governance institutions emerged and operated in a complex linkage with existing water governance systems. For the three urban water partnerships, local actors actively seized opportunities to rehabilitate long abandoned urban streams. For the three regional water partnerships, public and private sector actors successfully negotiated partnership agreements, focusing on the restoration of polluted water sources. A modified IAD framework captured these complicated interactions among stakeholders within multi-layered water governance structures. An attitudinal survey of partnership members complemented the comparative case studies by assessing how the partnerships performed according to selected evaluation criteria. A multi-criteria assessment of the

data reveals three key findings. First, the partnerships achieved mainly positive procedural and socio-economic outcomes in water management. Second, observed lower environmental outcomes result mainly from the interlinked features of water resources management and the partnerships' relatively brief history. Third, the overall findings indicate that the outcomes of co-governance institutions tended to be contextual. The scale of organisations and of the water resources concerned did not determine the outcomes of the water partnerships. Thus, this finding challenges the claim that 'smaller is better' in collaborative governance. This study concludes that the voluntary co-management of shared water resources by the six partnerships have simultaneously brought some solutions as well as costs to water governance in Korea. The design and development of co-management institutions for water governance requires a greater understanding of local and national settings, as well as the facilitative role of national government. Co-operation between new co-governance institutions and existing water institutions is vital to long-term, effective water management.

Acknowledgement

There have been a number of people without whom this thesis could not have been completed. My deepest gratitude goes out to Professor Judith Rees and Dr Michael Mason. Their critical and insightful comments have mentored me to refine my rough and naïve ideas into this book. I want to thank my interviewees for sharing their time with me: Mr KP Kim, Mr JK Kim in Busan, Mr SY Lee in Gyeongnam, Dr KD Cho and Ms HJ Shin in Incheon, Dr KM Kim for Paldang case, Mr KH Kim in Daecheong and Mr JB Kim for Jeonju case.

I would like to express my undying gratitude to my amazing parents, Dr Kim Bong-Hee and Ms Lee Dong-In and my family, for their love and support. I have been lucky to have friends who have been there for me: Dr Hyun Shin, Nonnka, Youngjeong, Soyeon, Kuniko, Dr MH Lee and Dr JK Kho, Jae-eun seonbae, Fran, Frank, June, Sejeong, Chris Sujung, Eunjin, Sujung, Jiun, Pauline, Antsi, Agnes, Hyunjung, Gold and the friends at the MEE Net and TERRA in Bangkok. Finally, I send my thanks to who let me work during my PhD course so I could survive in London: Dr JW Yang at the BDI, Dr CW Lee and Dr WS Kim at the SI (ex. SDI), Dr KD Cho and Dr HY Kim at the IDI. Finally yet importantly, I am grateful to the kindness of Professor CS Lee at the Bukyong National University, of Dr YC Lee and people at the counselling service at LSE.

Table of contents

DECLARATION	2
ABSTRACT	3
ACKNOWLEDGEMENT	5
TABLE OF CONTENTS	6
LIST OF TABLES	11
LIST OF FIGURES	12
CHAPTER 1 INTRODUCTION	14
INTRODUCTION	14
1.1 RATIONALES FOR STUDYING WATER PARTNERSHIPS	20
1.1.1 Complexities in water management	20
1.1.2 Current debates on water management	22
1.1.3 Co-governance: Development of water partnerships at the multiple levels of management	27
1.2 EMERGENCE OF CO-GOVERNANCE IN A CENTRALISED STATE AND WATER GOVERNANCE IN KOREA	34
1.3 ANALYTICAL FRAMEWORK: WATER PARTNERSHIPS IN MULTI-LAYERED WATER GOVERNANCE	38
1.3.1 IAD framework: Interactive institutional development of water partnerships	40
1.3.2 Modified framework: examining water partnerships	41
1.4 RESEARCH QUESTIONS AND AIMS	44
1.5 RESEARCH DESIGN AND METHODOLOGY	46
1.6 THE STRUCTURE OF THE THESIS	49
CHAPTER 2 WATER PARTNERSHIPS ANALYSIS: CO-GOVERNANCE FOR WATER MANAGEMENT IN PRACTICE	52
INTRODUCTION	52
2.1 CONCEPTS AND FEATURES OF WATER PARTNERSHIPS	53
2.2 WATER MANAGEMENT AND PARTNERSHIP DEVELOPMENT	55
2.3 WATER PARTNERSHIP ANALYSIS	58
	6

2.3.1	<i>Emergence of water partnerships</i>	60
2.3.2	<i>Operations of water partnerships</i>	66
2.3.3	<i>Outcomes of partnerships</i>	68
	CONCLUSION	74
	CHAPTER 3 IAD FRAMEWORK: DEVELOPMENT AND OUTCOMES OF WATER PARTNERSHIPS	76
	INTRODUCTION	76
3.1	IAD FRAMEWORK: A THEORETICAL APPROACH TO INSTITUTIONAL DEVELOPMENT	77
3.1.1	<i>Unpacking the incremental development of institutions</i>	77
3.1.2	<i>Polycentric governance of water resources</i>	84
3.2	A MODIFIED IAD FRAMEWORK FOR THE ANALYSIS OF KOREAN WATER PARTNERSHIPS	90
3.2.1	<i>Exogenous factors to institutional development and outcomes</i>	91
3.2.2	<i>Social basin: illustrating changes in multi-layered water governance</i>	95
	CONCLUSION	99
	CHAPTER 4 RESEARCH DESIGN AND METHODOLOGY	102
	INTRODUCTION	102
4.1	RESEARCH DESIGN FOR INSTITUTIONAL DEVELOPMENT OF KOREAN WATER PARTNERSHIPS	103
4.1.1	<i>Qualitative comparative case study</i>	103
4.1.2	<i>Complementary assessment for partnership outcomes</i>	106
4.1.3	<i>Research procedure</i>	107
4.2	DATA COLLECTION	108
4.2.1	<i>Documentary analysis examining reform discourses and partnership outcomes</i>	110
4.2.2	<i>Pilot study and pre-interview</i>	111
4.2.3	<i>Selection of cases</i>	113
4.2.4	<i>Semi-structured interviews</i>	117
4.2.5	<i>Attitude surveys</i>	121
4.3	DATA ANALYSIS	125
	CONCLUSION	127

LIST OF INTERVIEWS	128
CHAPTER 5 EXOGENOUS FACTOS BEHIND PARTNERSHIP EMERGENCE: INCREMENTAL DEVELOPMENT OF MULTI-LAYERED WATER GOVERNANCE IN KOREA IN THE 1990S	131
INTRODUCTION	131
5.1 NATIONAL POLICY: STABILITY AND CHANGE IN CENTRALISED WATER GOVERNANCE IN KOREA	133
5.1.1 <i>State-driven water governance under the pressure of rapid socioeconomic development</i>	134
5.1.2 <i>Water policy reforms following the pollution problems and governance crisis</i>	140
5.1.3 <i>Implications of institutional change to Korean water governance</i>	146
5.2 LOCAL CAPACITY BUILDING 1: THE LA21 MOVEMENT AND NATIONAL POLICY REFORMS	150
5.2.1 <i>The critical juncture: global reform discourse on sustainable development</i>	152
5.2.2 <i>The reproduction period: introduction of environmental governance at the national level</i>	157
5.2.3 <i>Implications of institutional change to Korean water governance</i>	159
5.3 LOCAL CAPACITY BUILDING 2: SAVING RIVER CAMPAIGNS AND THE LA21 MOVEMENT	161
5.3.1 <i>The critical juncture: the discourse of rediscovering hidden urban rivers</i>	163
5.3.2 <i>The reproduction period</i>	168
5.3.3 <i>Implications of Saving River Campaigns to Korean water governance</i>	171
CONCLUSION	172
CHAPTER 6 INSTITUTIONAL ANALYSIS OF EMERGENCE OF WATER PARTNERSHIPS IN KOREA: A COMPARATIVE CASE STUDY	176
INTRODUCTION	176
6.1 THE EMERGENCE OF SIX WATER PARTNERSHIPS: OVERVIEW AND THE INITIAL STRUCTURES	176
6.1.1 <i>Urban water partnerships in Jeonju, Busan and Incheon</i>	177
6.1.2 <i>Regional water partnerships in Daecheong, Paldang and Gyeongnam</i>	187
6.1.3 <i>Summary</i>	197
6.2 USING THE IAD FRAMEWORK TO EXPLAIN THE EMERGENCE OF WATER PARTNERSHIPS	200
6.2.1 <i>Physical conditions: chronic water problems as a necessary condition for partnership emergence</i>	200

6.2.2	<i>Attributes of community</i>	203
6.2.3	<i>Rules-in-use and norms</i>	205
6.3	A MODIFIED IAD FRAMEWORK: ADDITIONAL ANALYTICAL ELEMENTS	208
6.3.1	<i>Reform discourse of co-governance</i>	209
6.3.2	<i>Application of co-governance discourses at the national and local levels</i>	213
6.3.3	<i>Social basins: before and after the creation of partnerships</i>	225
	CONCLUSION	232
CHAPTER 7 ASSESSING THE OUTCOMES OF KOREAN WATER PARTNERSHIPS: A COMPARATIVE		
CASE STUDY		
	INTRODUCTION	236
7.1	OUTCOMES OF WATER PARTNERSHIPS IN KOREA	237
7.1.1	<i>Overview</i>	237
7.1.2	<i>Process-related outcomes</i>	241
7.1.3	<i>Environmental outcomes</i>	242
7.1.4	<i>Socio-economic outcomes</i>	243
7.1.5	<i>Summary</i>	244
7.2	THE IAD FRAMEWORK ANALYSIS ON THE PARTNERSHIP OUTCOMES	247
7.2.1	<i>The set of participants</i>	247
7.2.2	<i>The positions: the key actors within the partnerships</i>	252
7.2.3	<i>Allowable actions (authority) and the potential outcomes</i>	256
7.2.4	<i>The level of control (aggregation)</i>	262
7.2.5	<i>The available information</i>	265
7.2.6	<i>The costs and benefits</i>	270
7.2.7	<i>Summary of the classical IAD framework analysis</i>	273
7.3	MODIFIED IAD FRAMEWORK IN PARTNERSHIP OUTCOMES	275
7.3.1	<i>Discourse of co-governance</i>	275
7.3.2	<i>Application of the reform discourses at the national and local levels</i>	277
7.3.3	<i>Linkage with the existing water governance: Social basins</i>	279

CONCLUSION	285
CHAPTER 8 CONCLUSION	290
INTRODUCTION	290
8.1 RESEARCH QUESTIONS REVISITED	292
8.2 DISCUSSION OF THE FINDINGS	296
<i>8.2.1 The emergence of water partnerships in Korea</i>	296
<i>8.2.2 The outcomes of water partnerships in Korea</i>	304
<i>8.2.3 Reflections on using the modified IAD framework</i>	310
8.3 RESEARCH CONTRIBUTIONS	312
8.4 THESIS LIMITATIONS AND FURTHER WORKS	313
BIBLIOGRAPHY	316
APPENDIX I: THE DESIGN AND THE RESULTS OF THE ATTITUDE SURVEY ON THE URBAN WATER PARTNERSHIPS'	
OUTCOMES	338
APPENDIX II: THE ACTIVITIES OF THE URBAN PARTNERSHIPS	344
APPENDIX III: THE RESULTS OF THE ATTITUDE SURVEY ON THE REGIONAL WATER PARTNERSHIPS' OUTCOMES	348
APPENDIX IV: THE ACTIVITIES OF THE REGIONAL PARTNERSHIPS	354
APPENDIX V: SUMMARY OF THE TWELVE VALUED-SCALED QUESTIONS IN THE SURVEY OF 77 WATER PARTNERSHIP	
MEMBERS	357
APPENDIX VI: THE LIST OF ABBREVIATIONS USED IN THE THESIS	358

List of tables

TABLE 2.1 SELECTED EVALUATION CRITERIA.....	74
TABLE 3.1 SEVEN ANALYTICAL ELEMENTS FOR INTRA-ACTION ARENA OF PARTNERSHIPS	82
TABLE 4.1 CASE STUDY TACTICS FOR FOUR DESIGN TESTS	106
TABLE 4.2 DATA COLLECTION METHODS EMPLOYED	109
TABLE 4.3 QUESTIONS ASKED IN THE PILOT SURVEY	112
TABLE 4.4 KEY ACTIVITIES OF THE SELECTED WATER PARTNERSHIPS	116
TABLE 4.5 QUESTIONS ASKED IN THE SEMI-STRUCTURED INTERVIEWS	119
TABLE 4.6 ATTITUDE QUESTIONNAIRE FORM	124
TABLE 4.7 INTERVIEWS CONDUCTED SEPTEMBER 2004-JUNE 2005.....	126
TABLE 4.8 THE NUMBER OF THE INTERVIEWS	128
TABLE 4.9 THE LIST OF INTERVIEWS IN THE URBAN CASES	128
TABLE 4.10 THE LIST OF INTERVIEWS IN THE REGIONAL CASES	129
TABLE 5.1 THE INTRODUCTION OF THE CMWM TO FOUR MAJOR RIVER BASINS	146
TABLE 5.2 PATHS OF INSTITUTIONAL CHANGES: THE LA21 MOVEMENT IN KOREA (1960~2000S).....	152
TABLE 5.3 PATHS OF INSTITUTIONAL CHANGES: THE SAVING RIVER CAMPAIGNS IN KOREA.....	163
TABLE 5.4 CHRONOLOGY OF SAVING RIVER CAMPAIGNS AND PROGRAMMES IN KOREA.....	165
TABLE 6.1 COMPOSITION OF THE JEONJU WATER PARTNERSHIP IN 2000.....	181
TABLE 6.2 THE COMPOSITION OF THE PREPARATION COMMITTEE IN DAECHEONG	191
TABLE 6.3 THE COMPOSITION OF THE PALDANG PARTNERSHIP	194
TABLE 6.4 THE COMPOSITION OF THE ORGANISATION COMMITTEE FOR GYEONGNAM PARTNERSHIP	197
TABLE 7.1 SELECTED EVALUATION CRITERIA FOR THE ATTITUDE SURVEY	238
TABLE 7.2 SCORING ON SATISFACTION WITH EACH PARTNERSHIP IN THE LIKERT SCALE AND PERCENTAGE.....	241
TABLE 7.3 SEVEN ANALYTICAL ELEMENTS FOR INTRA-ACTION ARENA OF PARTNERSHIPS	247
TABLE 7.4 PLANNED OR COMPLETED RESTORATION LENGTH IN TWO METROPOLISES.....	249

List of figures

FIGURE 1.1 FOUR MAJOR RIVER BASINS IN SOUTH KOREA.....	37
FIGURE 1.2 THE LOCATION OF THE SELECTED CASE AREAS IN THE REPUBLIC OF KOREA.	47
FIGURE 1.3 RESEARCH FLOW CHART.....	49
FIGURE 2.1 THE LIFECYCLE OF WATER PARTNERSHIPS: THE INSTITUTIONAL DEVELOPMENT OF PROCESS-FOCUSED STUDIES VERSUS OUTCOMES-FOCUSED STUDIES.....	60
FIGURE 3.1 THE IAD FRAMEWORK.....	78
FIGURE 3.2 MODIFIED IAD FRAMEWORK.....	98
FIGURE 4.1 RESEARCH FLOWCHART.....	108
FIGURE 4.2 LOCATION OF THE SELECTED CASE AREAS IN NUMBERS IN THE REPUBLIC OF KOREA.....	115
FIGURE 5.1 INSTITUTIONAL CHANGES BEFORE THE EMERGENCE OF PARTNERSHIPS: MODIFIED IAD FRAMEWORK.....	132
FIGURE 5.2 THE MULTI-LAYERED WATER GOVERNANCE IN KOREA AFTER THE CMWM.....	145
FIGURE 5.3. TREND OF LA21 IN KOREAN LOCAL AUTHORITIES.....	157
FIGURE 6.1 THE RIVERS IN JEONJU CITY.....	178
FIGURE 6.2 SATELLITE IMAGE (LANDSAT) OF THE BUSAN METROPOLITAN CITY.....	183
FIGURE 6.3 SATELLITE IMAGE (LANDSAT) OF THE INCHEON METROPOLITAN CITY.....	185
FIGURE 6.4 THE ORGANISATIONAL STRUCTURE OF INCHEON WATER PARTNERSHIP.....	187
FIGURE 6.5 THE DAECHEONG LAKE BASIN.....	189
FIGURE 6.6 PALDANG LAKE WATERSHED WITH OTHER SUB-BASINS OF THE HAN RIVER BASIN.....	192
FIGURE 6.7 MODIFIED GIS LAND COVER MAP OF GYEONGSANGNAM- DO.....	196
FIGURE 6.8 MODIFIED IAD FRAMEWORK.....	209
FIGURE 6.9 JEONJU SOCIAL BASIN: EXPANSION AND CONTRACTION OF THE JEONJU WATERSHED.....	227
FIGURE 7.1 PERCEIVED OUTCOMES AND SELF-SATISFACTION OF THE TWO SUB-GROUPS OF PARTNERSHIPS (AVERAGE MEDIAN).....	239
FIGURE 7.2 SATISFACTION WITH EACH PARTNERSHIP (PERCENTAGE).....	240
FIGURE 7.3 PROCESS-RELATED OUTCOMES IN THE LIKERT SCALE	

(MEDIAN)	242
FIGURE 7.4 ENVIRONMENT OUTCOMES IN THE LIKERT SCALE	
(MEDIAN)	243
FIGURE 7.5 SOCIO-ECONOMIC OUTCOMES IN THE LIKERT SCALE	
(MEDIAN)	244
FIGURE 7.6 ANNUAL WATER QUALITY TREND OF THE TWO LAKES	261

CHAPTER 1 INTRODUCTION

Introduction

Water governance reform has increasingly become a significant need due to the substantial challenge of water management. Reform of conventional water management bodies such as national and local governments has been called for by numerous organisations (UNDP 2006). Poor governance has been recognised as a key cause for the current water crisis (World Water Assessment Programme 2009). In particular, 'mismanagement, corruption, lack of appropriate institutions, bureaucratic inertia and a shortage of new investments in building human capacity as well as physical infrastructure' (UNESCO and the UN World Water Assessment Programme 2006: 45)¹ have been believed to cause problems in water provision in many countries. In many developing countries, despite on-going efforts to solve water problems, there have been continuous concerns with the capacity of the current water management system to address the pressing issues (Plummer and Slaymaker 2007).

To address challenges in managing water resources, which are multi-use and interdependent, various ideas have been experimented in different contexts under the name of water governance reform (Dinar 2000). The

¹ According to the third World Water Development Report (2009: 82), 'almost two in three people lack access to safe drinking water survive on less than \$2 a day and one in three on less than \$1 a day'.

earlier initiatives were designed to treat water more as an economic good than a social or public good (Winpenny 1994; Clarke 2003). Despite being a counteract measure against government failure, attempts to 'marketise' water resources have generally been shown to be less successful than liberal economists' originally thought (Weizsäcker, Young et al. 2005). Yet at the same time, reform initiatives advocated a transformation of management structure of nation states from centralised to decentralised (Mody and World Bank 2004). Despite the popularity of this initiative (Agrawal 2001: 208), the effectiveness of local water management has been criticised as being limited, owing to its lack of coordination with the national water governance (Prud'homme 1995; Moore and Rockloff 2006). An initiative of 'collaborative governance' (Heikkila and Gerlak 2005) was designed to address the relationships among various stakeholders, which were dismissed in the previous alternatives. This notion entails a spectrum of ideas from stakeholder participation in the existing water management system to co-governance by partnerships between stakeholders and government (Sabatier, Focht et al. 2005).

This thesis focuses on one of the water governance reform initiatives, known as 'co-governance'. Co-governance has attracted academic attention within public policy and institutional schools of thought as a means of tackling the 'governance crisis' of water management (Rogers and Hall 2003; Castro 2007). This new form of environmental governance is operated via

horizontal collaboration between stakeholders, involving both government and non-governmental groups through power-sharing and participation (Béné and Neiland 2006: 39).² The diversity of stakeholder participation (Leach, Pelkey et al. 2002) and co-management based on voluntary agreement, are the key features of co-governance (Béné and Neiland 2006: 39). Partnership management (Reed 1995) under the notion of co-governance has become an integral part of the so-called 'the [new] governance' in natural resource management in Western countries (Rydin 2003). This new notion distinguishes itself from policy fallacy led by either governments or markets (WB, Kim, Choi et al. 2001). Terms such as the watershed partnerships in the US (Sabatier, Focht et al. 2005), joined-up government (Bogdanor and British Academy. 2005) and public-private partnerships (Flinders 2005) in the UK, have become popular governance practices in these countries. In less developed countries, the involvement of local actors has been identified as promoting effective and deliberate governance (Fox 1996; Evans 1996b; Pretty and Ward 2001), where government failure has been identified as one of the main causes of poor water management. Again, the idea of co-governance has mostly been applied by at least the policy maker or more remotely by international organisations.

² Institutions here are defined in the research as systems of rights, rules and decision-making procedures (See Young, O. R., L. A. King, et al., Eds. (2008). Institutions and environmental change : principal findings, applications, and research frontiers. Cambridge, MA, MIT Press.).

However, relatively few studies have been carried out on the institutional development of co-governance in East Asia (See DH, Ryu 2004; Waley 2005; Lee, Kim et al. 2006) where centralised states with relatively weak but developing civil societies have been put in place. In South Korea, the central government has been controlling local governments through tax sharing and delegating public affairs, given the distribution ration between national and local taxes has been fixed from 8 to 2 (BJ, Kim 2007). Only 27% out of 41,603 public affairs conducted by governmental bodies were under control of the local governments in 2002 (IS, Kim 2002). As Chalmers Johnson notes, this tendency of strong centralisation, the 'developmental state', the central government in the recently industrialised countries drove economic development by itself, rather than let the market take the lead (Johnson 1982). With Korean cases, this political economic context has much been debated in terms of economic growth and failure (Woo-Cumings 1999; Castells 2000). At the same time, a few studies on water management in the context of the developmental state were devoted to civil society, rather than co-governance (Yoon 2001; Ku 2004).

In this regard, this study pays attention to co-governance institutions that have emerged in NICs, such as Korea, from the late 1990s. There has rarely been the direct imposition of governance reform as designed by the international organisations, which has been common in the South (Evans

2004). Nor is there an endogenous top-down reform design that stipulates the application of co-governance, such as the EU Water Framework Directive. The dominance of the nation state found in Korea is in contrast to the cases found in the US and the Netherlands, where the historical legacy of self-governance at a community level remains strong (Sabatier, Focht et al. 2005; Möllenkamp, Lamers et al. 2008). By addressing the empirical gaps in the institutional development of water partnerships, an analysis of co-governance institutions in NICs can help explain the growing diversity in new institutional development. Because this study addresses the voluntary emergence of partnerships, its results expands the understandings of co-governance from 'institutional design'. The details will be analysed in Chapter 5.

The objective of this thesis is therefore to analyse how co-governance institutions – one of the central themes of contemporary water management – have been developed in a highly centralised state such as Korea (See section 1.2). In this context, Korea offers new insights to understand the adoption of co-governance in water management system in a highly centralised state structure. The analysis of water co-governance in such a state system has so far been absent. This research aims to raise the understanding of two questions: a) How have co-governance institutions for water management emerged in Korea?; b) How and why have water

partnerships in Korea produced certain outcomes?³ The analysis in this study has gone beyond the conventional approach of public policy reform, e.g. best practice management. Such an approach tends to regard co-governance institutions as an instrument to fix existing problems by isolating them from existing water governance (See Lubell, Sabatier et al. 2005). In doing so, it pays less attention to a continuous process from the perspective of institutional development within multi-layered water governance. Instead, this thesis attempts to understand the dynamic and complicated process of co-governance development by analysing how a co-governance structure, that of 'water partnerships', has been shaped in connection with existing water governance and produced certain outcomes.

The rest of this chapter begins by introducing how co-governance institutions have been discussed in previous water studies. This is followed by a brief introduction to the Korean context. Afterwards, theoretical arguments on the development of co-governance institutions for water management will be briefly discussed. A modified analytical framework for this study is proposed after a review of the *Institutional Analysis and Development (IAD) framework*. After an explanation of the research design applied to this study, the chapter concludes with a summary of the structure of the thesis, which follows at the end of the chapter.

³ Korea in this thesis is the Republic of Korea - known as South Korea.

1.1 Rationales for studying water partnerships

Before the examination of co-governance for water management, this section presents the rationales for the study. The section starts with the common features of water management, which are deeply related to the current debate of water management. The following lists include contemporary debates about the search for effective governance, governance change and related analytical works and scale issues.

1.1.1 Complexities in water management

The challenge to water management derives from the complexities inherent in water management. Three features have made water management more complicated.

At the outset, there has been the continuing problem of water resource management, due to physical complexities such as uneven seasonal availability, regional disparity, contamination of the resource by pollutants and the more recent threat of climate change (Rees 1992; Bressers and Kuks 2004; Falkenmark, Gottschalk et al. 2004). For example, the multi-layered nature of water governance is often known as being 'polycentric' (Blomquist and Schlager 2005) or 'nested' (Ostrom 2005b) by describing the organisations created as being based on the cascade-like structure of river basins in nature. In addition to physical complexities, water resources are used in various ways such as socio-economic activities for human societies

and habitat conservation for ecosystem. Hence, the functions of water management are inherently varied, which have been expanding beyond human-centred use.

As a newly rising concern, river restoration has been introduced by new institutions such as the water partnerships in the US (Sabatier, Focht et al. 2005) and Japan (Waley 2005) to tackle problematic urban rivers. This recent concern has been applied as a more naturalised re-structure of artificially modified rivers (Ryu 2004; Volker 2004), and furthermore, rehabilitation for ecosystem conservation (Baldwin, De Luce et al. 1994; de Waal, Large et al. 1998; Clarke 2003). The scholars have debated how to restore the human-altered river environment because the application of the notion, river restoration varies in reality. Strictly speaking, restoring water system is referred to as “the return of an ecosystem to a close approximation of its condition prior to disturbance”(Committee on Restoration of Aquatic Ecosystems: Science and National Research 1992: 17).In contrast, as this report criticises, there have been practices that “[m]erely recreating a form without functions, or further functions in an artificial configuration being little resemblance to a natural resource”(op cit. 18). The gap between theory and engineering-focused practices have become apparent, which requires further study with more attention being made to institutional surroundings around restoring the water system (Hilden 2000).

Finally, water organisations vary according to either the object of management (water quantity or water quality) or the nature of management (development or regulation) (Caponera 1992). It is not surprising that a plethora of management and consumer bodies are involved in water governance at various spatial scales ranging from community to river basin, and at national and global levels. For example, the European Union's Water Framework Directive announced in 2000, encompasses an array of various types of water organisations (Bressers and Kuks 2004; Volker 2004). Thus, how recently emerged co-governance institutions are connected to specific water management topics needs to be examined.

1.1.2 Current debates on water management

Debates over effective organisations have been shaped with the continuous search for institutional alternatives up to the development of water partnerships. In the beginning, debates have centred on fragmented management, high maintenance costs and inefficient regulatory schemes under the notion of government failure. National states, historically depending on professionals (Berry and Mollard 2010), were questioned as a main cause of governance crisis (Global Water Partnership 2001). To address government failure, the privatisation of water management was robustly adopted in the 1990s in the global south of Africa, Asia and South America (Budds and McGranahan 2003). However, marketisation reform is found to

be only partly successful mostly under democratic national governments with the capacity to monitor the increased roles of the private sector (Weizsäcker, Young et al. 2005: 111). By questioning the pre-determined roles of markets to reform government with 40 cases, Weizsäcker and his colleagues suggest an alternative idea; participatory governance with active engagement from the nongovernmental sector (NGOs) (Weizsäcker, Young et al. 2005: 331-2).

The search for effective water management is echoed with another significant issue in contemporary water management, 'a shift from government to governance'. The last two decades have witnessed substantial changes in the role of the State, and greater participation of informal institutions in policy-making alongside formal state organisations (Carney and Farrington 1998; Pierre 2000). When it comes to water governance, the boundary between state and society in water management has become more obscure. This evolving feature shows the possibility of the development of polycentric water governance along with the emergence of partnership institutions. State, market or civil society and hybrid forms of governance institutions are all participating in water management in a number of countries from Nepal, Sweden to the US (Jönsson 2004; Sabatier, Focht et al. 2005; Berry and Mollard 2010). While a considerable amount of literature has been published on the shift from 'government to governance', few studies have paid attention to how water problems have been

intertwined with this transition.

Even though current debates in water management have been deeply influenced by water governance reforms, the definition and its implications of water governance are not as clear as the problems of water management such as governance crisis. For example, the encompassing feature of water governance is found in the well-known definition proposed by the Global Water Partnership and accepted by the UNDP. Water governance is referred as 'governance from a water perspective' (Global Water Partnership 2003). Or this notion is defined as 'the range of political, social, economic and administrative systems that are in place to regulate the development and management of water resources and provision of water services at different levels of society (Global Water Partnership 2003)'. These definitions stress the socio-political and economic aspects in water management that had been overlooked in technology-driven approaches. However, these definitions are merely descriptive and can hardly be used for analytical purpose.

In a more analytical sense, water governance reform has two targets, namely civil society and governments, when governance is referred to 'the sum of interactions between civil society and governments' (Manor 1998: 2; Béné and Neiland 2006: 5). By proposing two alignments within the broadly defined governance debates, Béné argues that two targets of water

governance reform are often reflected in an imbalanced way. Whereas the liberal dimension pays attention to 'misrule and abuse of resource users by the state, statist focus on 'the State's inability to manage the resources' (Béné and Neiland 2006: 9). Often, the initially proposed definitions of water governance remain too abstract and mislead the roles of governments or over emphasise with non-governmental actors. Thus, a balanced and more analytical approach is required to advance current debates about water governance.

The scale of management has been a particularly controversial issue in water resource management (Bressers and Rosenbaum 2003), which this study notes as a significant factor in institutional development. Regarding river-related water governance, some argue that a river basin is the logical unit of water resource management (Tortajada 2001; Bressers and Kuks 2004); however, others acknowledge that a river basin is treated as a mere operational level or sub-system, and being supplementary to the conventional scale of management based on administrative boundaries (Hofwegen and Jaspers 1999: 11). The overlapping and connection between the scale of water resources and the levels of administrative management have been deeply related to the development of water partnerships. There are two different types of co-governance institutional development recognised in the Western World. The first type has appeared in a top-down manner, for example, the EU Water Framework Directive. In this case, the

EU is a key promoter of participatory governance in Western Europe. The second type of co-governance is the combination of bottom-up and top-down types, found in the US. An array of local stakeholders voluntarily created partnerships for small watershed conservation with the support of state and federal agencies. A wealth of literature shows the increased emergence of smaller-scale watershed management institutions, in particular, in the U.S. (Woolley and McGinnis 1999; Center for the Economy and the Environment 2000; Kenney, McAllister et al. 2000; Wondolleck and Yaffee 2000; Leach and Pelkey 2001; Leach, Pelkey et al. 2002; Lubell 2004a; Blomquist, Dinar et al. 2005). The case studies of co-governance institutions in this literature are mostly on a small scale in Western societies or in less developed countries, which raise the 'scale-up' problem of self-governance institutions in general, and in other contexts.

The notion of a social basin, being referred to as 'a sub-basin, a local or regional unit of government, or a hybrid unit' (Blomquist, Dinar et al. 2005: 35), is useful to depict this complexity of management scales. By capturing the interconnected diversity of formal water organisations (Falkenmark, Gottschalk et al. 2004; Blomquist, Dinar et al. 2005; Franks and Cleaver 2007), this concept visualises "space" as an extra element in the analytical framework. In other literature, a social basin means networked relationships among water users that stress interdependence and preferable solidarity among riparian communities, rather than institutional units

(World Water Council 2006). In ecology, basin is referred to as a simple boundary of an ecological system (Folke, Carpenter et al. 2010). Because the focus of this thesis is on institutional development, the former definition of social basins is useful to describe the complicated structure of water institutions (Kemper, Dinar et al. 2005). While social basins exemplify the functions and/or jurisdiction of water management in practice, the political factors that influenced the creation of co-governance institutions are to be analysed in institutional and discourse perspectives.

1.1.3 Co-governance: Development of water partnerships at the multiple levels of management

This study needs to fill those gaps drawn from the theoretical and empirical experiences of co-governance. Hence, how co-governance ideas have been applied at national and local levels are to be examined here. In doing so, the current issues of water partnerships as well as the experiences in a variety of contexts are reviewed, which include examples in the Global South and NICs.

Co-governance born in global politics

Global politics bore the idea of co-governance in water resources management through the campaigns for better water governance and application of public participation. Since the early 1990s, one of the solutions for the so-called water crisis was the improvement of water

governance, in particular, through enhancing stakeholder involvement. As found in the Dublin Principles (1992), developed by water experts at the International Conference on Water and the Environment (ICWE), Dublin, Ireland, organised on 26-31 January 1992, the notion of water governance has been advocated along with the key management framework of integrated water resource management (IWRM). In particular, being 'soft' non-legally binding international water law, guiding principle 2 is the 'participatory principle'. This principle indicates that decisions should be made at the lowest appropriate level with consultation between relevant stakeholders.⁴ The stress on participation had become a famous slogan, adopted in the third World Water Forum (WWF hereafter), "the water crisis is mainly a crisis of governance". Initially used by the Global Water Partnership's (GWP) Framework for Action (2001: 23), this slogan was the key theme in the second WWF in 2003⁵. Thus, international discussion targeted prevailing systems of water management to create a broader, more integrative 'governance' beyond the traditional boundaries of water

⁴ The following call for improved water governance was recognised as one of the three priority areas for action in the Bonn Freshwater Conference in December 2001. The twelve agendas expressed in the governance section in the Bonn Recommendations for Action identify the rather broad political spectrum of water governance beyond the conventional scope of water management, in particular, guaranteed fair access to all social groups and management at the lowest appropriate level. See Bonn Freshwater Conference. (2001). "Bonn Freshwater Conference." Retrieved January 23, 2006, from <http://www.water-2001.de/>.

⁵ Along with 'Article 4 of The Introduction to the Plan of Implementation' at the World Summit on Sustainable Development (UNCED) in Johannesburg (2002), the official statement of the third WWF in Kyoto (2003) acknowledged the significance of water governance: "Many countries face a governance crisis, rather than a water crisis."

management.

Global dialogues often demand that the existing participants (e.g. nation-states) in water governance actively reform the system by introducing new institutions. The first World Water Forum, held in Marrakech, Morocco in 1997, literally recommended 'partnership between the members of civil society and governments' in the Marrakech Declaration (World Water Forum 1997: 1). It was the first official statements to declare 'partnerships between government and NGOs' as a key goal in water management. This decision reflected the popular introduction of partnerships worldwide from Africa, Eastern Europe (Brinkerhoff 1999) to the Middle East, Russia and so on (UNEP International Environmental Technology Centre. 2002).

Beyond the water community, the promotion of partnerships as an organisational form had started under the Local Agenda 21 campaigns, which were initiated after the World Summit on Sustainable Development (UNCED) in 1992 in Rio de Janeiro. A fast-growing number of partnerships among stakeholders were recognised at Rio+10 in 2002. UNCED identified more than 200 partnerships related to sustainable development that had been organised since the 1992 Rio Declaration (UN/DESA 2002). Subsequently, the United Nations Commission on Sustainable Development (CSD) announced the focus on 'partnerships for sustainable development' in the LA21 campaigns in its 11th session in May 2003

(UN/DSD 2003). According to the CSD database, the number of partnerships for sustainable development that expressed their primary theme as water, were the highest with 81 out of a total of 348 on March 1, 2011(UN Commission on Sustainable Development 2011). In other words, water partnerships were promoted in the 1990s not only by the international conferences for water resources but also by the ones for sustainable development. Thus, this connection between the LA21 movements and the development of water partnerships needs to be examined with the Korean cases.

However, the roles of global politics in partnership development have been controversial. Advocates explain that international organisations played a critical role in leading debate over governance reform, in particular, in the 1990s. As discussed above, local and global institutions started to raise their voices and staked their claim to play a part in water management. As mentioned earlier, the globalisation of water politics, boosted by a series of international conferences since the early 1990s, literally opened the door of decision-making processes to the local actors as 'direct participation' opportunities. However, the sceptics who criticise the active roles of local actors remain instrumental. A lack of understanding of locally embedded implementation and decision-making processes in pro-participatory initiatives have been criticised as 'imposing' 'top-down' reform (Evans 2004). Another debateable point is about the partnerships developed in

countries, which do not belong to either the global North or South. If the emergence of water partnerships is not directly planned or fostered by global organisations, the influence of global politics in partnership development needs to be understood within the interlinked tiers of global-national-local governance.

Evolution or barriers of development of co-governance institutions: The Global South and the NICs

In comparison with the influence of the global dialogues, the academic literature has found that local initiatives are critical to the design of co-governance. Some scholars in development studies claim that empowering local institutions can secure democratic decision-making and transparent management. As stated in Section 1.1.1, co-governance is a notion raised in literature on natural resources, which it derives from debates over government reform and privatisation (Evans 1996a; Evans 1996b; Ackerman 2004; Head and Ryan 2004; Eversole and Martin 2005; Lemos and Agrawal 2006). This notion has been supported on the grounds of promoting effectiveness and deliberative governance, for example, in the field of development studies (Fox 1996; Evans 1996b; Pretty and Ward 2001). Similarly, Scholz and Stiftel (2005) support the significance of contextual analysis for co-governance by emphasising the 'adaptive nature' of governance. For example, the importance of local institutions to natural resource management has been supported in the contexts of the developing

countries (Pretty and Ward 2001; Evans 2004). Pretty and Ward notice that

‘Recent years have seen remarkable advances in-group formation, with in the past decade some 408,000~478,000 groups emerging with 8.2~14.3 million members in watershed, irrigation, microfinance, forest, and integrated pest management, and for farmers' research (2001: 214).’

The importance of sub-national governance is:

‘...for many [who are] interested in environmental governance, it is synonymous with what happens on the international or the global stage. However, it is at least equally correct that some of the most important contemporary changes in environmental governance are occurring at the sub-national level and relate to efforts to incorporate lower-level administrative units and social groups better into the formal process of environmental governance. (Lemos and Agrawal 2006: 302)’

Thus, advocates of collaboration have offered justifications for tackling 'diverse, dynamic and complex social and political issues and settings' (Kooiman 2000: 154) such as environmental problems. In contrast to conventional bureaucracy that is organised along hierarchical lines, collaborative governance works horizontally within the community where problems occur as well as in a reformative way against conventional top-

down and formal environmental management by public agencies (Wondolleck and Yaffee 2000: 5). In this regard, this study focuses on two topics, which are the contextual development of co-governance institutions and their outcomes as the consequences of interactions between the partnerships and existing water governance.

In terms of institutional development contexts, it is argued in this study that recent attention to global and local initiatives in co-governance institutions overlooks any roles of nation-states in multi-layered water governance. Recently, traditionally strong nation states started to engage with the NGOs. For example, East Asian and South East Asian countries such as Malaysia, Thailand, China, Korea and Japan still suffer from the high cost of environmental degradation because of rapid industrialisation and the lack of environmental governance (Adeel and Nakamoto 2003). These governance problems involve the rigid nature of command-and-control regulation and failure to mainstream sustainable development, along with inefficient capacity to enforce policy in various levels of governance. However, Newly Industrialised Countries (NICs), including previously mentioned countries except Japan, have started to empower environmental agencies within government structures as well as to consult environmental NGOs on better social regulation. Thus, it is less explored about how this shift in governance emerged and was shaped in mid-income countries with state-dominant water governance.

In summary, the rationales for this study is to understand why co-governance institutions demand comprehensive learning not only of “the effects of exogenous factors such as historical forces, political arrangements, demographic condition, resource endowment, and economic development within the model of institution-performance interaction” (Saleth, Dinar et al. 2004: 328), but also an analysis of lower level and cross-layer relationships. In this respect, the next section will introduce an unexplored political context for the emergence of water partnerships.

1.2 Emergence of co-governance in a centralised state and water governance in Korea

In order to understand the complicated and locally dependent development of co-governance institutions, an analysis of the emerging collaborative water institutions within different socio-economic and biophysical levels is necessary. For states like Korea, which are highly centralised and hierarchical, and experiencing rapid socioeconomic changes(HJ, Chang 1993; Lim 2001)⁶, this is a particularly interesting question. Korean water governance has been explored in a few water governance publications(Koo 1993; Diamond and Sin 2000; KR, Seong 2000; HJ, Chang 2007). Since the

⁶ The rapid growth of East Asian economies since the end of World War 2 is commonly believed to be realised by ‘government-business alliances and the public management of private risks’ (Lim 2001). The ‘pervasiveness of state intervention’ despite controversial causality with rapid economic growth (Chang 1993) is the one of the typical social phenomenon in the NIC.

late 1960s when the dictator Park, Jung-Hee implemented the first national plan for economic growth, dependency on the national state has been embedded in Korean society. This situation remains today even following democratisation. Though recent social changes have given a slight push towards political decentralisation, the hierarchical nature of state-society relationships remained persistent even up to 2003(Presidential Committee on Government Innovation and Decentralization 2004).⁷ Despite the resistant power of civil society against authoritarian state government in Korea (Koo 1993; Armstrong 2007), the hierarchical nature of the national state in Korea persists in terms of governance authority and natural resource management (See DJ, Choi and Park 2001; Armstrong 2002).⁸ The central government of Korea has led economic development and water management(SB, Shim and Lee 1996; JY, Chung and Kirkby 2001; SH, Lee 2003), reflecting the highly centralised nature of water governance in Korea (See section 5.1.1).

More to the point, central government and related public-owned enterprises have dominated water resource management in Korea. Four

⁷In 2003, The Presidential Committee on Government Innovation & Decentralization (PCGID hereafter) recognised that 73 % of public service and 80 % of tax was still concentrated in the national state, while 61% of local authorities faced financial difficulties due to lack of income.

⁸ Recent changes in Korean society can be characterised by three key aspects: the political democratisation of the late 1980s, the growth of civil society, and in particular the greater influence of a few nationwide NGOs since the 1980s (See Armstrong 2002) and the adaptation of the local autonomy system in 1995 (DJ, Choi and Park 2001).

major rivers (See Figure 1.1) have been major water sources of public supply. Centralised water management has been focused on these four rivers—including riparian artificial dams—(MY, Han 2000), which contribute to nearly 90% of the national water supply. Large dams have been constructed to mitigate the effects on the water supply of large seasonal variations in rainfall (Ministry of Environment 2004a). Most of the population, and industrial facilities, are located in the downstream stretches of the major rivers and the priority for water supply is given to domestic and industrial users, though the greatest amount of water is still consumed for agricultural purposes (47% of withdrawal in 2003)(Ministry of Construction and Transportation 2005).

As in other countries, water management has been segmented into two main aspects: 1) Functional and spatial range in central agencies and affiliated local offices: water supply, water quality, ecosystem and natural hazard control; 2) Administrative jurisdiction: the government classified the river sections, from national to local rivers, based on the levels of administration. For example, central government agencies manage the national rivers mainly for water supply, whereas the provincial and metropolitan governments cover the first local rivers and the municipalities the 2nd local rivers and urban streams. In other words, the central government manages the main streams of the key water sources, the four major rivers (See Figure 1.1), and then, the provincial and the local

governments do the less significant sections of the rivers. Thus, there is a strict hierarchy of management in Korean water governance.

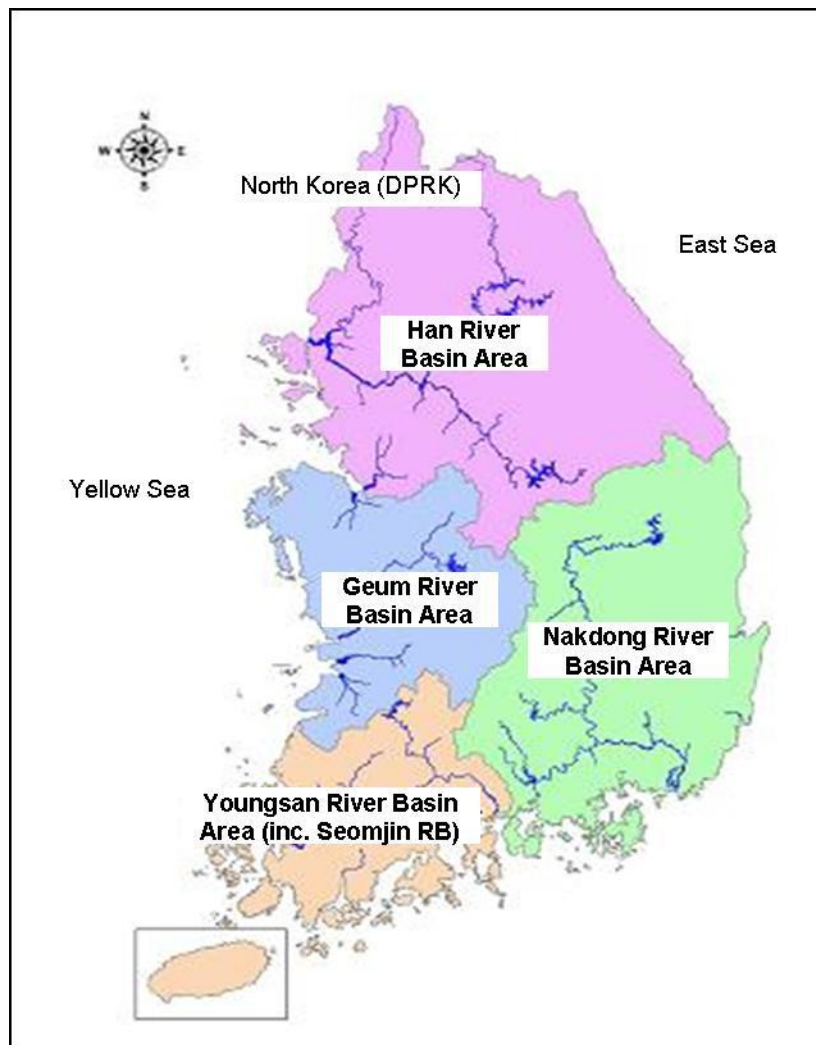


Figure 1.1 Four major river basins in South Korea

(Source: Ministry of Environment (2006: 10))

In contrast to public-dominated water governance, co-governance institutions emerged in Korea in the form of water partnerships from the late 1990s: these have been little and rarely studied. Unlike cases found in the US, the UK and the global South, this trend in Korea occurred without

direct government planning. The organisational features vary from co-management of a river restoration project to conflict negotiation dialogue and an information-sharing forum. The scale of organisation also varies from watershed-level, and from city to regional scale. The national state has attempted to respond to growing concerns over the environment and the safe provision of water resources through the generation of river basin committees and a series of reform measures introduced since the late 1980s and the 1990s (to be discussed in detail in Chapter 5 and 6). Though public-private collaborations for better water management, hailed as a new reform, formal decision-making and the implementation of river basin management continued to remain a public sector responsibility. Therefore, despite the continued dominance of the nation-state in Korean water governance, a different form of co-governance institution, based on relatively equal participation among stakeholders, has started operating in some areas of water management.

1.3 Analytical framework: water partnerships in multi-layered water governance

In order to assess the complicated development of co-governance institutions, a 'new institutional approach' is useful. This offers an explanation of the dual aspects of stability and change (True, Jones et al. 2007), and the bi-directional process between the structure and agents (Ostrom, Gardner et al. 1994). Water partnership studies have focused

largely on the feasibility of co-governance institutions with the limited capacity of political perspective (Brinkerhoff 2002b). The institutional arrangements as well as locally embedded nature or partnership development are often overlooked in these studies (Leach and Pelkey 2001; Seppala, Hukka et al. 2001; Leach 2002; Leach, Pelkey et al. 2002; Connick and Innes 2003). In this thesis, I address both institutional development and outcomes. From this point of view, political approach is useful such as governance literature. 'Governance' studies (Pierre 2000; Kooiman 2003) propose the notion of 'self-, co- and hierarchical governance' (Kooiman 2003: 218-223). Whilst Kooiman's idea remains descriptive, the group of CPR analysts led the advance of an analytical framework, which will be discussed later. Among the institutional perspective, Common-pool resource analysis (CPR⁹ hereafter) literature (Ostrom 2005b; Ostrom 2007) attempts to explain the intertwined institutional structure and complex operation, e.g. 'nested enterprise' (Ostrom 2005b: 269).

Additionally, a 'new institutional approach' is able to describe the intricate nature of the social phenomenon beyond the dichotomy of government and market. For example, the literature on public reform pays attention to the notion of institutions in public policy in general. Williamson (1994) argues

⁹ Ostrom and her colleagues define the key features of CPRs as 'difficulty of exclusion and subtractability', which basically cause problems in managing a limited resource without an appropriate constraint, rules of the game. (See pages 278-279 of Ostrom, E., J. Burger, et al. (1999). "Revisiting the Commons: Local Lessons, Global Challenges." *Science* **284**(5412): 278-282.)

that the significance of 'institutions' is often neglected in the planning process for economic reform, which accordingly often results in failure. Furthermore, he claims that 'institutions' beyond policy, price and property rights need to be a new centre of governance reforms (1994: 3). Similarly, Young and others (2008: xiii) indicate that 'institutions play a role in both causing and addressing problems that arise from human-environment interactions but that the nature of this role is complex'. In this regard, specifically, this study employs a modified analytical framework by combining two strong approaches of new institutionalism, the *Institutional Analysis and Development (IAD)* framework and Mahoney's (2000) *periodization*, in order to understand the contextual development of water partnerships within Korea's highly centralised water governance. Because the notions of governance and nested enterprises only explain institutional development at an endogenous level, this thesis explores to complement this with additional analytical elements and by using Mahoney's periodization approach (See 1.3.2).

1.3.1 IAD framework: Interactive institutional development of water partnerships

The IAD framework is useful for identifying complicated institutional procedures. It does this by depicting the interactive development between participants and the conditions within the action arena (Ostrom, Gardner et al. 1994). The CPR school, based on rational choice analysis, has informed

many studies of self-governance institutions and contributed to understanding alternative institutions beyond government policy or market mechanisms alone.

The IAD framework depicts incremental development by linking preconditions, the action arena and its outcomes. Whereas the literature on collaborative institutions mainly covers microcosmic outcomes and organisational history, this framework offers an opportunity to portray partnership mechanisms from their emergence to their outcomes. In particular, Ostrom's notion of an action arena (Lubell, Sabatier et al. 2005: 264) reveals that different types of collaborative institutions tend to emerge in response to the contexts of 'local political, social, economic and environmental realities'. Thus, this study depends on the IAD framework to integrate the fragmented and atheoretical findings of the partnership literature into the case studies of water partnerships, to be discussed in detail in Chapters 2 and 3.

1.3.2 Modified framework: examining water partnerships

There are additional points where this study modifies the IAD framework based on the research objectives. To start with, the focus of the *IAD framework* needs to be expanded from controlled experimental situations to more diverse water resource problems with political analysis. The actors are presumed to create and enforce rules of co-governance based on economic

interests (Ostrom and Ostrom 2004). Additionally, three elements of the preconditions are prefixed and regarded as constraints to the actors (McCay 2002).

The *IAD framework* is often criticised as being weak at explaining exogenous factors beyond a community level (Lundqvist 2004). An explanation of the emergence of water partnerships in Korea under the strong influence of existing exogenous factors can address the shortcomings of prescriptive 'designing principles' at a single level of governance or resource management.

Additionally, the IAD framework offers an empirical investigation of collaborative institutions, which tend to overlook the linkage with existing governance (Ostrom 2007). Thus, a modification of the framework is needed to explain the emergence of water partnerships in the context of Korea, which is intertwined with global water governance reforms, national policy reforms and the growing power of NGOs.

Finally, it is common to see the mixed use of more than one theoretical approach in environmental studies. For example, Rydin (2003) explored the application of a combined approach when she examined 'the role of discourse' in the process of English environmental planning, from agenda setting to putting planning procedures into practice. This study will

examine how water reform ideas are used to ‘constitute, negotiate, mediate, reproduce, transform or otherwise shape’ the social relations of power over the water reform political process (Mollinga 2001: 735).

To modify the IAD framework, this study adopts Mahoney’s *periodization approach*, which adds an analytical tool to the preconditions of the IAD framework by stressing the significance of time sequences (Berman 1998; Mahoney 2000; Pierson 2000; Livingston 2005; Peters, Pierre et al. 2005). Mahoney’s periodization analysis basically shows how an institution remains on a stable path until the sustained path can no longer achieve the designed goals. By reflecting not only rational change, but also political change in a historical sense, this approach claims to give convincing answers to macro-scale change over a short period of time (Pierson 2000; Lim 2001), as found in dynamic social changes in Korea. Combined with an analytical framework, this descriptive approach to institutional change can help explain the emergence of co-governance institutions, which are the subject of this research. In order to link the classic IAD framework and Mahoney’s periodization approach, two concepts are used: the *social basin* (Falkenmark, Gottschalk et al. 2004; Blomquist, Dinar et al. 2005; Cleaver and Franks 2005)—representing a structure of multi-layered water governance; and the nesting of *water reform discourses*—expressing the political influences on institutional development (See Rydin 2003; HJ, Chang and Evans 2005). Therefore, a modified framework will capture the

influence of macro-scale institutional changes such as water reform discourses on Korean water partnerships and structural relationships with global and national governance (See Figure 3.2. in Chapter 3).

1.4 Research questions and aims

This thesis attempts to unpack the evolution of water reform in Korea since the 1990s, as the background to emerging new institutions in water governance, by examining previous paths of water management. Based on theoretical discussions and research, the main questions addressed in this thesis are:

- a) How have co-governance institutions for water management emerged in a country like Korea where state-led water management combined with weak local autonomy has been practiced for many years?
- b) How and why have water partnerships in Korea produced certain outcomes?

Two rationales are presented to verify the two proposed research questions above. Firstly, partnership outcomes need to be assessed in the context of institutional development. Thus, the IAD framework is used to explore each partnership as an action arena where members create and enforce new rules in order to respond to local water issues. Additionally, the outcomes of partnerships are assessed based on multi-categorised outcomes, in order to reflect the complicated and interactive process of development. Secondly, it is necessary to look at the institutional development of partnerships linked

with existing water governance. Therefore, Mahoney's periodization approach with two linking concepts - social basins and water reform discourses- complements the IAD framework. The hypothesis of this thesis is that a combination of Mahoney's periodization approach and the IAD framework can reveal the extent to which water partnerships, as co-governance institutions at the local level, have emerged and have produced certain outcomes to Korean water governance.

Based on the discussion of the theoretical and empirical literatures related to the development of co-governance institutions, this thesis aims to contribute to the water management and governance school in three ways. First, studying co-governance 'institutions' with multiple cases at different scales, provides explanatory insights into the application of co-governance reforms. This study critically points out that previous partnership studies overlook the complicated and dynamic features of institutional surroundings by focusing on performance-oriented outcomes. Second, by combining the IAD framework and Mahoney's periodization analysis, this study adopts a novel theoretical framework to explain the complicated institutional development of water partnerships in Korea. Third, by analysing co-governance institutions in Korea, this study adds to scholarship on water governance and partnership studies, which has hitherto focused on either the global North or South.

1.5 Research design and Methodology

In order to unpack the complicated and context-specific development of co-governance institutions, a comparative case study is employed as the main methodology for this thesis. A mixed approach is adopted to generate both qualitative and quantitative original data. A pilot study was carried out in 2004 before the subsequent main data collection in 2005. The data collection method depends mainly on a qualitative approach through documentary analysis and semi-structured interviews. To assess the on-going outcomes produced by a spectrum of water partnerships, this research adopted a simple attitude survey, which has been used to represent the perceived outcomes of partnerships in previous studies (Griffin 1999; Saleth and Dinar 1999; Asthana, Richardson et al. 2002; Leach, Pelkey et al. 2002; Connick and Innes 2003; Trachtenberg and Focht 2005). In order to examine the influence of reform discourses on the emergence of water partnerships, a complementary methodology, discourse analysis, is used to examine partnership documents.

This study employs comparative case studies with multiple levels of analysis to present an in-depth picture of how water partnerships have emerged and worked via new ways of governing rivers. The temporal scope of research encompasses Korean water policy since the 1980s to 2006. A pilot survey found that water partnerships were a new phenomenon that had hardly been studied in Korea. Ten cases of public-private collaboration

for better water management were identified from three documents (River Network 2004; Ministry of Environment 2004b; Korean Council for Local Agenda 21 2005b). From these ten candidate cases, six were selected for this study (See the figure below).

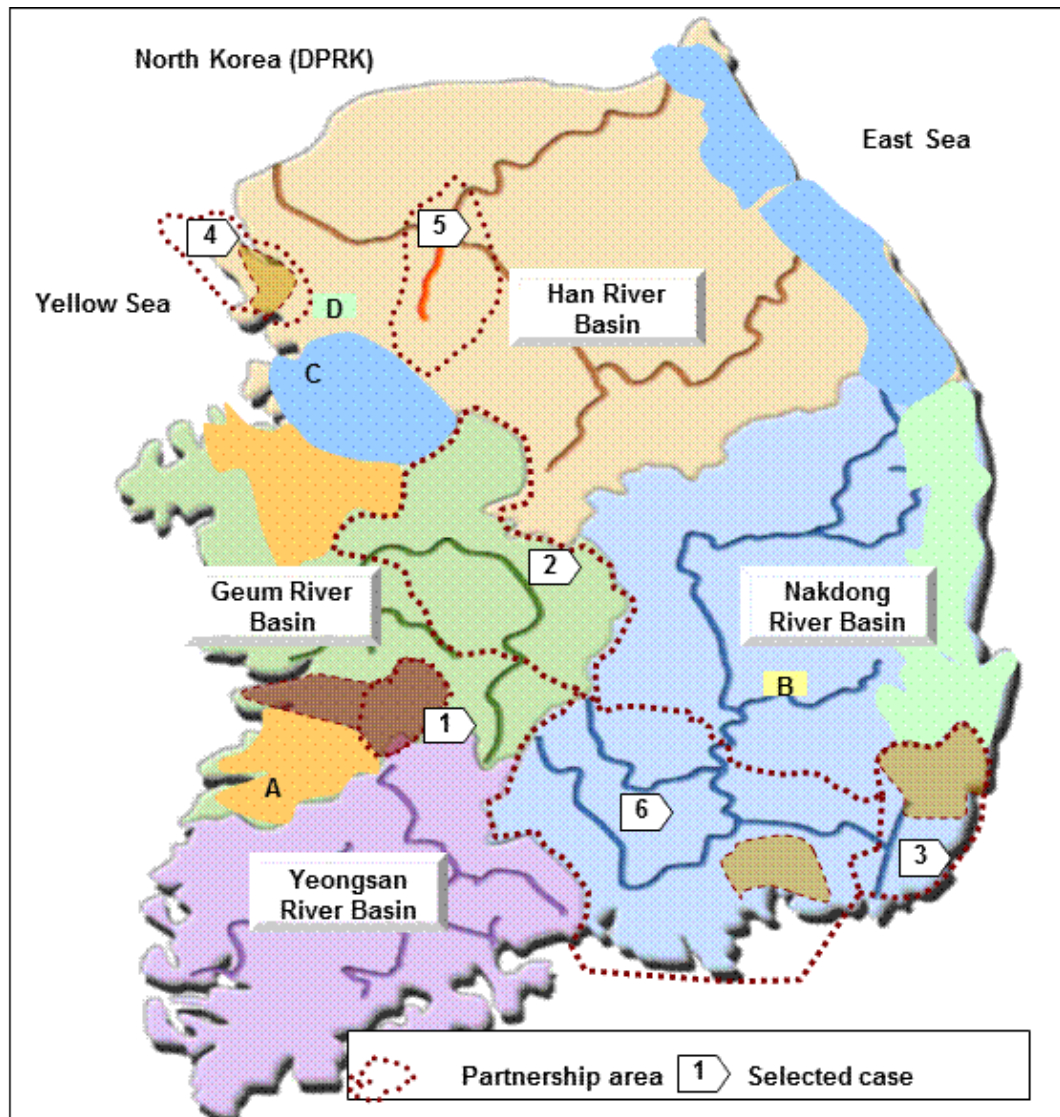


Figure 1.2 The location of the selected case areas in the Republic of Korea.

(Source: Adopted from (Kang and Ministry of Environment 2007))

For consistency and comparability among cases, four cases were ruled out because either the case was too small-scale and short-lived–A in the

Yeongsan River basin- or the partnership only comprised only NGOs—cases B, C and D in Figure 1.2. The selected cases with the numbers, as identified on Figure 1.2, are 1) Jeonju partnership, 2) Daechong lake partnership, 3) Busan city partnership, 4) Incheon city partnership, 5) Paldang lake partnership and 6) Gyeongnam Water Forum (GWF hereafter).

As will be discussed more fully in Chapter 4, the data collection was carried out through fieldwork in Korea from 2004 and 2005. Primary data was generated from 31 semi-structured interviews and brief observations of single meetings per case (6 meetings in total). A supplementary questionnaire survey was distributed to 129 members of steering committees and executives of the water partnerships (response rate: 59.7%). Secondary data consists mainly of official documents, participatory meeting reports and academic works and publications. The structuring of the interview transcripts was conducted through simple thematic coding, according to semi-structured interview questions on the creation, operation and outcomes of each partnership and water governance in Korea in general. For controlled comparison, the six cases are categorised into two sub-groups based on the scale of water resource and the key agenda of partnerships: urban water partnerships—no's. 1, 3 and 4—and regional water partnerships—no's. 2, 5 and 6—.

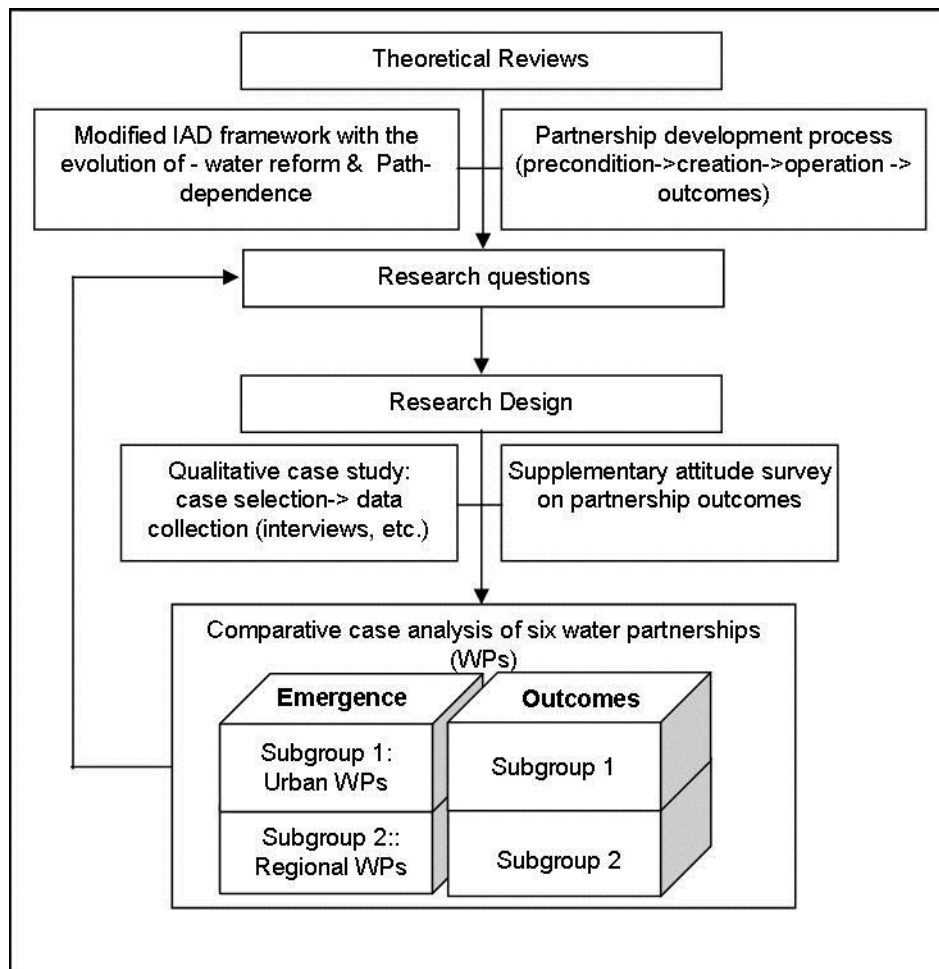


Figure 1.3 Research Flow Chart

1.6 The structure of the thesis

This thesis aims to contribute not only to partnership studies through comparative case studies in a less explored geographical context, but also to institutional studies through the use of a modified analytical framework. I will now summarise how the thesis is structured.

Chapters 2 and 3 contain a two-fold literature review of water management and partnerships as co-governance institutions. Chapter 2 reviews the theoretical and empirical studies on the development of co-governance

institutions for water management and the assessment of partnership outcomes. Subsequently, Chapter 3 presents a modified IAD framework by using Mahoney's periodization approach to assess the multi-scaled, locally embedded development of water partnerships in Korea.

Chapter 4 presents the comparative case study methodology designed for Korean contexts and its application, in particular, during the fieldwork in 2004 and 2005. To address two research aims, addressing the development and outcomes of the water partnerships, interviews and attitude surveys were designed and applied. The advantages and the limitations of the data collection are discussed in the later section of the chapter.

Chapter 5 analyses the preconditions for water partnerships in the history of water policy change through the 1980s to 2006 by using Mahoney's periodization analysis. This chapter considers the exogenous factors that have affected the emergence of water partnerships in highly centralised Korea. Chapter 6 and 7 are devoted to analysing the development and outcomes of the six water partnerships by adopting the modified analytical framework developed in Chapter 3. These case analysis chapters are divided into two subgroups for controlled comparison. The comparison between the two groups is presented at the end of Chapters 6 and 7.

The conclusion, Chapter 8, gives a brief summary and critique of the

findings and discusses their policy implications for collaborative institution development. Finally, areas for further research are identified.

CHAPTER 2 WATER PARTNERSHIPS ANALYSIS: CO- GOVERNANCE FOR WATER MANAGEMENT IN PRACTICE

Introduction

Co-governance institutions have become one of the key initiatives of water governance reform. To address the current problems in water management, water institutions have become more diverse and dynamic with new innovative initiatives. These include the creation of river basin organisations (Blomquist, Dinar et al. 2005), the active roles of supra-national coordination bodies and global institutions (Conca 2006), and the empowerment of local government and stakeholders (Brown, Gyde et al. 2003; Rydin and Falleth 2006). Co-governance institutions originated from the third group. A spectrum of concepts has been generated to portray co-governance (Freeman 1997; Connick and Innes 2003; Schneider, Scholz et al. 2003; Heikkila and Gerlak 2005; Gerlak and Heikkila 2007)¹⁰. This study aims to examine how these ideas have been shaped in the development of water partnerships in Korea as well as the outcomes of the partnerships.

This chapter presents a review of co-governance and partnership studies on

¹⁰ The relative concepts are ‘collaborative dialogue’ in policy process(es)’ (Connick and Innes 2003), ‘collaborative governance’ (Freeman 1997; Gerlak and Heikkila 2007), ‘large-scale collaborative resource management institutions’ (Heikkila and Gerlak 2005) and ‘consensual institutions’ (Schneider et al. 2003).

the one hand and water management literature on the other to inform the research questions of this study. It begins by conceptualising co-governance institutions and water partnerships, a particular type of co-governance. How the different functions of water management have been paid attention in policy change and governance studies will be followed. In the next section, the empirical studies related to water partnerships are reviewed, which are divided into three strands of the lifecycle of partnerships: the incremental development of water partnerships (emergence and operation) and their outcomes.

2.1 Concepts and features of water partnerships

The centre of this study, co-governance institutions, are referred to as 'hybrid and embedded autonomy across state-market-society divisions' (Lemos and Agrawal 2006: 297). These new forms of environmental governance encompass an array of new organisations, namely co-management, public-private partnerships and social-private partnerships.¹¹ In terms of organisational structure, the first type, co-management is most similar to the operational concept of water partnerships selected for this study. Hence, as an operational concept, water partnership is a type of co-governance institution for water management in practice. The concept of

¹¹ These three types are distinctive from soft governance, which indicates the forms of market and individual incentives with self-regulatory processes (see Lemos, M. C. and A. Agrawal (2006). "Environmental Governance." Annual Review of Environment and Resources **31**(1): 297-325.).

water partnership is depicted in the notion of collaborative resource management institutions (Heikkila and Gerlak 2005). They depict the rules and/value as an organisational aim in the abstract notion of 'collaboration' among stakeholders for management of natural resources. . Thus, I define water partnerships as used in this study 'a social organisation to promote collaborative water governance based on social agreement between more than two participants'.¹²

Based on the literature, water partnerships are found to have dynamic features, listed as below.

- The heterogeneous collection of various social actors (Memberships): water partnerships are formed according to the broad arrangements between stakeholders in the public and private sectors (Ackerman 2004).
- Innovative initiatives (Mission): mostly, water partnerships are established with the purpose of reforming existing social institutions and promoting governance for accountability (Ackerman 2004). Or they often focus on unsolved issues such as regional natural resource management (Head and Ryan 2004: 361, 381).
- Participation and negotiation (Decision-making): The participatory decision-making is one of the principles of co-management (Head and Ryan 2004). Due to dissimilar interest of members, the decision-making in partnerships often results in negotiation among different stakeholders or

¹² This definition will be used in Chapter 4 for the selection of the cases.

values (Davies 2002).

- Adaptive autonomy (Operation): Co-governance idea works through locally tailored activities via a process of learning-by-doing in water partnerships (Head and Ryan 2004: 361, 381; Olsson, Folke et al. 2004: 75).

This description of partnerships with these various inherent features puts partnership studies 'in danger of remaining a 'feel good' panacea for governance' (Brinkerhoff 2002b: 20). In agreement with this criticism, the characteristics of co-governance institutions need more elaboration in the context of evolving water management, partnership studies respectively.

2.2 Water management and partnership development

Before reviewing the partnership studies literature, it is significant to discuss how water studies are relevant to the understanding of the water partnerships. Two aspects are worth visiting. On the one hand, it is significant to examine how new institutions are linked with *water management functions, i.e. the nature of water problems*, e.g. pollution, ecosystem conservation. As discussed in section 1.2 earlier, water partnerships in the global discourse on water reforms were recommended as a prescriptive tool to reform current water management. For example, the participation of stakeholders in water partnerships is related to the criticism against engineering-oriented professionalism because of the resultant environmental costs (Huitema and Meijerink 2009). Water partnerships as social organisation are mingled with the salient issues

arising in water management. Thus, this study notes that the increasing concerns with certain issues associated with water resources management may be related to the development of water partnerships.

In details, linkage between water partnerships with certain management functions is related to the aims and operation of partnership, as suggested in the previous section. The management functions are covered by partnerships are conventional problems, e.g. water pollution control or supply, and/or new functions, e.g. river restoration or habitat conservation (See Moseley 1999 for the cases in the US). A persistent issue such as pollution control to ensure safe water supply has been attached to an array of prescriptions in water institutional change, from engineering and professional-driven approach to participatory approach (Meijerink and Huitema 2009). At the same time, the concern with the water ecosystems emerged from the criticisms against the heavy modification of water resources by 'hard engineering techniques' such as dams, channelization (Eden and Tunstall 2006).¹³ The institutional development in relation to ecosystem conservation is related to voluntary, informal organisation, whereas the conventional management functions such as pollution control, flood prevention are likely to remain in the hands of formal water

¹³ Postel and Richter point out that during the last decade, 'more than 230 rivers around the world are already undergoing some degree of flow restoration' (See Postel, S. L. and B. Richter (2003). Rivers for Life - managing water for people and nature -. Washington, Covelo, London, Island Press.p.4).

management organisations. For example, the application of this new issue has been a peripheral issue in formal policy domain of the European Union's Water Framework Directive (WFD hereafter). The WFD stipulates it as a voluntary task for local communities in contrast to the compulsory goal for wastewater treatment (Bressers and Kuks 2004; Volker 2004)¹⁴. Some scholars disclose the involvement of nongovernmental actors in river restoration through case studies (Kenney and Lord 1999; Heikkila and Gerlak 2005; Waley 2005). Yet the division between the conventional management bodies and the new organisations in terms of management functions has not been fully explored. For this study, this idea is used for selection and grouping of cases in Chapter 4.

On the other hand, there is the question of the inter-linkage issue among water institutions. As pointed out in section 1.1, the conventionally segmented water management systems failed to address persistent pollution and protect non-consumptive water use (Bressers and Kuks 2004). Historically, water institutions have been maintained or created to address the water issues deemed to be relevant at the time of their formation. The decentralisation of natural resource management has been introduced 'by the central government officials in order to solve their own problems' –e.g.,

¹⁴One of the earliest pieces of legislation about water ecosystems was the EU WFD established in 2000. The WFD expanded the scope of management from human usage to the living environment. As an applied type of ecosystem conservation, river restoration aims to integrate rivers more with their floodplains through 'softer' engineering styles and materials' (Eden and Tunstall 2006).

to reduce or eliminate the central government's political accountability for past or current resource policy failures, resolve a budgetary crisis by cutting their financial responsibility for selected domestic policy areas' (Dinar and World Bank. 2005: 10-11). This indicates that new water institutions emerged to reform previously established systems of water management. In this sense, the change of water management towards more integrated, participatory governance has been noted (Meijerink and Huitema 2009: 371-2). This inevitable mix of water institutions, as Winpenny (1994) points out in the early 1990s, entailed the clash among different institutions at various levels of governance, scale of management (Uphoff 1993; Agrawal and Gibson 1999). Furthermore, the complexity of water institutions was increased when ecosystem conservation became a significant policy agenda beyond the conventional management issues directly related to human water consumption. Thus, the emergence of water partnerships affects the pre-existing water governance, in particular, the coordination among different organisations. The comparative case study analysis in Chapters 6 and 7 examines this idea.

In the following section, how this notion of water partnerships has been applied in practice will be reviewed.

2.3 Water partnership analysis

Relatively little research has been carried out on the institutional

development of water partnerships from their emergence to their outcomes. Hence, following the notion of the whole lifecycle of water partnerships (Imperial and Koontz 2007) and adaptive governance (Scholz and Stiffler 2005), this study attempts to re-arrange the patchy work on water partnerships (See Lowndes and Skelcher 1998; Davies 2002; Saleth, Dinar et al. 2004) into a chronological development of co-governance institution. In one of the few studies on co-governance institutions for water management, Saleth and Dinar (2004) set up the multiple stages of institutional change based on rational choice theory: 1) mind change of political entrepreneurs → 2) political articulation → 3) institutional change → 4) actual impact; information and learning are seen as a mediating factor engaged with all stages. Saleth and Dinar's framework (2004) is not used in this study in the life cycle of partnership development because it is designed to fit the one-way exercise of top-down reform, mostly at the macro level, whereas the concern in this study is the voluntary emergence of partnerships at the sub-basin level.

Two other studies (Lowndes and Skelcher 1998; Davies 2002) that are more relevant to the work at the sub-national level divide the processes of development not by the dominant actor in the partnerships but by the partnership itself. According to Lowndes and Skelcher, partnership development comprises of consecutive stages from emergence to operation and outcomes (See Figure 2.1). In this approach, each process is likely to be

determined as the random result of competition and/or collaboration by interconnected but heterogeneous rules of the game (Lowndes and Skelcher 1998). This approach can be useful for understanding the complicated and contextually dynamic development of water partnerships. Thus, to find the gaps in the relevant empirical studies, the process-driven perspective will be applied in the next section to examine water partnership studies.

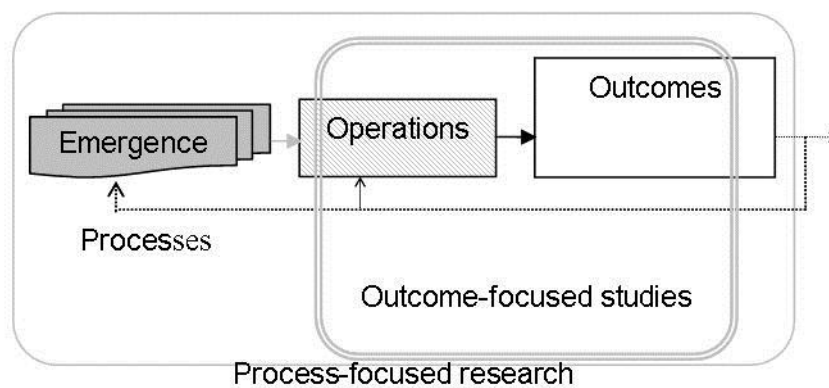


Figure 2.1 The lifecycle of water partnerships: the institutional development of process-focused studies versus outcomes-focused studies

2.3.1 Emergence of water partnerships

Despite the growing significance of water partnerships, there have been relatively few studies on the emergence of such partnerships. While myriad studies have been devoted to different patterns of partnership structures and features (Leach and Pelkey 2001; Caplan and Jones 2002; Brinkerhoff 2002a; Connick and Innes 2003), studies on why and how this variation happens are still at an early stage (Lubell, Sabatier et al. 2005).

A few case studies based on a rational choice approach explain institutional emergence as responsive to pre-existing problems. Saleth and Dinar (2004) stress the roles of policy entrepreneurs in creating institutions to adopt reform ideas. This approach is relevant to the Korean context where the public sector dominates at all levels of water governance. Lubell and his colleagues (2005) presume that a partnership structure tends to be shaped in order to fit into its surrounding context. Yet, this context remains a black box that does not provide a clear answer to the research question of this study. Thus, disclosing what and how context influences the varying features of partnerships needs to be explored.

Contextual emergence of water partnerships in the US and Western Europe

In the literature, water partnership development in the US and Western Europe is the most explored among the numerous adoptions of water partnerships in the worldwide. There are common but dissimilar adoptions of co-governance in the US and the UK contexts. One of the most common features between these two groups of water partnership practices is the new topic of ecological restoration (Eden and Tunstall 2006). Rehabilitation of river ecosystems, often utilising 'soft engineering' and participatory monitoring by neighbourhood residents, has been a popular programme for water partnerships (Heikkila and Gerlak 2005; Sabatier, Focht et al. 2005; Scholz and Stiftel 2005; Eden and Tunstall 2006). However, watershed

partnerships in the US, participatory pilots for EU WFD and joined-up government in the UK, also show contrasting features in terms of creation processes, organisational structures and ensuing operations.

The watershed partnerships in the US, as an example of co-management institutions, are recognised as organisations with 'relatively informal, wide engagement of stakeholders for watershed management', mostly through co-writing a plan for basin development (Sabatier, Focht et al. 2005: 6). The emergence of watershed partnerships were mostly 'organically' led by community groups with financial and professional support from state and/or federal governments (Moseley 1999; Sabatier, Focht et al. 2005). These community-level partnerships have been popular: there were 2,100 watershed partnerships in the US by early 2000 (Lubell, Schneider et al. 2002); however, the informality of organisation and small scale of governance based on a watershed unit in the North American cases (Leach and Pelkey 2001; Leach 2002; Lubell, Schneider et al. 2002; Lubell 2004a; O'Neill 2005; Sabatier, Focht et al. 2005) are not easily applicable to larger scale river basins or larger scale and/or state-dominating, formal law systems. Additionally, there are few studies on how the unofficial nature of watershed partnerships has been interconnected with formal water management systems.

Comparatively, the West European experience is described as 'top-down

promotion of bottom-up participation' by Sklarew (2005: 103), which followed the global debate on environmental policy reform in the Rio Declaration in 1992. The official documents about the Water Framework Directive emphasise that full stakeholder participation is a key to successful delivery of the legislation itself (Lanz and Scheuer 2001; WWF 2001). Pilot projects have been carried on in Western European countries in order to develop participatory institutions at the local and national levels to meet the multi-linked goals of water governance in the EU. For example, the River Ribble pilot was expected to overcome the often criticised 'tokenistic' involvement of the public in policy processes in the UK; however, the weak commitment of stakeholders and the passive attitude of public sectors persisted (Carter and Howe 2006). As found in the lessons of 'joined-up government' (Bogdanor and British Academy. 2005)¹⁵, the horizontal collaboration for strategic development at local level can work when there is a change in the conventional hierarchy to allow the new institution to operate. Otherwise, as observed in the Ribble pilot, which aimed to test participatory techniques at local level, the feedback loop to reform the existing governance from the local experience is not included, which make this participatory experiment look tokenistic (Papadopoulos 2003). Thus,

¹⁵ It is referred as 'a strategy which seeks to bring together not only government departments and agencies, but also a range of private and voluntary bodies, working across organizational boundaries towards a common goal' (see Bogdanor, V. and British Academy., Eds. (2005). Joined-up government. British Academy occasional paper. Oxford, Oxford University Press for the British Academy.: 1).

the applications of water partnerships are contextually embedded.

Emergence of partnerships in newly industrialised countries

Related to the emergence of co-governance institutions, there are few works in partnership studies on the ways reform discourses promoted in international conferences are interpreted and implemented within the NICs like Korea. There are, however, studies analysing the roles of global dialogues, directly affecting the emergence of co-governance institutions, mostly in the contexts of developing countries (Conca 2006). This approach provides an understanding of the imposition of Western reform discourses into the dissimilar contexts of the global South, based on a critical view about power relationships between the donor, e.g. international organisations, and the less developed countries (Pretty and Ward 2001; Evans 2004). Unlike the cases in the developing countries, there was no direct imposition of reform discourses by the international actors in the creation of water partnerships in Korea.

In the literature on water partnerships, the role of the national state is often neglected, overshadowed by the increasing power of global and local governance. Often the creation of institutions is typified into either top-down or bottom-up ways (Mullen and Allison 1999), which overlooks more intricate institutional development at the local and community level in practice. Instead of imposing reform plan to local people, a national

government actively supports the proposed reform ideas to its application by local actors. Chang and Evans (2005: 119), used the term, 'nesting' to describe the institutional change led by global politics but selectively introduced by national government. For example, despite the recent socio-economic changes reflecting neo-liberal globalisation, the national government in centralised societies such as China persists to lead recent water governance reforms (Liang and Yue 2010). Furthermore, Lane and McDonald describe the complicated interactions in the development of community-based environmental planning as 'an inherent, conceptual contradiction', which is rather a combination of 'bottom-up' knowledge and action within the fostered opportunities and possibilities of community engagement by the state (2005: 710). In this sense, institutional development as 'a local prerogative' (Okun 1991: 40) in partnership creation needs to include the scale of not only the community surroundings but also the related national policy and institutional elements. By attempting to reflect the complicated interactions among actors within the multi-layered governance, this study pays attention to the contextually embedded development of water partnerships, in particular, in relation to national water governance.

Empirically, water partnership studies rarely address the cases in the NICs. There have been studies on the cases in the US, the UK and another set of multi-organisational partnerships between North-South countries. The

latter have been largely examined within development studies (Frances 1999; Newman 2000; Morse and McNamara 2006). The related literature pays attention to the relationships between the North and the South at the global environmental scale (Ashman 2001) often because of the weak capacity of the national state (Davis 2004) or the imposition of unilateral reform initiatives to the South (Evans 2004; Cleaver and Franks 2005). The analytical findings from political complexity surrounding the partnerships between the North and global South are meaningful to the institutional approach in general. However, the contextual factors in this literature, such as transnational scale and overlooked roles of national governments, are seemingly rather far from nationally driven water policy and socioeconomic development in NICs. Therefore, partnership literature lacks the explanations about how water partnerships emerged in centralised societies, which needs to be addressed in the next chapter.

2.3.2 Operations of water partnerships

Operations link two stages of partnership development—emergence and outcomes, two research aims of this study. In comparison with partnership emergence, researchers have shown more interest in the operation of partnerships, mostly in order to assess the outcomes. According to Blomquist and his colleagues (2005), the responsibilities of collaborative basin organisations could be broader than those of existing water institutions. The broader array of collaborative activities include ‘planning

and/or coordination, infrastructure operation and maintenance, licensing water uses/ allocating water supply, monitoring of basin conditions (water quantity and/or, quality and/or ecosystems), consultation on land use or new water use, discharge permits setting, collecting water charges/water pricing and stakeholder information sharing and communication'(Blomquist, Dinar et al. 2005: 21). This sort of literature presumes an ideal condition where the variety of partnership activities linearly achieves a range of positive outcomes.

Collaborative practice is also regarded as 'more fluid and less predictable' (Connick and Innes 2003: 178) in comparison to conventional policy making. Analysing a river basin management in Usangu, Tanzania, Cleaver and Franks (2005: 2) claim that as 'external crafting is inevitably problematic' owing to social constraints such as scale, diversity and complexity, then, instead of general prescriptions, 'a variety of partial and contingent solutions' are desirable. Their analysis clarifies the contextual gap between textbook recommendations and practice as well as the significance of social capacity within multi-layered governance in order to experiment with adaptive management. This array of case studies confirms Kooiman's (1993: 35) idea, which indicates that the new form of interactive governing between government and society is 'complex, dynamic and diverse'.

The politically motivated operation of partnerships is supported by another

scholar, as Freeman (1997) proposes five normative features of collaborative governance that work better, he claims, than interest representation politics in terms of regulatory reform. These features are problem-solving, participation, provisional solution, accountability transcending the public-private divide, and a flexible, engaged agency. Freeman's argument uses the normative features to stress the alternative value of collaborative governance against the existing interest representation and exhausting negotiation within bureaucracy in the pluralistic American public administration. For example, thriving small scale watershed partnerships in the United States may root themselves in the value of 'autonomy, welfare and justice' (Trachtenberg and Focht 2005: 53). As discussed in Chapter 1, global dialogues played a significant role in influencing the various actors at the multiple levels of water governance over the world. Therefore, regarding the emergence of water partnerships, there is a need for more diverse case studies in different contexts, which can disclose the embedded development of partnership operation within reality.

2.3.3 Outcomes of partnerships

The need to consider organisational outcomes

As an innovative solution, co-governance institutions have been expected to address current water management problems. Hence, the assessment of partnership outcomes should focus on how partnerships achieved these

expectations. For example, poor service such as the lack of clean water provision, unreliable management due to corruption, closed decision-making systems and poverty are current problems in water management (Llamas, Martínez-Cortina et al. 2009). Given that the design and the emergence of co-governance institutions are contextually specific rather than general, a simple assessment based on partnership performance is insufficient to depict this variety of current problems and their complicated relationship with the surrounding environment. The current studies on partnership outcomes can be problematic, particularly, in terms of the scope of assessment. Because the partnership studies focus on the organisational level (Leach and Pelkey 2001; Caplan and Jones 2002; Brinkerhoff 2002a; Connick and Innes 2003), this approach isolates partnerships from related socio-economic settings (Davies 2002). The embedded development of partnerships is often overlooked (Lubell, Schneider et al. 2002). Thus, this outcome-based group of studies often fails to provide generalisable lessons with application to different contexts.

The presumption that a good institutional design (cause) will bring optimistic outcomes (effect) is not always evident (Freeman 1997; Brinkerhoff 2002b; Lubell 2004a). Brinkerhoff (2002b: 21) points out these dual missions of GO-NGO partnerships (See Fox 1996; Evans 1996b; Pretty and Ward 2001)- 'a solution to reaching efficiency and effectiveness objectives and as the most appropriate relationship as defined by its value-

laden principles' often clash with each other. Among the stronger sceptics about participation (Arnstein 1969; Amy 1987; Lane, McDonald et al. 2004; Lane and McDonald 2005), Amy critically depicts that 'participation techniques are often used for purely political purposes-to give the illusion of citizen power while actually serving the interests of policy makers who desire to increase the legitimacy and public acceptance of their decisions' (1987: 13). In other words, the normative nature of partnerships that may enhance democracy and bring up procedural legitimacy can hinder the functional virtue of partnerships. In this regard, Koontz (2005: 459) stresses the significance of contexts in understanding collaborative governance 'rather than internal group factors often emphasized in studies of citizen advisory committees and collaborative groups'. In order to unpack this complexity of partnership outcomes, an analysis should focus on to what extent related features such as management functions, contexts of institutional development and politics surrounding partnerships.

The assessment of partnership outcomes needs to reflect more critical concerns over partnerships, e.g., even producing negative outcomes such as burdens and participation fatigue within communities (Mosse and Sivan 2003; Cleaver and Franks 2005; Forsyth 2005). There has been a debate over whether water partnerships are productive beyond the 'hope of networking' (Rydin 2006: 214). Scholars discussing the notion of social capital argue that not only trust between elites and grassroots, but also long

term economic gain is provided through cooperation among citizens (Fox 1996; Evans 1996b; Inoguchi 2002; Pretty 2003). However, Rydin and her colleagues' ex-post analyses (2006) indicate that it is often difficult for local partnerships to achieve natural resource management despite some positive outcomes. In addition, some scholars radically challenge the normative programmes of partnership based on lack of applicability to different contexts and its inductive approach based on small N case studies (Evans 2004; Cleaver and Franks 2005; O'Neill 2005). Therefore, instead of a single in-depth case study, this study needs to consider how the diversity of partnership outcomes is assessed in a highly centralised society, Korea.

Multi-criteria assessment of partnerships

As an alternative to the criticisms raised above, system evaluation has been attempted on a rather macro scale (Saleth, Dinar et al. 2004), which aims to check water institutions (law, policy and organisation) and the surrounding institutional arrangement in a particular society. Their cases focus on the outcomes of water institutions and the influences from the related institutional settings at a single level of national water policy and organisations. More focused on the interactions among community organisations, Provan and Milward (1995) disclose that how the networked community-based public health service is more effective than separately operating public organisations. Given a hybrid organisation comprised of various representatives of first-order organisations and/or individuals, the

systematic approach needs to cover multi-organisational features—often in various decision-making levels from community, river basin to national scale. Furthermore, the key methodology used in their work, social network analysis is a useful tool to rather visualise the structure of networked relationships (Brandes, Kenis et al. 1999) than reveal the various aspects of partnership outcomes. Hence, the systematic approach is inapplicable to multiple cases of water partnerships in Korea developed at the various scales of management. Instead, performance evaluation has advanced to reflect the direct outcomes as well as intangible outcomes created during the process of co-governance.

This thesis adopts more comprehensive criteria for organisational performance of multiple partnerships. To assess the various aspects of partnership outcomes for this study, three sets of criteria—procedural issues, socioeconomic performances and environmental achievement (see Table 2.1)—are selected from the literature (Conley and Moote 2003; Connick and Innes 2003; Plummer and Armitage 2007). These criteria are to reflect the complicated features of co-governance outcomes. For example, Plummer and Armitage (2007) propose three concentric circles of evaluative criteria categories as ‘ecological sustainability, livelihoods and process’ based on the ecological concept, system resilience. Similarly, Connick and Innes (2003) propose the combination approach using process and outcomes criteria, based on complexity studies and Habermas’

communicative rationality concept. In terms of comprehensiveness, to cover the organisational aspects of environmental and process-focused outcomes as well as the institutional settings related socio-economic aspects, this research adopts the sub-categories of assessment proposed by Conley and Moote (2003): process, environmental and socioeconomic outcomes. Criteria regarding the negative aspects of partnership consequences (Kenney 2000; Rydin and Falleth 2006) are also added as part of the procedural issues category in Table 2.1. The table below shows a compiled set of partnership outcomes.

Table 2.1 Selected evaluation criteria

Sub-category	Criteria
Procedural issues	Social capital High quality agreements Innovation
	Mutual understandings* Learning and change beyond the original group* Changes in attitudes, behaviours, institutions & practices* Costs due to cultural and professional gaps among members* Transactional costs*
Environmental outcomes	Water quantity* Water quality* Ecosystem sustainability*
Socio-economic outcomes	Relations built or strengthened Cost effective decision making
	Trust building* (capacity for) conflict management*

*: Assessment criteria chosen for attitude survey, to be discussed in Chapter 4.

Source: Modified Connick and Innes (2003), Conley and Moote (2003), Innes and Booher (1999: 9), Rydin and Falleth (2006) and Kenney (2000)

How to apply the selected criteria needs to be discussed. As suggested

above, a multiple case study may overcome the weakness of performance assessment on a single organisation (Murray 2000). Additionally, the assessment of organisational performance in various perspectives is often hindered by the difficulties to collect data (Beierle 2002; Baruch and Ramalho 2006). Instead, to assess perceived outcomes of water partnerships has proliferated based on collectable data (Ryan 1998; Saleth and Dinar 1999; Faulkner, Green et al. 2001; Leach 2002; Lubell 2004b; Torgler and Garcia-Valiñas 2006; Koehler and Koontz 2008). In order to address the weakness of perceived outcomes evaluation, analysing available secondary data about other outcomes of partnerships¹⁶ in addition to a survey of partnership members on perceived outcomes would advance the evaluation research. How to attain data for the application of these criteria will be discussed in section 4.2.5.

Conclusion

Review of the partnership literature and water studies work confirms the need to understand water partnerships through a more contextual approach and in a less explored context, that of Korea. Furthermore, the review of both literatures reveals the need for theoretical responses to their limitations, which refer above all to lack of understanding of the emergence of partnerships and few case studies in the contexts of the NICs.

¹⁶ The method of data collection and related analysis will be discussed in details in Chapter 4.

Apart from the multi-criteria assessment of partnerships, this study proposes a theoretical innovation to overcome the limitations of these empirical studies. In the next chapter, I examine a theoretical perspective that addresses these limitations.

CHAPTER 3 IAD FRAMEWORK: DEVELOPMENT AND OUTCOMES OF WATER PARTNERSHIPS

Introduction

To examine how Korean water partnerships emerged and produced certain outcomes, this study principally employs an institutional approach, *the Institutional Analysis and Development (IAD) framework*. In contrast to the conventional partnership literature discussed in section 2.3, the IAD framework can depict the incremental development of institutional emergence and operations linking with outcomes. Proposed by the Common Pool Resources (CPR) literature (Ostrom, Gardner et al. 1994),¹⁷ this useful approach explains how local actors interact with a broad spectrum of analytical factors from political, social to physical environmental problems. The comprehensiveness of this approach overcomes explanatory limitations in the partnership literature, reviewed in section 2.3. As a framework, this approach is often used in combination with other theoretical approaches(See Imperial 1999; Rydin 2003). Based on this flexible framework as a solid foundation of a comparative case study, additional elements of analysis will be drawn from this theoretical

¹⁷ CPR school stems from a notion, common-pool resource, which are defined as the same resources that multiple individuals rely without rules that clearly divide what is available for withdrawal among a defined group of individuals (Ibid, p.2). Common-pool resources problems are referred as a dilemma that a resource user often yields undesirable outcomes to oneself and the belonged group (op cit).

discussion in order to examine water partnerships developed in varied structure and contexts of Korea. Thus, this study makes use of the enhanced explanatory power of the IAD framework through its modification as proposed at the end of this chapter.

The chapter is organised in two sections. The first section starts with a review of the key analytical elements of the IAD framework, which is followed by a discussion of strengths and weaknesses of its original form. The second part of the chapter introduces how this study modifies the original framework to examine the development and outcomes of water partnerships in Korea. The chapter concludes with identifying additional analytical elements for the modified IAD framework, which are used in this study.

3.1 IAD framework: A theoretical approach to institutional development

3.1.1 Unpacking the incremental development of institutions

The IAD framework is an institutional approach that helps us understand the stable but comprehensive nature of institutional arrangements, shaping participants' behaviour as well as the rules of the game. Rules are here defined as 'shared understandings among those involved that refer to enforced prescriptions about what actions (or states of the world) are required, prohibited, or permitted' (Ostrom and Ostrom 2004: 124).

Institutions are referred to as a 'stable, recurring pattern of behaviours: informal conventions of political life, formal constraints and organisations' (Goodin and Klingemann 1996: 22). The IAD framework claims greater explanatory power in unpacking the detailed processes of institutional operations, which will be useful for understanding the complicated development of co-governance institutions in general and particularly for this study. By broadly embracing water institutions, the framework addresses the complexity of institutional development (Ostrom 2005a: 824), which include the set of rules of the game, informal norms and beliefs embedded within partnerships. This process-oriented framework (See Figure 3.1 below) interprets a case of institutional development among a set of actors, addressing problems with given resources by creating and/or enforcing the rules of the game (Ostrom, Gardner et al. 1994).

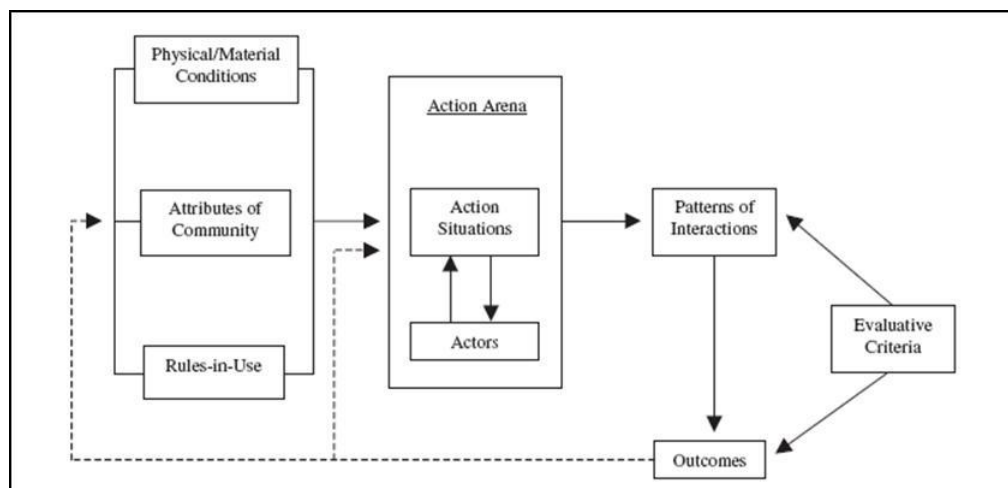


Figure 3.1 The IAD framework

(Source: Ostrom, Gardner et al. (1994: 37))

The literature using the IAD framework addresses the emergence of co-governance institutions with three types of preconditions (Möllenkamp, Lamers et al. 2008), which include physical conditions, attributes of communities and rules-in-use. These three preconditions are actually interlinked with the actors that are the focus of the framework in transformative rule-making or enforcement (Gibson, McKean et al. 2000).

Physical conditions refer to those local problems within resource management, and conditions that trigger policy entrepreneurs to act on institutions (Ostrom 1990). This idea has been applied to various previous studies on watershed partnerships in the United States and Western Europe (Lawrence 2000; Sabatier, Focht et al. 2005). As indicated in section 1.2, water problems are often intertwined with the problems in water governance. Particularly, given the influence of the water governance reform discourses proposed globally and nationally, it is important to examine critically whether water problems have determined the formation of water partnerships in a context.

The inclusion of **community attributes** allows that IAD framework to reflect the local situations in which participants have organised partnerships, creating rooms to explain the interactive, locally embedded institutional development in terms of socio-economic aspects. In this way, what used to be treated as separate factors are embraced within the

boundary of a local study area. This makes the IAD framework particularly powerful when it comes to a small-scale analysis.

The third element, **rules-in-use**, is based on the idea that institutions are conceptual patterns in society as rules-in-use, norms, and strategies than formally announced rules such as public policy. Co-governance institutions are created within water partnerships, when local actors repetitively use certain rules-in-use, norms and strategies. The interconnected nature of these three factors reflects the dynamic behaviours that are usually observed in collective action situation (Ostrom 2005a: 824). Here, rules-in-use are often enforced with punitive effects on rebellious participants. Norms are shared prescriptions among the participants who are aware of the costs and incentives given internally and externally. Strategies refer to plans set up by the participants, who have knowledge of rules-in-use, norms and the expectation of other behaviour. The recognition of the 'rules-in-use' element, therefore, highlights the reality of resource politics and stakeholder behaviour.

The way people cooperate in a society has been a key issue in the development of *the IAD framework*. The common features of communities that tend to cooperate with each other include 1) a homogenous social structure, 2) sharing common interests and norms 3) in a small spatial unit (Ostrom, Gardner et al. 1994; Agrawal and Gibson 1999). Ostrom

(1998) argues that trust, reputation and reciprocity encourage cooperation, particularly, in a relatively small social group, which has access to face-to-face communication and information about actions. This perspective is in accordance with Olson (1965)'s work about the high cost of organising collective action in larger groups. However, McCay (2002) points out that the theoretical understanding of the IAD framework literature needs to cover more diverse realities. Recently, studies have shown that cooperation cases emerged in heterogeneous and larger scale communities (Agrawal 2000; Poteete and Ostrom 2004). For example, the larger communities performed better in protecting shared forests in Nepal thanks to securing more resources. In contrast, it was found that smaller communities more easily formed collective action groups, but did not achieve desired outcomes (Agrawal 2000). McCay, therefore, demands more focus on 'the political, legal, cultural, and other institutions that mould and constrain their perceptions and interpretations and the options and incentives they face' (2002: 393).

The IAD framework provides an analytical unit, called an 'action arena' for this study, where water partnerships operate. This unit of analysis is helpful, especially for this research by disclosing interactions between key actors and surrounding institutional arrangements and the processes that lead to producing outcomes. The seven variables characterising the action arena (as shown in Table 3.1 below), are suggested to reflect the complicated nature

of interactions within resource management. These variables include (1) the set of participants, (2) the specific positions to be filled by participants, (3) the set of allowable actions and their linkages to outcomes, (4) the potential outcomes, (5) the level of control, (6) the available information, and (7) the costs and benefits (Ostrom 2007: 29). When water partnerships operate, the seven variables of the IAD framework interact with one another as described below:

Participants are assigned to positions and possible actions of a participant depend on his or her position. Actions are linked to outcomes, and both actions and outcomes have costs and benefits assigned to them. Participants have possibly limited information on the linkages between actions and outcomes, and some kind of control over this link (Ebenhöh 2007: 87).

Table 3.1 Seven analytical elements for intra-action arena of partnerships

Analytical elements and Rules-in-use	Analytical elements in Action situation	Rules in use (Operational; Collective-choice)
	(1) the set of participants	entry & exit rules
	(2) the specific positions to be filled by participants	position rules
	(3) the set of allowable actions and their linkages to outcomes	scope rules
	(4) the potential outcomes	authority rules
	(5) the level of control	aggregation rules
	(6) the available information	information rules
	(7) the costs and benefits	payoff rules

Place-related intermediate variables	Attributes of physical and material conditions
	Attributes of the community

Source: Ostrom, Gardner et al. (1994: 37-43)

Once the operational conditions of the action situation are analysed, rules-in-use, one of the preconditions explained earlier, becomes a useful indicator as they highlight the patterns of actions taken within partnerships. Possible rules used in common-pool resource studies range from memberships to punishment and rewards (Ostrom, Gardner et al. 1994). The seven rules as shown in Table 3.1 determine the seven valuables of action situations, and work as comparative parameters for partnerships operations in small N case studies, adopted in this research.

The key to the IAD framework is how actors shift the rules of the game through incentives and adapt to succeed, while individual preferences and exogenous factors are given and controlled. Previous studies applying the IAD framework paid attention to the high costs of rule enforcement that is, problems associated with imposing policies by external organisations without consideration of related contexts. For instance, the seven analytical elements in an action arena have great explanatory power to show how the rules of resource management within a community setting can be enforced to produce outcomes through monitoring and sanctioning. Institutions as constraints on social actors are not abruptly changeable and could be treated as constant, hence, it is understood as in the expression, '[t]he happy marriage of conundrum, actor and structure' (Hodgson 1998: 181). In other words, 'institutional maintenance and stability are primarily explained by the capacity of institutions to produce collective goods or benefits for social

groups' (Ostrom 1990; cited in Knight and Sened 1995: 2). This viewpoint supports self-governance systems rather than institutions (e.g. national states) exogenous to community resources. The CPR literature recognise the structural (exogenous) variables (Ostrom 1990; Ostrom 1998; Poteete, Janssen et al. 2010), such as the roles of the state in stimulating self-governance institutions, but because of methodological difficulties (Poteete, Janssen et al. 2010) and possibly, the ontological defence against the exogenous intervention for self-governance, the attention to the exogenous factors to institutional development remain static in the framework.

Furthermore, the conventional IAD framework often assumes the single usage of resources (e.g. irrigation), but the use of water resources serves various purposes, which are conflicting with each other. Their uses are socially embedded within cultural and political contexts as well as economic interests (Mosse and Sivan 2003; Franks and Cleaver 2007). The inadequate establishment of water-related property rights as well as the increasing demand for non-consumptive use of water management adds complexities. This suggests that the variety of management topics and the scope of external institutions outside a single level of governance are possibly beyond Ostrom's model.

3.1.2 Polycentric governance of water resources

In order to avoid the application of the IAD framework at the single level of

governance, the CPR school acknowledges the complicated interactions among multiple levels of resource governance. Especially when the size of resources and the affected regions are large, there is tendency to create a hierarchy of institutions ranging from a smaller scale to a higher and larger scale: the so called 8th principle of institutional design, 'nested enterprises resources' (Ostrom 1990; Lundqvist 2004; Ostrom 2005b: 269). This principle explains that governance consists of constitutional, collective-action, and operational level (Ostrom 2007). This notion is able to capture the interconnected hierarchy of river basin systems (Harper, Smith et al. 1995; Clarke, Bruce-Burgess et al. 2003) or a complex irrigation system with the elements of resources for production at various administrative, as found in Japan's old autonomous irrigation system (Sarker and Itoh 2001).

However, admittedly, the nested enterprises principle remains at an early stage of concept development (Ostrom 2005b). Four levels –from operational to meta-constitutional– of a nested enterprise are roughly presumed to be an analogous system to polycentric feature of water governance structures in reality (Clever and Franks 2005). Recently, Ostrom puts forward this feature of resource management organisations by specifying the relationship between institutions and the surrounding socio, economic and political settings, following her own work (SES framework). Yet this does not explain why and how the mechanisms of multi-layered governance are sustained and created, but *describes* the given existence of a

polycentric structure.

Similarly, in terms of the scale of water management, Lundqvist (2004) argues that it is not always convincing to set a clear boundary for institutions, and apply Ostrom's (1990: 30) idea of 'the smaller or simpler, the better' to the multi-layered water governance of a nation like Sweden. As Ostrom and her colleagues (1999) admit, the CPR can be applicable at the local community level, and is a simplified concept of self-governance, thus in contrast to the complicated structures of natural resource governance. It would be important to recognise the polycentricity of institutional development, which Ostrom (2005b: 269) refers to 'robust system—the presence of governance activities organised in multiple layers of nested enterprises'. Therefore, this notion of the nested enterprise depicts the phenomenon of multi-layered governance structure in water management but analytical understanding needs to be advanced with more case studies. Galaz (2005) criticises the rather static and economic-deterministic approach of the common pool resource literature and argues the need for more context-reflective analysis in order to deepen the understanding of institutional change. In this regard, generally the notion of nested enterprise cannot explain how and why co-governance institutions could emerge within the state-dominant water governance of Korea.

Despite the significance of the contextual factors highlighting localised

institutional development, the IAD framework overlooks exogenous factors outside the boundaries of the related community. By separating a rather homogenous community from the interlinked broader water governance system, the IAD framework tends to overemphasise the role of community-based factors.

‘Cultural factors controlling the structure of an action arena include generally accepted norms of behaviour, the level of common understanding about action arenas, the extent to which the preferences are homogeneous, and distribution of resources among members’ (Ostrom, Gardner et al. 1994: 45).

The emphasis on cultural community-based factors may be further justified when the degree of local independence in water governance is very high (e.g., in the case of a locally manageable resource – forest – and the history of devolution) (Agrawal and Gibson 1999). However, local participants in water partnerships have to act within more complicated multi-layered governance systems, which are shaped for the multiple uses of trans-boundary water resources (Caponera 1992: 78-79, 176). As Rydin (2003) points out, the discursive reform idea(s) picked up by actors within an action arena needs to be used to modify the IAD framework.

In summary, *the IAD framework* presents two merits as an analytical tool for this study. First, the framework is suitable for this study because it embraces the diverse aspects of actors as well as contexts in relation to

institutional development. This allows the capturing of partnership operations from the emergence to outcomes (See Figure 3.1 earlier) Second, three preconditions (physical conditions, community attributes and rules-in-use) capture political, social and physical settings around partnerships, while seven analytical elements in action arena disclose the complicated interactions among actors within the related contexts (see Table 3.1 earlier). These analytical elements allow rich understandings of institutional development, overcoming the shortfalls of being descriptive in existing partnership studies.

However, as an analytical framework, three additional aspects with regard to the emergence and outcomes of partnerships can be identified for further modification of the IAD framework. Chiefly, the three 'preconditions' used in the framework may be insufficient. There is no explanation about how specific preconditions in a certain community are changed and/or shaped. Such a static account of the preconditions is often used to emphasise grass-root institutions and criticise the remote management of outside organisations such as national government. When a new institution is created within a local community, it is necessary to examine what lies beyond community level. Changes in water management are often determined by episodic events of dramatic changes in political systems. Examples are the cases in South Africa and Eastern Europe as well as full privatisation in Chile (Dinar 2000: 6-10).

Moreover, regarding the preconditions of partnership development, the IAD framework is based on CPR studies, which focus on voluntary users of economically consumed water resources, e.g. irrigation, at the community level or controlled experimental situations. The increased number of water partnerships since the LA21 campaigns (see section 1.1.2) are related to non-consumptive uses such as river restoration. In this case, the motivation of cooperation among partnership members cannot be explained through the direct economic interests. Thus, the IAD framework needs to evolve to explain political influence on actors' behaviour and its consequences for institutional development.

This study employs a multi-criteria approach drawn from partnership studies to reveal the dynamic features of partnership outcomes, which will be examined in connection with the seven analytical elements of partnership operations. This linkage between the operation and the outcomes of water partnerships can be used to draw the more detailed lessons for further study. The IAD framework contributes to designing common pool resource institutions (e.g., resource user groups) for self-governing alternatives to the existing formal institutions. The stress on actors stemming from surrounding conditions and institutional arrangements is a useful point for suggesting how to solve externalities in human society. In other words, this approach is better at explaining

principles of institutional design and lessons for organising and operating self-organising institutions for better management of common pool resources. Hence, for assessing the outcomes of Korean water partnerships, the multiple criteria of partnerships outcomes, examined in the Section 2.3 (see Table 2.1) will be applied to the link with the seven elements of action arena.

Finally, the previous studies tend to provide prescriptive 'designing principles' at a single level of resource management, which is often criticised as a weakness in explaining the exogenous factors beyond community level. In other words, communication among different actors at different decision making levels (Ostrom 2007) needs to be improved. This weakness is also found when the focus on the organisational boundary of partnerships in existing partnership studies fails to explain the bigger picture of co-governance institutional development.

3.2 A modified IAD framework for the analysis of Korean water partnerships

This section proposes a modified analytical framework for studying water partnership by reviewing the theoretical literature on Mahoney's periodization approach and water management. The review will show that the work explicitly addressing water partnerships is limited. Two aspects of the IAD framework are subject to modification: (i) an addition of *the*

exogenous factors that lie beyond the community; (ii) an inclusion of the linkage between the water partnerships and the existing multi-layered water governance.

3.2.1 Exogenous factors to institutional development and outcomes

Factors: governance reform at the global and national levels

The political aspects involved in forming partnerships (see Brinkerhoff and Brinkerhoff 2002; Flinders 2005) need to be incorporated into the IAD framework in order to grasp a broader picture of partnership formation. The roles of global reform ideas in relation to the emergence of water partnerships need to be analysed with regard to existing water governance. The 'enabling' role of national states emphasised in governance literature indicates that national states conduct the 'nesting' of reform discourses into the related contexts (Rhodes 1997). However, the current partnership literature misses to recognised the roles of national-level actors in the development of partnerships (See Evans 2004).

To address the absence of national-level actors and reflect the associated political aspects in the IAD framework, this study follows Rydin (2003)'s approach. She identifies how the different types of rationality discourses are reflected in the environmental planning process in the UK as an action arena. She added a discursive approach to the IAD framework based on rational institutionalism, which enriches the picture of the policy process by

finding various reasons of policy actors' behaviours. Similarly, Hajer (1995) proposes a concept of 'discursive coalition' to analyse the collective action that influences the development of social institutions. Hajer analyses how environmental policies are shaped through political competition based on confronting values (See Bickerstaff and Walker 2005; Hajer and Versteeg 2005). The emphasis on the political interaction is useful for the understanding of the emergence of institutions, especially formal institutions such as public policy. As this study aims to cover not only the outcomes of partnerships but also their formation, Rydin (2003)'s attempt to combine political infusion with rational policy process will be particularly relevant for examining what discourse preceded before the preconditions in the conventional IAD framework.¹⁸

Analytical approach: Path dependent institutional development

Additionally, this study uses Mahoney's periodization approach to cover the nesting of water reform discourses in relation to partnership emergence. Mahoney's periodization approach claims to be effective in two aspects: First, this approach is analytically significant for recognising the long-term incremental change or stability of existing institutions. Second, it may

¹⁸ However, because her discourse study focuses on the outcomes of the existing institutions such as decision-making and policy agenda, an additional element of discourses is designed to locate right before the action arena, the planning processes. Also, whereas the additional element of rationality discourse in her study remains at the national policy level, the nesting of reform discourses in this study is the consequence of multi-layered water governance from global, national to local levels.

justify how social institutions address challenges by adopting reform measures. In other words, Mahoney's periodization approach reflects both change and stability of social institutions in a bigger picture (Jacob 2001).

Institutionalists have broadly focused on the notion of time in institutional changes. For example, North (1990; 1995) famously argues that long-term institutional changes in a society are usually incremental. In other words, abrupt change in the rules of the game at the societal level is too expensive to be desired by key agents unless there are urgent needs to rescue the political economic benefits in the case of 'crisis like' situations. Thus, Mahoney's periodization approach provides the explanatory power to investigate larger-scale institutional changes by focusing on the nature and direction of change (See Mahoney 2000).

Mahoney's periodization approach is in contrast to the rational institutionalism approach which predominantly presumes preferences are given and focuses on the stability of established institutions (Blyth 2002). One of the most significant points of dependency is the notion that 'time matters.' In other words, literature on Mahoney's periodization places historical events in the form of steps along the institutional development path, which is usually shaped through selective institutional changes. There are three distinct phases of path dependent processes, which are as follows:

- The initial "critical" juncture, when events trigger movement toward a

particular “path” or trajectory out of two or more possible ones;

- The period of reproduction, in which positive feedback reinforces the trajectory initiated in phase one; and
- The end of the path, in which new events dislodge a long-lasting equilibrium (Mahoney 2000: 514).

Mahoney’s periodization approach has both merits and drawbacks for analysing water partnership development in Korea. First, as previously stated, the approach has more explanatory power to reveal the dynamic institutional changes due to its broader spectrum in time variation. On the one hand, Mahoney’s periodization approach is an all-inclusive analytical framework useful for providing expansive understandings of partnership development beyond organisational analysis. Whilst this approach supports historical explanation of newly emerged institutions from the reproduction period, it relies on the rational choice institutional approach for the mechanisms of positive feedback and increasing return patterns, following North (1990; Pierson 2000). On the other hand, by relating the order of events, the linkage between critical junctures and the reproduction period remains descriptive rather than analytical. Thus, Mahoney’s periodization approach is a useful analytical element when it is used with a more analytically detailed approach, such as reform discourses and the IAD framework applied in this thesis. In order to link this descriptive analysis to the IAD framework, the modification needs additional factors drawn from

water studies, to be discussed in the next section.

3.2.2 Social basin: illustrating changes in multi-layered water governance

For institutional development of water partnerships, the concept of a *social basin* is a useful tool for the comparison of governance change. This concept is defined as 'a sub-basin, a local or regional unit of government, or a hybrid unit' (Blomquist, Dinar et al. 2005: 35). This notion is useful to demonstrate the overlapping boundaries of existing administrative institutions and recently developed watershed-based organisations (Blomquist, Heikkila et al. 2004; Walker, Gunderson et al. 2006).¹⁹ In water governance, the boundary between water management and organisational type has been a controversial issue²⁰. The claim that a river basin is a 'logical unit of water management' (Jaspers 2003) has been advocated by the Integrated River Basin Management approach (Hooper 2005). However, in terms of management, water services in modern society are not necessarily based on respective watershed considering the effectiveness of public-centred management accomplished through the size of economy (Pierce and

¹⁹ Sometimes this term is used to indicate human networks within a watershed or river basin (see Walker, Gunderson et al. 2006), which is more close to interlinked virtual community often formed in solidarity.

²⁰ For example, the rationale for geographically based, watershed partnerships is driven by the normative idea regarding the river basin as an ideal unit of management. To scholars like Sabatier and his colleagues (2005), this norm can be seen as an inevitable result of water policy evolution which seeks to overcome the governance crisis.

Doerksen 1976; Rees 1998), As noted by Blomquist and colleagues (2005: 35):

‘Although river basins are important hydrologically, ecologically, and economically, not all aspects of stakeholder participation and not all decisions and activities that contribute to IWRM have to be organised at the basin scale. As we have seen in these cases, a variety of scales have been used. The “lowest appropriate level” for some IWRM functions may therefore be a sub-basin, a local or regional unit of government, or a hybrid unit sometimes referred to as the “social basins” (e.g., the basin subcommittees in the Alto Tietê case)’.

Based on the work by Blomquist and colleagues, in the following case studies, a social basin is defined as an area of different/overlapping/separate responsibilities in water management by water partnerships and other water organisations. The ability to visualise the relationships among water organisations means this notion of a social basin will incorporate an analytical element for-“space” in water governance, which is often missing in water governance studies, including Ostrom’s IAD framework. As discussed in the previous section, a notion of ‘nested enterprise’ can be used to describe social actors and how they interact and cross over different layers of decision-making systems, shaped in hierarchical structures.

However, as pointed in section 1.1.1, the complexity of water governance stems from clashes and/or interdependency between scales of related water resources, such as the watershed area of a lake and the scope of human society-led management systems. Recognising the role of spatial context is necessary in understanding the interconnected units of multi-layered water governance: the notion of a social basin will shed light on the territories of water governance institutions in Korea. The case studies in Chapters 6 and 7 look at the process of water partnership development from emergence and operation to outcomes. Through examining the two different social basins shaped by the formation of water partnerships, the case study analysis provides opportunities to comparatively show the changes of water governance structures over the time. The difference before and after the partnership was established will reveal how new institutions have been connected or not within the existing water governance.

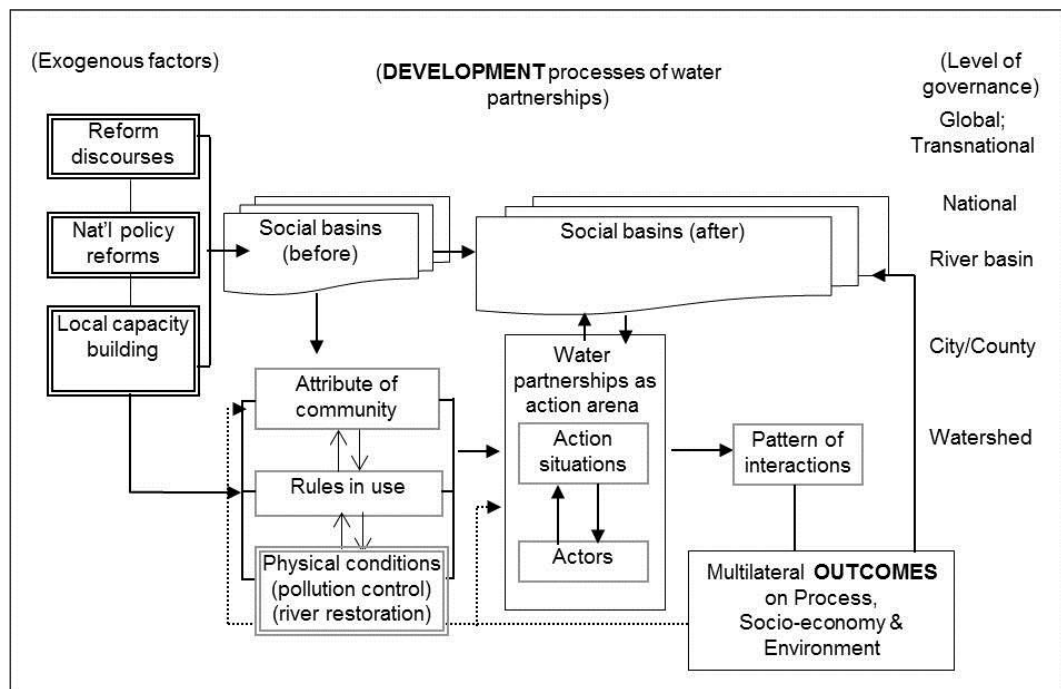


Figure 3.2 Modified IAD framework (Two research aims are highlighted in bold and upper characters)

A modified analytical framework is presented in Figure 3.2, which adopts an institutional approach with additional analytical elements. In the diagram above, three exogenous factors are put on the left hand side so that they precede the emergence of water partnerships. Exogenous factors are divided into three: global water reform discourses, national water policy reform and local capacity building experiences. These factors are designed to reflect the changes to multi-layered water governance in the development of water partnerships, which will be examined using Mahoney's periodization analysis. Social basins at the top of the diagram will provide the snapshots of the relationships between water partnerships and the existing water governance. In terms of the scales of management,

this modified IAD framework is designed to overcome the limitation of the conventional IAD framework in terms of providing more explanations about how new institutions were created through political factors such as reform discourses. Another additional element, social basin, will catch the multilayered water governance before and after the partnerships are created, which address the second weakness of the IAD framework.

Conclusion

Most academic work on water governance is concerned with checking the outcomes of partnerships, which treat an array of governmental and nongovernmental partnerships as an isolated organisational type. Why and how a new type of institution appeared as a contemporary water institution is often overlooked. In order to address this gap in partnership studies, this research employs an institutional approach, the IAD framework. It is useful in two ways: (i) the disclosure of the complicated interaction among participants and institutional arrangement including problems, physical conditions and socio-economic contexts; (ii) the unpacking of how water partnerships have developed in terms of creating, enforcing rules of co-governance and producing outcomes for water management in incremental stages. The institutional approach has potential for further development to understand exogenous factors, i.e. what conditions affected the creation of co-governance institutions and what has determined the multi-scale development of water partnerships and their relationship to existing water

governance.

This chapter has concluded with a modified IAD framework for the analysis of Korean water partnerships. In addition to socioeconomic factors, it is necessary to include *exogenous factors that lie beyond the community* to the IAD framework. This inclusion will assist this study to analyse the development of water partnerships, particularly, in relation with their emergence. The exogenous factors include water reform discourses that have been internationally promoted, the application of these reform discourses in the national policy and local capacity building. To integrate these factors with the framework, Mahoney's periodization approach will be adopted as a supplementary analytical tool. Additionally, water management topics such as pollution control, river restoration will be used to divide two subgroups of partnerships in order to examine how different water topics influenced the development of co-governance institutions (See section 2.2). *The linkage between the water partnerships and the existing multi-layered water governance* will be unveiled through the application of concept of social basin. This concept is introduced to illustrate how water partnerships have been linked with other existing water organisations. The comparison between the social basins before and after the emergence of partnerships will explain the interaction between water partnerships, and their relationships with the existing water governance shaped at various levels of management. The static nature of the IAD framework can be

complemented through this modification. The next chapter will discuss the methodology of this thesis; that is how to conduct this modified analytical framework in the context of Korean water partnerships.

CHAPTER 4 RESEARCH DESIGN AND METHODOLOGY

Introduction

This research employs a comparative case study approach to answer the two main research questions as follows: a) How have co-governance institutions for water management emerged in Korea?; b) How and why have water partnerships in Korea produced certain outcomes? To unpack the recent emergence of water partnerships and state-led water governance in Korea, it is critical to reveal not only the development of these new organisations but also the embedded operation of co-governance institutions within South Korean contexts. The case study method is an excellent tool to assist an institutional approach, which requires detailed stories from individuals as well as political, cultural information surrounding the partnerships.

This chapter begins with the explanation of the methodological foundations of the research design and moves on to present selected data collection methods. The last part of the chapter concludes with a summary of the data analysis.

4.1 Research design for institutional development of Korean water partnerships

4.1.1 Qualitative comparative case study

This research employs a comparative case study approach in order to analyse a various number of water partnerships that emerged and operated in contexts of Korea. A case study has strengths in 'investigating a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' (Yin 2003: 13-14). Hartley adds that 'case studies are useful when it is important to understand how the organizational and environmental context is having an impact on or influencing social processes'...and...'[a] case study can be useful in capturing the emergent and changing properties of life in organizations'(Hartley 2004: 325). Thus, explanatory case studies are 'the preferred strategy when "how" or "why" questions are being posed, when the investigation has little control over events, and when the focus is on a contemporary phenomenon within some real-life context'(Yin 2003: 1-2). Its distinct merit allows us 'to retain the holistic and meaningful characteristics' of 'complex social phenomena' (Ibid).

One of the criticisms of case studies is the problem of generalisability, or external validity (Bryman 2004: 51-2), but this is not an issue for this study for two reasons. First, the goal of this comparative case study is not to create a generalisable theory but to bring out context-rich knowledge (Flyvbjerg

2006: 222) in order to enrich the current understanding of an emerging water institution in a less explored context, that of Korea. Thus, an analysis of a comparative case study in a particular context is to reflect upon the divergent institutional development of multiple water partnerships in Korea. Secondly, the problem of representativeness can be remedied to an extent by carefully selecting multiple cases. The virtue of a comparative case study approach is praised by George and Bennett (2005: 18), who indicate that 'the strongest means of drawing inferences from case studies is the use of a combination of within-case analysis and cross-case comparisons within a single study or research program'. Thus, this thesis adopts multiple case studies within Korea to address the research questions.

Controlled comparison: Grouping multiple cases

In order to refine the multiple comparative case study approach, this study adopts a well-known research design strategy that is controlled comparison. George and Bennett (2005: 151) refer to this as 'the study of two or more instances of a well-specified phenomenon that resemble each other in every respect but one'. For achieving better outcomes from a comparative analysis, Lijphart (1975) recommends four strategies:

- (i) Increasing the number of cases;
- (ii) Reducing the property-space by combining variables;
- (iii) Focusing the analysis on comparable cases; and

(iv) Restricting the analysis to the key variables.

However, as George and Bennett (2005), and Lijphart (1975), acknowledge, an experiment-like comparative case study may be too idealistic. For this study, as many cases as possible were deliberately selected within a national context. Additionally, in order to maintain pattern-matching among voluntarily emerging partnership cases, the cases for comparison in this research were divided into two sub-groups based on the topics and scales of water management: namely into those concerned with urban river rehabilitation and those involved in regional water conservation.

Design of case study analysis

In order to achieve valid results from the present investigation, this thesis employs Yin's proposed tactics in research design, data collection and analysis processes, as seen in Table 4.1 below. Analysts have provided recommendations on how to refine comparative case studies for each phase of the research process. Yin (2003), quoting a COSMOS Corporation document, proposes that a case study should fulfil four criteria: construct validity, internal validity, external validity and reliability. The procedure of data collection and analysis is presented in sections 4.2. and 4.3.

Table 4.1 Case study tactics for four design tests

Tests	Case study tactics	Related research process
Construct validity	Use multiple sources of evidence Establish chain of evidence Have key informants review draft case study report	Data collection Data collection Composition
Internal validity	Do pattern matching Do explanation-building Address rival explanation Use logic models	Data analysis Data analysis Data analysis Data analysis
External validity	Use theory and replication logic in multiple-case studies	Research design
Reliability	Use case study protocol Develop case study database	Data collection Data collection

Source: Yin (2003: 34)

4.1.2 Complementary assessment for partnership outcomes

To reveal the complicated features of partnership outcomes, data was collected through a qualitative case study approach with a complementary attitude survey. As the partnerships are relatively new, and consistent data on outcomes did not exist at the time of conducting fieldwork for this research, the comparative case study approach develops both quantitative and qualitative data on partnerships, rather than pursuing an analysis of previously published data.

An application of mixed methods for this research is based on the notion of complementarity, which has been used increasingly in recent years (Bryman 2004; Brannen 2005). Complementarity is sought when 'the two research strategies are employed in order that different aspects of an investigation can be dovetailed' (Hammersley 1996; cited in Bryman 2004: 455). According to Yin (2003), once relevant situations where compatible

research strategies are identified, mixing different research methods can be justified. For example, May (2001: 112) points out that 'surveys are often used as part of a multi-method approach wherein qualitative methods precede and/or follow a survey, thus permitting the development of an understanding of agents' perspectives, social process and context'. Therefore, this study depends on a qualitative approach of comparative case studies as the main methodology. Furthermore, a supplementary method of attitude survey will be used to perform the assessment of partnership outcomes, which cannot be done through single qualitative approach.

4.1.3 Research procedure

The research design for this study is a comparative case study approach with the addition of a survey method for assessing partnership outcomes. The procedure of the study is described in Figure 4.1.

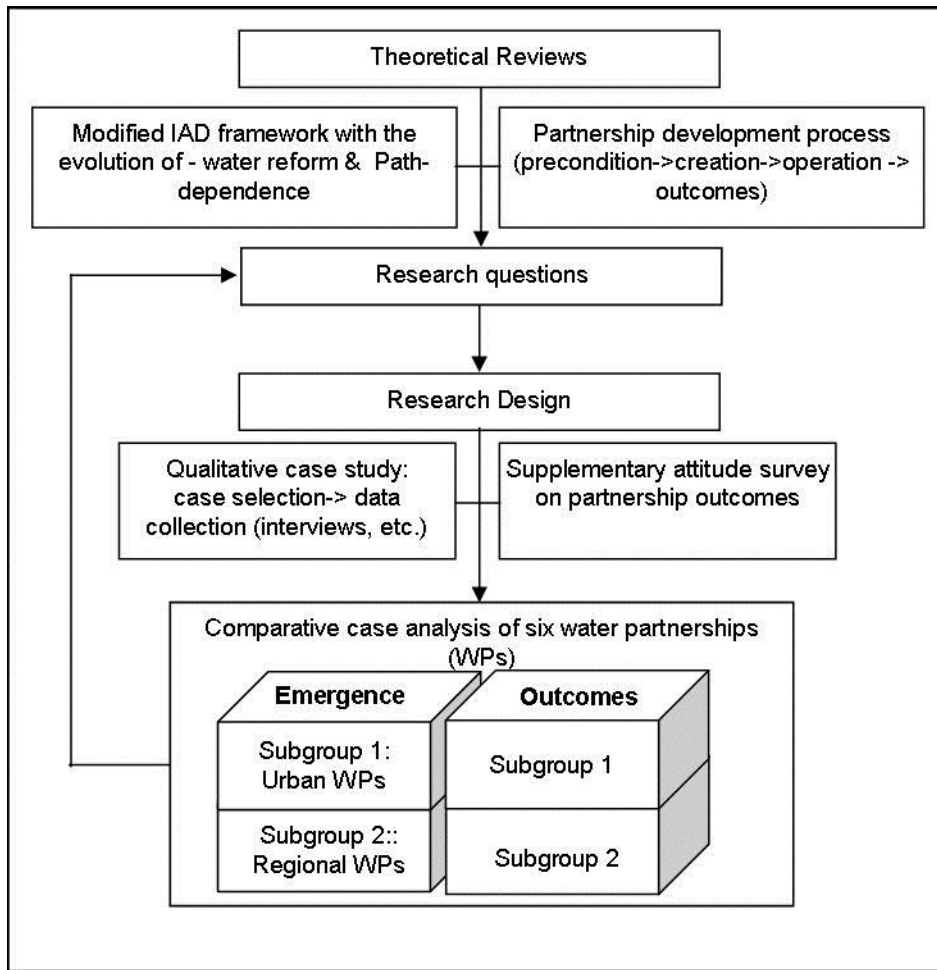


Figure 4.1 Research flowchart

Based on the research design and background information on the Korean context, discussed in Chapters 1 and 2, the details of the research strategies employed in each methodology are provided in the next section.

4.2 Data collection

The data for this study has been collected mainly through field research during 2004 and 2005 in Korea, as well as a number of additional interviews followed up through email exchanges in 2006.

Various data sources should be sought to conduct comparative case studies. Yin (1994) recommends six possible types of evidence, among them documentation, archival records, interviews, direct observation, participant observation, and physical artefacts. In this study, documentation, interviews and direct observations have been used because there was no single archive for water partnerships and a qualitative multiple case approach for this research hardly required physical artefacts. Because it was difficult to access some partnerships (see section 4.2.4), participant observation was replaced by direct observation of selected activities. The author conducted the direct observation of a meeting per single partnerships, wherever possible.²¹ The possible combination of multiple sources in data collection for this study involves related public and partnership organisations, interviews and surveys, as seen in Table 4.4.

Table 4.2 Data collection methods employed

Research procedure	Methodology
Research design	Mixed methods approach
Data collection	Background research
	Documentary research
	Pilot study: simple factual survey
	Main fieldwork
	Semi-structured interviews
	Attitude surveys

²¹ This was far from a long-term observation method often used in anthropological study, which required longer time observation of usually fewer number of cases (See Bernard, H. R. (2006). Research methods in anthropology qualitative and quantitative approaches. Lanham, MD, AltaMira Press.).

4.2.1 Documentary analysis examining reform discourses and partnership outcomes

Documentary analysis is used mainly to understand the contexts of the cases and counter-check organisational features, including history, basic statistics and preliminary sources of data on partnership outcomes. The key sources for documentary data include governmental bodies such as the Ministry of Environment and Ministry of Construction and Transport, water partnership organisations and private information sources. While the web pages of the partnerships and related organisations such as the River Network have been the source of a vast amount of information, ranging from monthly water quality data in second class local rivers to policy reports, personal contact-particularly interviews using snowball strategies-were also used to gain insights. The contacts with interviewees also enabled the acquisition of more exclusive information such as minutes of meetings and master plans for certain projects. When needed, an online newspaper database run by the Korea Press Foundation, an independent mass media watchdog, was used to verify and complement collected documents.

Despite not applying a discourse analysis, the author used a non-traditional concept of discourse with reference to 'water reform discourses' in the case studies. In addition to the role of data verification, documentary analysis was applied to check how water reform ideas had been used in the emergence and the outcomes of the water partnerships discussed in Chapters 6 and 7. Because the IAD framework treats rules-in-use and norms

as shaping water partnerships' operation and outcomes (see section 3.1), the views related to co-governance, water partnerships were searched and examined in the case study. In this thesis, discourse was only employed in order to depict how the actors in the water partnerships represented ideas related to water reform.

Discourse is believed to be a notion 'on the linguistic and pragmatic production of meaning'(Feindt and Oels 2005: 163). In so doing, water reform discourses are referred to as 'the ensemble of ideas and concepts that are related to the topic of water reform'. Documents containing vision statements and organisational aims related to policy reforms and partnerships were collected from interviewees and official archives. In terms of research phases, documentary analysis was heavily employed to highlight the differences in discourses concerned with water reform ideas and the way these ideas changed over time. The notion of discourse was only applied in the case studies to complement the institutional analysis forming the main analytical framework for the comparative case study research. This is in contrast to most of the work of the Discourse Analysis School that addresses 'discourse as an 'objective' of research (See Wood and Kroger 2000).

4.2.2 Pilot study and pre-interview

A pilot study was conducted in 2004 in order to gain a preliminary

understanding of the background to water governance in Korea and assist the documentary analysis, interviews through snowball strategies and case selection. During the pilot study, key stakeholders involved with the collaborative river basin management in the Han River and Nakdong River basins were selected for pilot interviews and asked to complete a short questionnaire (see Table 4.3 below). Initially, the pilot survey took place in two river basins, instead of targeting those at the national level, because they reflected the direction of recent water reform, which had concentrated on the four major basins in the country. The two cases cover not only geographical differences but also the evolution of recent water reform, which had been developed incrementally from the early enactment of the Special Act in the Han River in the late 1990s to the introduction of special acts in three other basins in 2003. Owing to limited time and budget constraints, the Geum and the Yeongsan River basins were not included in the pilot study.

Table 4.3 Questions asked in the pilot survey

- | |
|--|
| <ol style="list-style-type: none">1. The basic characteristics of respondent: demographical nature2. Please, list any water governance organisations within your region or other areas in Korea.3. What do you think of key obstacles and necessary resources for current water governance in Korea?4. How often have you contacted whom or which water/environmental organisation for work related water governance in the last year? Please indicate the frequency of contact next to the list of organisational types. |
|--|

Even though a pilot study collected information from twenty water experts

in the two river basins, their answers to the four questions were selectively used for this study. The results of a pilot study were useful for recognising the 'water governance organisations' in Korea, and contributed to the main data collection. Respondents were asked to assess the frequency of contacts from the given list of organisations, but, where needed, they were invited to add more. In addition, the results of this pilot study led to a refinement in case selection. The respondents found that they contacted local water partnerships, the LA21 offices, or local NGOs more frequently than public coordination bodies such as the River Basin Committees in the four major rivers. To the second question in the Table 4.3, 10 people pointed out local water partnerships as a water governance organisation, while others mentioned local LA21 office, an alliance of local NGOs, a River Basin Committee and a national water research institute. Thus, this study selected local water partnerships as co-governance organisation. Reflecting the results of this pilot study, the main data collection and case selection was designed to look for evidence of newly emerged water partnerships.

4.2.3 Selection of cases

According to George and Bennett (2005), it is quite common for case study analysts to select cases that share similar outcomes. For this research, the sharing outcomes, i.e. the criteria of case selection for this thesis are the emergence and operation of water partnerships in Korea. Based on the results of the pilot study, the author explored appropriate cases of newly

emerged water partnerships at the sub-basin level in the main fieldwork. Additionally, the case selection started from the list of partnership organisations found from three sources (River Network 2004; Ministry of Environment 2004b; Korean Council for Local Agenda 21 2005b). These three sources recognised 10 cases of public-private collaboration for better water management by 2004, six of them were selected for this study (Numbered 1 to 6 in Figure 4.2). These six cases are namely, Jeonju partnership, Daecheong lake partnership, Busan city partnership, Incheon city partnership, Paldang lake partnership and Gyeongnam Water Forum-1, 2, 3, 4, 5 and 6 respectively. For controlled comparison, the six selected cases are categorised into two sub-groups based on the scale of water resource and the key agenda of the partnerships. Three partnership cases-1, 3 and 4- are related to urban river rehabilitation and cases 2, 5 and 6 are regionally based and concerned with more general water management. The key activities of the selected water partnerships are listed in the Table below.

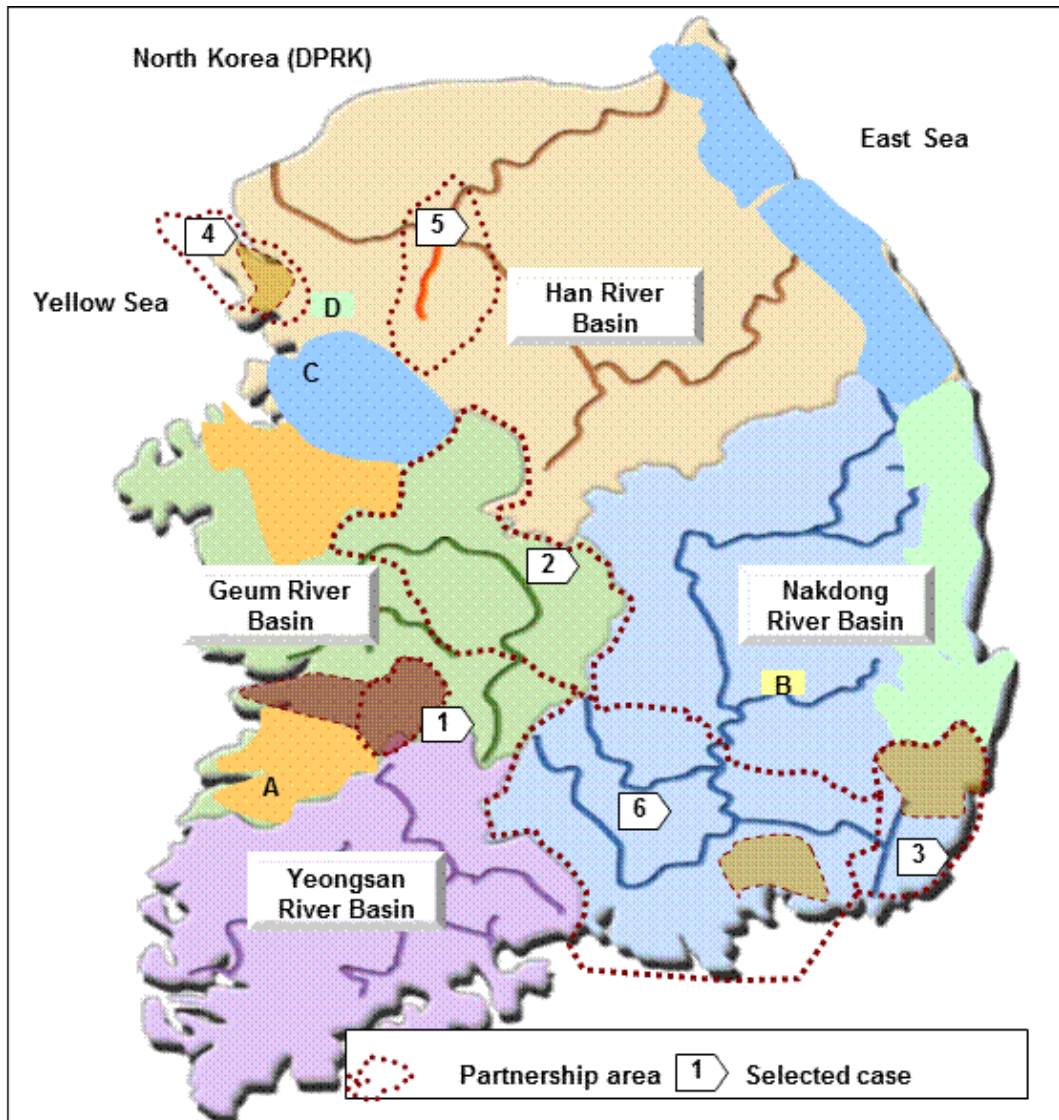


Figure 4.2 Location of the selected case areas in numbers in the Republic of Korea
 (Source: Adopted from (Kang and Ministry of Environment 2007))

Table 4.4 Key activities of the selected water partnerships

Major activities	Jeonju	Busan	In-cheon	Dae-cheong	Pal-dang	Gyeong-nam
Planning and Implementation of river rehabilitation project with local authorities	√		√			
Engaging with citizens through events on local water resources	√	√	√	√	√	√
Organisation of sub-watershed groups			√	√		√
Work in coordination with LA21 movements	√	√	√	√		√
Work on conflict resolution				√	√	
Support of local groups implementing river rehabilitation project		√		√		√
Monitoring local water resources	√	√	√	√	√	
Operation of grant programme support grassroots		√	√	√	√	
Organisation of events about water resources	√	√	√	√		√
Publication of annual white paper				√		√
Co-management system with local governments	√	√	√	√	√	
Monitoring central agencies		√	√		√	√
Participation in the operation of current water governance institutions				√	√	

Major activities	Jeonju	Busan	In-cheon	Dae-cheong	Pal-dang	Gyeong-nam
Working beyond the locality				√		√

Source: Interviews and data collection through the fieldwork in 2004/05

Four cases were excluded in this study (marked A, B, C and D in the map) because they had lack of data and/or had no partnership organisation at the time of conducting field research. In the case of major river basins, there were four in total, reflecting the recent development of basin governance in Korea. It was difficult to pick the relevant case(s) in the Yeongsan River basin (marked A in the map above). A case of collaborative water management was recognised by the Korean Council for Local Agenda 21 (2005b) for Yeongsan River basin, but the scale of the partnership at the county level was relatively small and their temporary presence. In order to maintain consistency and comparability among cases, the Yeongsan River basin was therefore ruled out as a case study for this thesis. Similarly, the Nakdonggang, Suwoncheon and Anyangcheon- B, C and D respectively in Figure 4.2- were not chosen because there were no partnership organisations.

4.2.4 Semi-structured interviews

Semi-structured interviews and partnership-published documents are the second source of primary data, and are used to reveal the processes of partnership emergence and organisational operations in the context of

interaction with other surrounding institutions. Two stages were involved in the conduct of the semi-structured interviews: setting the questions and selection of interviewees.

Interview questions

According to May, 'questions are normally specified, but the interviewer is freer to probe beyond the answers in a manner which would appear prejudicial to the aims of standardisation and comparability' (2001: 123). May also indicates that this approach accomplishes the dual goals of maintaining the compatibility of data and gaining natural answers from interviewees. In contrast to a questionnaire survey, to set up the semi-structured questions for case studies is about re-shaping the research questions to take the form of more accessible and understandable language, 'couched in terms of language of informants' (Wengraf 2001: 62). Interview questions were designed to focus on the emergence of water partnerships and operations, the notion of water governance to partnerships members and extra questions on the water policy processes to the non-members of partnerships but related stakeholders, as shown in Table 4.6. All interview questions were translated by the author, a native speaker, in Korean.

Table 4.5 Questions asked in the semi-structured interviews

- What is the status quo of your organisation(s) such as finance, regular projects and programmes (outreach and education, continuous/participatory monitoring etc.)?
- How is the relationship with outside organisations, particularly River Basin Management Committee in your basin area and central state ministries?
- Do you/your institution conduct evaluation schemes whether it is done by law or inter- or intra bodies? Do you publish information on the regular or ad-hoc evaluations?
- Would you tell me about the strategic plans and key activities of your institution?
- Would you tell me about current challenges and major issues? What are the reasons for and solutions to these obstacles/current problems?
- What do you think of water governance? Which organisations in Korea, as far as you know, can be called 'water governance organisations'?

Selection of interviewees

The key stakeholders in water governance and partnerships were recognised through the pilot survey (Bryman 2004). In order to counter-check recommendations possible through the documentary analysis and direct observation of partnership meetings. To gain practical knowledge of the partnership as much as possible, interviews were arranged with the head of the committees in each partnership first. When this was not possible, alternative interviewees were sought, identified from the direct observation of partnership meetings. At least two interviews were held with every interviewee in the partnership bodies and, where possible, related meetings were attended in order to observe them from an outsider's perspective.

Difficulties encountered

Fieldwork must be context-sensitive in order to conduct more realistic and appropriate data collection. Tensions between public and private sectors, and the mixed nature of partnership bodies with regard to river basin management, poses challenge to conducting field research when subject organisations are in conflict, both internally and externally. In addition, information, or even access to information, is not always available to researchers, especially when approaching organisation(s) from the outside. For example, with regard to case number 5, the Paldang water policy commission had been in internal conflict over changing a regulation system (based on pollution load) from a voluntary to a compulsory one. Due to the tense atmosphere within the partnership, it was hard to conduct the questionnaire survey with the steering committee members, and had to be postponed until the situation was resolved when the representatives of six local government agencies - officials and residential representatives - accepted compulsory regulation on 26 September 2006. Patient liaison with key contacts turned out to be the most helpful asset in this case.

‘Lost in translation’ was an expected challenge to this study. The confusion in the translation of Korean to English or vice versa for this thesis is a common challenge in case studies. As Stake puts, ‘[t]ranslation from experimental language to formal language diminishes and distorts some of

the meaning'(1995: 86). To address this issue, the understanding of the cultural backgrounds and the contexts where the cases have been shaped was essential, which was secured by the author's previous experience in water policy and public research. During the fieldwork, the interviews and data collection were conducted and recorded in Korean by the author herself, a native speaker of Korean, then were translated into English. Additionally, the name of the organisations, people and places in Korea are often subject to confusion because of Romanisation (Harvard College Library 2010). This study followed the most recent rule of Romanisation, developed by the National Institute of the Korean Language, announced by the Korean government in 2000(The National Institute of the Korean Language 2000).

4.2.5 Attitude surveys

In order to answer the second research question examining partnership outcomes, a self-completion questionnaire was adopted. May (2001: 92) states that 'surveys, through the use of questionnaires, measure some characteristic or opinion of its respondents'. In partnerships studies, this approach has been applied in the US (Leach 2002; Leach, Pelkey et al. 2002) mainly for the purposes of getting information on newly created institutions. In comparison with the case study method, a small-scale survey is quicker in terms of producing controlled information and is more cost-efficient. Thus, the aim of the questionnaire survey in this study was to

support the main qualitative approach by producing evaluative data, which would not otherwise be available.

Two supportive survey methods were employed. Firstly, before the main fieldwork was undertaken, a pilot questionnaire survey was conducted in two sampled water organisations in two cities, in order to gain background information and to recognise the relevant case organisations (see section 4.2.2 for the pilot study explanation). To obtain background information, this 'factual survey' was conducted to gain information from individuals (May 2001: 89) at small scale - less than 50 respondents. Secondly, an attitudinal survey of partnership members was conducted because of difficulties to gain objective data on partnership outcomes. Hence, it employed the self-evaluation method that has been used in the US watershed partnership literature. In addition to the three categorised criteria (see Table 3.1), this perception-based assessment measured self-satisfaction of members with each partnership. Despite the members' propensity towards positive responses (Leach, Pelkey et al. 2002), the degree of self-satisfaction indicates a significant aspect of internal collaboration, the general unity inside a partnership. In addition, its relationship with other perceived partnership outcomes can offer different analytical elements in a comparative case study. The presumption behind this approach is purposive sampling, 'whereby a selection of those to be surveyed is made according to known characteristics' (May 2001: 95). The attitude scales, as

May mentions, such as the Likert scale, are a set of statements that a researcher asks respondents, with the suggested answers on an attitude continuum. Despite various criticisms, including weak sensitivity to diverse scales (Cummins and Gullone 2000), this method of attitude measurement has been popular because of its simplicity. The ability to adopt simple methods outweighs the drawbacks and the survey results complement the findings from the qualitative analysis. Table 4.5 presents the questionnaire used.

As for the creation of a Likert scaling questionnaire (May 2001; Leach 2002), the process involves four steps:

- Devising statements to measure a particular aspect of the issues concerned, e.g., elements of partnership outcomes.
- Categorising the items in order to see the relationships among them, e.g., self-satisfaction with the own partnership, process-related outcomes, environmental outcomes and socio-political outcomes.
- Breaking up the proposed evaluation criteria into those for supplementary self-assessment elements and others for documentary assessment, in order to keep the simplicity of the attitude questionnaire.
- Lastly, putting the 1-5 scale into words expressing the degree of opinions: 1 = strongly disapprove, 2 = disapprove, 3 = neutral, 4 = approve and 5 = strongly approve.

Table 4.6 Attitude questionnaire form

Questions	1	2	3	4	5
Q: To what extent are you satisfied with the partnership outcomes?					
Q: To what degree, would you agree with the achievement on the each element of your partnership outcomes shown below?	1	2	3	4	5
Improved ecological conditions Improved water quantity Improved water quality Mutual understandings Learning and change beyond the original group: - Expansion of the partnership - More application in other fields Changes in attitudes, behaviours, institutions & practices: Citizen awareness Cultural and professional gaps among members High transactional costs Trust building (capacity for) conflict management					

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree.

Ideally, the data collection procedure for each case should be as identical as possible; however, due to the difficult conditions of fieldwork, the attitude survey was conducted in two ways—face-to-face interviews and an electronic mail survey, depending on the situation in each partnership. Face-to-face interviews and consecutive questionnaire surveys were conducted on the site of the Jeonju, Busan and Incheon partnerships. The interviewees were explained in advance that the results of survey would be used only for this research and were asked to be as honest and objective as

possible. I was denied access to interviewees in three other partnerships in Daecheong, Paldang and Gyeongnam because of the political sensitivity of the water partnerships. As they were reluctant to meet this researcher or allow an observer to be in their meetings, electronic mails were used to do the survey on the members of working committees.

4.3 Data analysis

Semi-structured interviews were recorded with the permission of participants and coded in Korean. As discussed earlier, the six case studies were divided into two groups - urban stream rehabilitation and water conservation -, and were analysed to highlight the key features of partnerships. The results of the attitude survey on partnership outcomes were subsequently used for comparative case study purposes, helped by the standardised frame of the five-point Likert scale results. This allowed this researcher to address the diversity in size and features among the six partnerships. The responses were coded in Excel and analysed through simple scaling calculation and charts.

Primary qualitative data is the product of semi-structured in-depth interviews and the direct observation of six meetings. Follow-up interviews and documentary collection were added in 2007 after the fieldwork period through e-mail correspondences. In total, 31 interviews were recorded and transcribed. Table 4.8 provides further details.

Table 4.7 Interviews conducted September 2004-June 2005

Case	Numbers of interviews	Numbers of committee members
Jeonju	3+1*	9
Daechong-ho (lake)	5	24
Busan	5	23
Incheon	3	16
Paldang -ho (Lake)	3+3**	22
Gyeongnam Water Forum	3	15
Sub-total	26	109
Others (River net, KFEM Water committee and Daegu Office for Local Agenda 21)	5	-
Total	31	-

* Additional interview in September 2005.

**Additional interviews took place after the major fieldwork in 2005.

Following Yin (2003)'s recommendations for improving case study results, a case study database that summarises the organisational features and relevant problems was prepared for preliminary case analysis. The prehistory of partnerships was drawn from the documentary analysis, mentioned in section 4.2.1, in relation to water reform discourse evolution, which convened the period between the late 1980s and 2006. The list of water-governance-related events can be found in the Annex of this thesis.

The survey results of perceived partnership outcomes were coded initially into an Excel spreadsheet file. The coded data were analysed by statistical analysis software, SPSS. The raw data of the 12 question survey were

arranged in a five-point Likert, which were calculated into the median marks and scoring percentages (Laerhoven, Zaag-Loonen et al. 2004). Then, based on the three categories about environment, socio-political concerns and processes (See Table 3.1), these secondary data were grouped for a comparative case study in Chapter 7.

Conclusion

This chapter introduced a contextually developed research design and related methods of empirical investigation for this thesis. A combined methodology is applied for this study to conduct the modified IAD framework. The study employs a comparative case study approach with the support of a simple questionnaire survey and develops an in-depth picture of water governance in Korea, focusing on the development of new co-governance institutions such as water partnerships. The discussion will now move on to present the empirical results. Using Mahoney's periodization analysis, Chapter 5 presents the macro-institutional stability and recent changes in water governance in Korea beyond the organisational boundary of water partnerships with the data collected through fieldwork. Chapters 6 and 7 then examine the development and outcomes of six water partnerships with a modified IAD framework and the data collected through the methodology outlined in this chapter.

List of interviews

Table 4.8 The number of the interviews

Case	Numbers of interviews
Jeonju partnership	4
Daechong-ho (lake) partnership	5
Busan urban stream partnership	3
Incheon urban stream partnership	5
Paldang_ho (lake) partnership	6
Gyeongnam Water Forum partnership	3
Others (River net, KFEM Water committee, Daegu Office for Local Agenda 21 and a participant of PCSD)	5
Total	31

* the most of the interviews were conducted from Sept. 2004 to June 2005 except 3 at the Paldang case in 2006 due to internal reasons

Table 4.9 the list of interviews in the urban cases

Cases	No .	Details of interviewees (Date, Organisation, Name)	Types
Jeonju	J1	28/3/2005, local office for LA21 Mr Shin JC	Phone
	J2	31/3/2005, ex local office for LA21 Mr Kim JB	Face-to-face
	JM	31/3/2005, Advisory Meeting	Meeting observation
	J3	7/4/2005, Jeonju City Mr Lee HH	Face-to-face
	J4	07/06/2005, Mr Lee HH	E-mail
Busan	Bp 1	19/10/2004, Busan Metro City, Mr. Kim KP	Pilot, Face-to-face
	Bp 2	26/10/2004, Busan Development Institute, Dr Yang JW	Pilot, E-mail
	Bp 3	11/29/2004, Busan Development Institute, Dr Shin SK	Pilot, Face-to-face
	B1	11/29/2004, Oncheoncheon Network & Busan partnership, Mr Lee JK	Face-to-face
	B2	29/11/2004, Mr. Kim KP	Face-to-face
	B3	21/1/2005, Oncheoncheon Network & Busan partnership, Mr Lee JK	Phone
	B3 -1	12/4/2005, Mr Lee JK	ADDITIONAL
	B4	12/4/2005, secretary general, Busan office for LA21	Face-to-face
	B5	12/4/2005, a member of executive committee, HakJang Community Centre	Face-to-face
	BM	12/4/2005, Executive committee	Meeting observation
Incheon	*	21/1/2005, Dr Kim SW, Paldang Water Policy partnership, about his interview with Incheon partnership	Face-to-face
	I1	24/3/2005, a fulltime staff (NGO), Incheon Partnership, Ms Choi HJ	Face-to-face

	IM	1/4/2005, Working Group Committee	Meeting observation
	I2	1/4/2005, Jansucheon Network, Mr Kim SK	Face-to-face
	I3	4/2005, a researcher, Incheon Development Institute, Dr Cho KD	Email&Phone

Table 4.10The list of interviews in the regional cases

Cases	No.	Details of interviewees (Date, Organisation, Name)	Types
Daechong-ho (lake)	D1	4/3/2005, local academic Dr Bae NH	Phone
	DM	4/3/2005, Annual Assembly	Meeting observation
	D2	4/3/2005, Daejeon KFEM s.g., a co-founder of the partnership, Ms Kim JN	Phone
	D3	6/4/2005, ex secretary general of partnership, s.g. of Daejeon Green Federation, Ms Park JH	Phone
	D4	13/4/2005, Ms Park JH	Face-to-face
	D5	13/4/2005, a fulltime staff of the partnership, Anonymous	Face-to-face
Paldang-ho (lake)	P1	16/12/2004, an expert member of the Paldang partnership, Dr. Kim SW	Face-to-face
	P2	21/1/2005, Dr. Kim SW	Face-to-face
	P3	07/06/2005, an expert member of the partnership, Dr. Kim KM	Face-to-face
	P4	29/09/2005, Dr. Kim KM	Face-to-face
	P5	2006.7.24, Dr. Kim KM	Email
	P6	2006.12.2, a officer at the Maxium Load Management Dept, MoE	Face-to-face
Gyeongnam Water Forum	K1	15/12/2004, executive office chief of Gyeongnam Water Forum, Mr Lee, SY	Face-to-face
	K2	4/1/2005, Mr Lee, SY	Face-to-face
	K3	18/2/2005, Mr Lee, SY	Face-to-face
	KM	25/3/2005, 2005 Gyeongnam Water Forum	Meeting observation
	KM	25/3/2005, 2005 the meeting of Gyeongnam River Network preparatory committee	Meeting observation
	K4	17& 20/7/2006, Mr Lee, SY	Face-to-face
Others	O1	15/12/2004, Daegu office for LA21, executive staff chief, Mr Ryu, BY	Face-to-face
	O2	15/12/2004, Yeongnam Men & Nature Community, Dr Ryu, SW	Face-to-face
	O1-1	13/1/2005, Daegu office for LA21, Mr Ryu, BY	Additional Phone

	O3	23/1/2005, the staff of Water Committee, Seoul KFEM, Mr Kim NJ	Phone, E-MAIL
	O4	25/1/2005, the ex-staff of the River Network, Ms Lee, JH	Face-to-face
	O5	23/6/2005, a participant of water resource subcommittee, PCSD, Dr Lee MH	Face-to-face

CHAPTER 5 EXOGENOUS FACTORS BEHIND PARTNERSHIP EMERGENCE: INCREMENTAL DEVELOPMENT OF MULTI-LAYERED WATER GOVERNANCE IN KOREA IN THE 1990S

Introduction

This chapter explores three path-dependent changes in water institutions in Korea in the 1990s; (i) examining how national and local actors responded to the recent water governance reforms: (ii) national policy reforms and: (iii) local capacity building in Korean contexts. For these discussions, Mahoney's periodization approach is used. Mahoney's periodization approach is particularly useful in depicting institutional changes at macro scale. In this study, a particular emphasis is made on the roles of national government. The national state has mainly controlled Korean water governance since the 1960s (See the brief explanation in section 1.3). However, despite the state's control over water resource management, participatory governance reform was introduced due to a series of water crisis prevailed in the 1990s. This study examines the degree of changes to the centralised water governance and how this change in state-led water management could be related to the development of water partnerships in Korea.

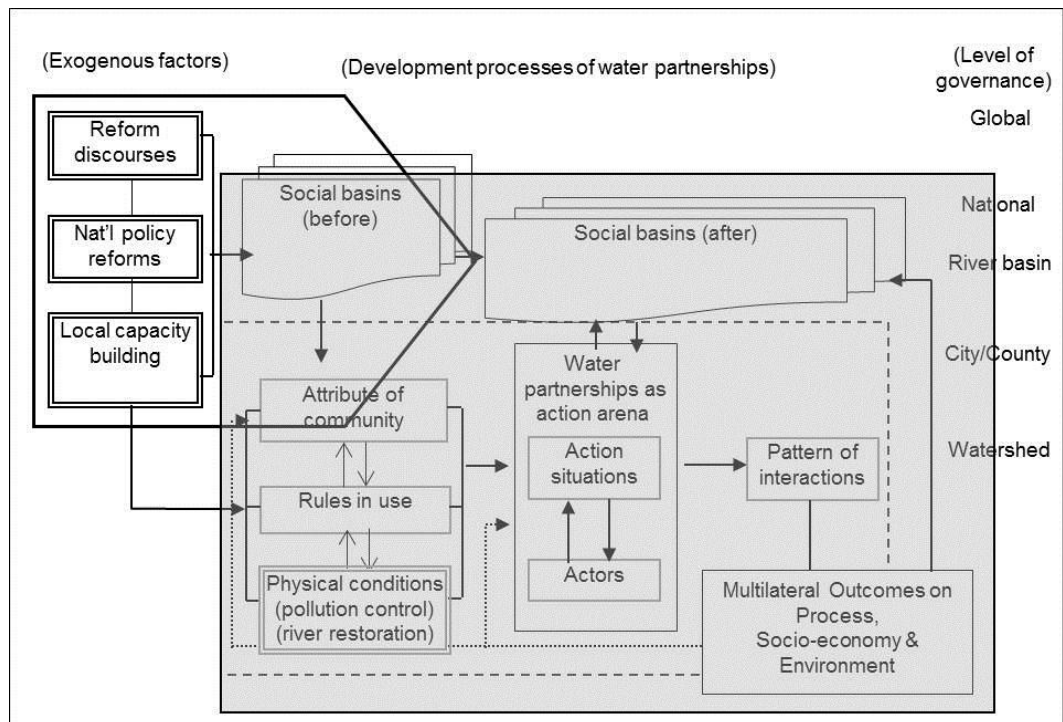


Figure 5.1 Institutional changes before the emergence of partnerships: Modified IAD framework

(See the boxes in the top left for the exogenous factors; analyses in Chapters 6 and 7 are shaded.)

The analysis in this chapter is built upon capacitybuilding for water co-governance both at the national and local levels in Korea in the 1990s (See the boxes in the top left of Figure 5.1 above). At the national level, the analysis explores the different paths taken by LA21 campaigns in Korea and reveals the implications of these local capacity-building campaigns for the development of water partnerships. Subsequently, at the local level, the Saving River Campaigns established since the mid-1990s will be investigated as another factor that was influential to prompt changes to Korean water governance. Urban rivers have become a new agenda item for water resource management through the popular adoption of conservation

campaigns and subsequent rehabilitation projects. These changes show how local and national actors interpreted the recent reform ideas derived from global politics and the ecological conservation of water resources in the 1990s.

5.1 National policy: Stability and change in centralised water governance in Korea

The physical conditions of water resources in Korea are challenging for sustainable management due to seasonal differences in water availability and related control problems. Korea remains dependent on its rivers as the primary source of drinking water and supplies for other usages; there is 90% dependency on the four major rivers (see Figure 1.1 in Chapter 1 for the map). The artificial dams were also built in these rivers to regulate their flows (MY, Han 2000). This dependency represents a serious challenge to conventional water resource management, if experiencing the degradation of water quality and hydrological conditions. The typical Korean hydraulic profile, which shows highly seasonal, mostly summer, rainfall with rapid run-off to steep sloped rivers, exerts severe pressure on managing water quantity and quality. The four rivers are vulnerable during humid summers with flood risk, and the water quality and ecosystems in the rivers are threatened in dry winters with the danger of drought. In addition, eutrophication has been identified as a chronic water quality issue in the artificial lakes, created by dam construction (Prime Minister's Office (PMO)

2002).²²

5.1.1 State-driven water governance under the pressure of rapid socioeconomic development

State-led socioeconomic development and centralised water management

The centralisation of Korean water governance has been shaped through rapid, state-driven socio-economic development under the guidance of the ‘developmental state’ (Woo-Cummings 1999). National agencies with affiliated public corporations operated as implementation tools, covering two major functions of management- supply and pollution control. Along with the trend of state-driven, rapid economic growth, Korea has experienced massive socioeconomic developments over the four and a half decades since independence in 1945 (e.g. GNP from 380 USD in 1960 to 6,600 USD in 1990; urban population rate from 35.8% in 1960 to 89.3% in 2003) (Ministry of Environment 2003; Korea Statistical Information Office 2005). According to CH, Chang (2007: 12), the rapidity of economic development and the resulting social transformation in Korea is, “truly spectacular...Better nutrition and health care mean that a child born in Korea today can expect to live 24 years longer than someone born in the

²²These lakes serve as key water withdrawal sources in some river basins, such as Paldang on the Han River, Daechong on the Geum River, Juahm on the Youngsan River and Mulgum on the Nakdong (See Prime Minister's Office (PMO) (2002). Water Management White Paper (MulKwanRi BaekSeo). Kwacheon, OPM.).

early 1960s (77 years instead of 53 years). In terms of such life-chance indicators, Korea's progress is as if Haiti had turned into Switzerland." This miraculous economic growth started from the first 5-year plan for economic development established by Dictator President Park Jung-Hee's administration in the late 1960s. Thus, rapid economic growth was possible because this 'development dictatorship' gave priority to often highly polluting, industries, rather than other development paths (Moon 2004; Kwon 2006: 44)²³.

The rapid economic changes and politically volatile social conditions of the Korean development path altered the physical conditions of water management. First, until the early 1990s, the state-led economic growth focused on strategically nurturing the priority sectors of the Heavy Chemical Industry (HCI) including machinery, electronics, automobile, shipbuilding, chemical and high-technology sector of semi-conductor and biotechnology (HJ, Chang 1993). These factories, located in the major river basins and coastal cities, have been heavy polluters of Korean water sources. Second, in terms of land development that directly affects water resource management a limited number of key public corporations dedicated powers and budgets to 'National Strategic Projects', which were represented the

²³ It was confirmed in the interview with the former minister of the Ministry of Health and Social Affairs (MOHSA) that attempts in the mid-1970s to slow down the rapid growth of national economy were too weak to be effective (Moon 2004) .

dominant land use decision-maker and acted without any proper public scrutiny and consultation until the mid-1990s (Koh 1995). The nation-state and the public corporations, at the expense of democracy and environmental conservation, integrated the functions of the regulator and the regulated in pursuit of higher economic returns. For example, the Korean Water Corporation (KOWACO), affiliated with the Ministry of Construction and Transport (MoCT), was able to mitigate the water provision deficit using huge revenues from the development of industrial complexes (MH, Lee 2003). This structural overlapping of economic and political interests in state-led land development was criticised both for a lack of accountability and the resultant negative environmental impacts, especially, on water resources (MR, Cho 2004). NGOs, in particular, strongly challenged the large development projects endorsed by the national government and carried out by public corporations.

In addition to land development, the central government's land regulation has shaped the features of water governance, particularly water pollution control in the major rivers. For example, in order to facilitate the rapid economic expansion of Seoul, the dictator President Park and his successors adopted multiple land regulation schemes outside Seoul and Gyeonggi province. These land regulation schemes included two zoning systems, the Water Sources Protection Areas and the Special Protected Areas. They were introduced in the late 1970s and 1990s respectively to address the chronic

pollution of two major water sources, the Paldang and Daecheong Lakes.²⁴ The application of the zoning systems lacked public consultation, which resembled the state-led large development projects mentioned earlier. The central government itself contradicted this land use regulation by allowing restaurants and hotel businesses to operate without installing proper wastewater treatment facilities near the regulated areas (CS, Kim 2000). Thus, as Kim (2000) describes, pollution in the Paldang and Daecheong lakes was a typical example of ineffective implementation of state-controlled policy.

The 1990s saw greater demand for procedural legitimacy as a result of democratisation movement, and therefore, observed changes in water governance. The public expressed their anger about severe pollution of the major water sources. Furthermore, with the growing awareness of democracy, the lack of procedural legitimacy became subject to public discussion, and social conflicts about the water usage and protection broke out (Koh, Kim et al. 2005). For example, after democratisation and the renewal of local autonomy, the de-regulation of land control in the water resources protected areas became a significant issue on the political agenda in the 1990s. For nearly a decade of attempting to incorporate environment concern in land regulation, recurring conflicts over local inhabitants'

²⁴The Special Protected Areas were added in an expanded area surrounding the Water Sources Protection Areas because of an outbreak of pollution problems in the late 1980s.

property rights and management of water sources were observed. Local residents and local authorities in the regulated areas for water management raised their voices in favour of de-regulation and the enhancement of procedural legitimacy in water policy processes. Thus, the instrumental approach of national water policy resulted in complex and inter-related social problems after the democratisation.

Furthermore, the state-led socioeconomic development at the expense of democratic decision-making caused tension in Korean society. Despite the absolute control of the authoritarian regimes until the 1980s (Tikhonov 2007), the resistance of non-state actors and their social influence was recognised even during this period. Koo (1993: 231) indicates that modern social change in Korea is “a rather discontinuous, uneven and conflict-ridden one determined not by some immutable logic of modernism but by historical contingencies and a dialectical process of social change.” Thus, the relationship between the nation state and the nongovernmental groups had “a history of mutual conflict” (Head and Ryan 2004: 2), which was far from the collaboration and shared responsibility of co-governance, fostered later in the formation of water partnerships.

Institutional changes in the 1990s

The rapid socioeconomic development of Korea gave rise to other significant institutional changes in the 1990s. Domestically, the new socio-

political landscape was characterised by three central aspects: 1) Political democratisation in the late 1980s (KD, Kim 2008); 2) the soaring growth of civil society led by nationwide NGOs in the late 1980s and the 1990s (See Armstrong 2002); and 3) the re-application of the local autonomy system in 1995 (DJ, Choi and Park 2001).²⁵ In particular, the two consecutive centre-left wing governments led by the late Mr Kim Dae Jung (1998~2002) and the late Mr Roh Moo-hyun (2003~2007) were the enablers that streamlined policies in favour of empowering local governments and civil society as well as ensuring environmental conservation. For example, in 1998, the President cancelled the Youngwol Dam plan, once a long-term national strategic plan to build a dam prepared by the only public corporation for water resource development, the then KOWACO (K-Water at the present). It was the first official cancellation of any nationally prepared dam plan, which was made as a response to nationwide protests based on environmental concerns. Such protests would have been suppressed if these took place before the mid-1990s.

Another reason for institutional changes in water governance was the active participation of the Korean government in the economic globalisation since the mid-1990s. The Republic of Korea joined the World Trade Organization (WTO) in 1995 and the Organisation for Economic Co-operation and

²⁵Because the government system in Korea is based on the presidentialism, the local council and governments are independent to each other.

Development (OECD) in 1996 in order to integrate the economy into global markets (Business-Academic partnership at Seongshin Women's University 2006). This led to institutional pressure from the international organisations to adopt stricter environmental policies and refine business management systems (Organisation for Economic Co-operation and Development. 2006). Another substantial pressure was received when Korea suffered the Asian economic crisis of 1997, which was interpreted as the failure of Korea's national economic growth model on the basis of seemingly idiosyncratic marriage of forced nationalism with rapid economic growth (See Woo-Cumings 1999; Lim 2001). In addition, the economic crisis of 1997-98 brought new liberal public administration ideas to government structures and services. These institutional changes gave a push towards the decentralisation of a traditional, centralised nation-state, which used to be the key controller of water governance in Korea.

5.1.2 Water policy reforms following the pollution problems and governance crisis

Water crisis becoming a crisis of governance

The chronic pollution in its major water sources had haunted the Korean government from the late 1980s. Stemming from the country's rapid industrialisation, the severely polluted four large rivers, the major water sources for the nation, had caused a national crisis by the 1990s. The government study that found out four rivers were contaminated of heavy

metal and bacteria were revealed by the Kyunghyang News in 1989 led to the announcement of the first ever nation-wide policy measure for water quality protection in September 1989, the Comprehensive Measure for Clean Water Provision (CMCWP)(National Archives of Korea 2006). Despite 7 years' investment, the continued deterioration in water quality at Mulgum, a downstream area of the Nakdong River, became a serious social issue, as this area since the river supplied water to 4 million people. Other accidents ensued in early 1994, including the leakage of organic solvent and carcinogens that caused the interruption of water provision to 10 million people in the Nakdong River. Public debates were triggered over the accountability and capacity of existing water management systems (DC, Kim and Han 1994). Therefore, this pollution-focused water crisis in Korea became a constant source of public pressure on central government.

In Korea, the strategic political priority for water supply had been for domestic and industrial uses in urban areas where nationwide population and industrial facilities were concentrated(SB, Shim and Lee 1996). As key sources of water supply, major rivers were largely managed by the central agency for construction under the River Act 1961; this was amended in the 1980s to allow the involvement of local authorities. In order to address 'the more significant usage' of water resources, the new River Act 1999 divided rivers into three hierarchical orders, ranging from the National Rivers to the 1st Local, the 2nd Local and the Urban streams based on their importance as

water sources. The classification and the allocation of management roles were done by the central agencies, i.e. the MoCT. This strongly centralised classification system had been efficient in developing water sources and providing basic water supply. Until the mid-1990s, there had been hardly any challenge to the fixed policy goals and related plans. This state-controlled system became less effective, as local authorities started to compete with each other over the self-governance of their local rivers and as non-governmental groups raised questions about the current management system (Koh, Kim et al. 2005).

In particular, the segmentation and the centralisation of water supply and river management systems became the target of nationwide criticism after the pollution accidents. Hence, water problems in Korea became both problems of water management and of governance more generally. The initial focus of the debates moved from demanding for more public investment in water infrastructure and by the stronger regulation of wastewater treatment to ensuring more coherent water management by the central government (Koh 1995)²⁶. For instance, the debates in the major newspapers were about the fragmented management of water provision

²⁶ Koh (1995) finds that the key reason for water policy change in the late 1980s and early 1990s was a series of water pollution accidents rather than governmental initiatives. She criticises the package of water quality control plans at that time as myopic, prescriptive and based on the lack of transformative perspectives in central government agencies such as MoE. Given that MoE was a young and relatively small agency, it was not strong enough to negotiate and compete against the traditionally strong initiatives of resource development launched by MoCT.

among three different ministries and local authorities (Associate Press in Daegu 1994; Editor's comment 1994). More fundamentally, they called for a switch in the national policy priority from emphasising economic development to giving consideration to environmental conservation (H, Im 1994).

In this time, public discourse became not only audible but also powerful in making the dominant decision makers, national state officials, more answerable for their decisions (SJ, Han 1998; CS, Kim 2000; MR, Cho 2004). The growing power of environmental NGOs provided the contesting scientific ideas and the expertise on organised demonstrations that influenced other civil society actors, while the NGOs themselves became active in setting a political agenda centred on environment issues (HY, Cho 2000; MR, Cho 2004).

State-controlled multi-layered water governance: consequences of 'place-based, participatory reform'

1995 in particular was a watershed year for Korean politics and water management. Water pollution in the major rivers and local development under the new autonomy²⁷ system started to stimulate the water conflicts

²⁷In 1995, a full local election system was reintroduced since it was banned by the coup, led by the dictator Park Jung-Hee in 1961.

between regions, or between the national state and local residents. It was a defining moment in the history of Korean water policy because of the initiation of community hearings, led by senior officials in the Ministry of Environment. These hearings first took place in areas around the river basins where water conflicts were strong due to protests against government regulatory plans and the development projects of upstream regions. In particular, there was a conflict between the residents around Paldang Lake and the water consumers of the downstream Seoul areas in the Han River Basin. MoE mobilised five provinces and eleven central agencies to draft the Comprehensive Measure for Water Management (1996~2005, hereafter the CMWM) and managed the negotiations with those local governments in the regulation-affected areas of Paldang Lake (Ministry of Environment 2002a).

Facing amounting social pressure, the Korean government chose to maintain its regulatory authority over water management by increasing the roles of the environment ministry (MoE) and creating a new cross-agencies coordination body, the Water Policy Coordination Committee under the Prime Minister. This responsive but conservative move was also reflected in another reform measure when the CMWM was rushed through to address the serious drought broke out in 1996. The CMWM gave more emphasis to water governance in the four major river basins by means of creating a taskforce team under the Prime Minister's Office (Prime Minister's Office

(PMO) 2000). Instead of drafting a single nationwide plan, this measure was composed of four policy subsets and related acts, addressing each of the four major river basins separately(National Archives of Korea 2007).However, in light of the governance reform initiatives in global water politics, the series of water policy reform hardly addressed the emerging agenda of ecosystem conservation for water management in the EU(see section 2.1 for the details).Thus, the structure of Korean water governance had become multi-layered involving various levels of co-ordination of policies, policy planning, river basin management and local government execution. (See Figure below and Table 5.1)

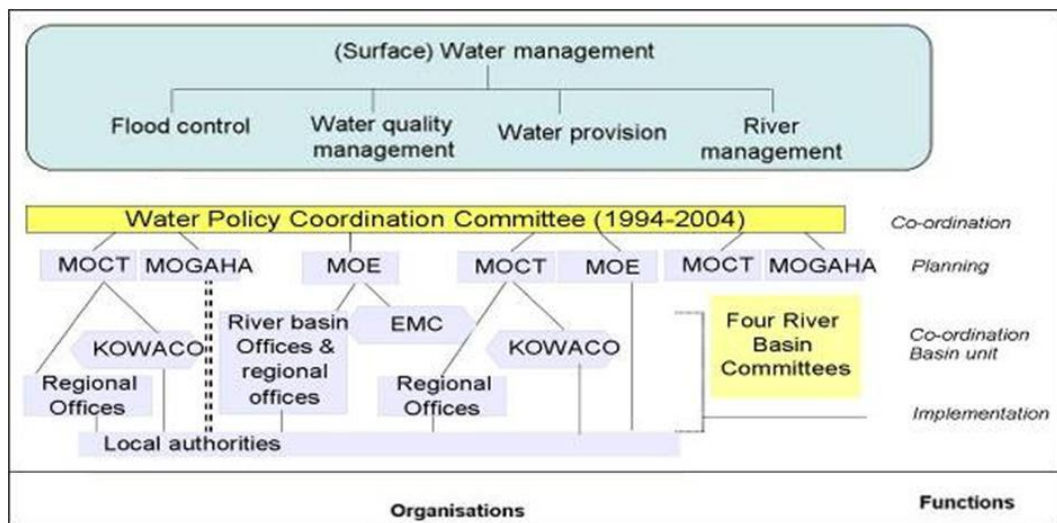


Figure 5.2 The multi-layered water governance in Korea after the CMWM

Source: Adapted from the PMO (2002) and Ministry of Environment (www.me.go.kr)

Table 5.1 The introduction of the CMWM to four major river basins

Target river basins	Related water sources	Publication of policy plan after consultation	Related Acts	Enactment (year)
Han River	Paldang lake and etc.	November 1998	Act Relating to the Han River Water Quality Improvement and Community Support	February 1999
Nakdong River	Mulgum (a downstream withdrawal point)	December 1999	Act on the Nakdong River Watershed Management and Community Support	January 2002
Geum River	Daecheong lake and etc.	October 2000	Act on the Guem River Watershed Management and Community Support	January 2002
Yeongsan River	Juahm lake and etc.	October 2000	Act on the Yeongsan & Sumjin River Watershed Management and Community Support	January 2002

Source:(National Archives of Korea 2007; Ministry of Environment 2009).

5.1.3 Implications of institutional change to Korean water governance

The changes that the CMWM brought to Korean water governance were as follows:

- In order to control the persistent pollution in the water sources of four major River basins, the CMWM included pollution control based on the pollution load in addition to conventional concentration-based control.
- The consultation before policy implementation was adopted for the first time in Korea's environmental policy.²⁸
- The basin-specific policy was introduced to reflect the unique features of

²⁸However, this progress in water policy had been criticised as one of the key problems in water governance in the early 1990s.

each river basin, which contrasted with the homogenous, top-down policy that had been in place before the CMWM.

- The roles of regional governments were formally acknowledged in this basin-specific policy reform. The governors and mayors of provinces and metropolitan cities were invited to be governing members of the River basin committees in the four basins. This was in contrast to the previous water policy reform, which established a coordinating body under the Prime Minister's Office in 1994 to address the problematic segmentation at the national level only.

- Lastly, when the conflicts over water regulation and land development broke out after the application of the local autonomy system in 1995, the CMWM managed these conflicts through direct communication with local communities (Ministry of Environment 2002a).

However, the key features of the centralised water management and the lack of interest in co-governance development continued. For instance, the participatory process introduced through the adoption of CMWM remained weak. Only those actors from the public sector were invited to sit on the new co-ordination organisations, which are the river basin committees. Moreover, the communication among the members from the different central agencies and local authorities was limited. This was worsened by the absence of any planning role for other organisations (including local governments as well as NGOs) below the river basin level

in the Acts mentioned in Table 5.1 above. As a result, despite the basin-specified plans in the Table 5.1, the empowerment of local stakeholders below the provincial level remained relatively tokenistic (JK, Kim 2002).²⁹

The limited participatory reform faced some challenges later on. According to the mid-term evaluation for this plan in early 2003, the water quality of the Han River failed to meet the goal (Prime Minister's Office (PMO) 2002).³⁰ Furthermore, the negotiation with the local communities resulted in the dilemma of communication and policy enforcement. To persuade the opposing local communities in the Paldang area in the Han River basin for the enactment of the CMWM, the MoE compromised the first feature of the CMWM and exempted this area from the full compulsory application of this new pollution regulation. The central government agreed to implement voluntary application (Interview #P6).

“Initially, the new pollution regulation was introduced as ‘voluntary option’ in the Han River basin because the central government wanted to de-regulate complicated land regulation in the areas near Seoul...Later, when this voluntary option made trouble with the MoE” (Mr Cho, an official at the Ministry of

²⁹ For example, this basin-specific planning scheme was criticised for just adding one more administrative unit, namely the River basin committees

³⁰ Facing strong criticism of the water source supplied to half of the national population in the capital region, the MoE aimed to improve the Paldang Lake to 1st degree drinking water standard - below BOD 1.0 mg/L- by 2005, while the same agency targeted to improve three other basins up to the 2nd and the 3rd degree of water quality standard.

Environment, Dec. 21, 2006).

The conflict between the MoE and the local communities in Paldang reignited when the MoE tried to reverse the decision to the voluntary regulation and to make the application compulsory in 2003 (Prime Minister's Office (PMO) 2002). This conflict will be examined in greater detail in the case of Paldang partnership in Chapter 6.

The previous analysis has identified the key participants in Korean water governance at the national, basin and local levels and the way their relationships have been shaped through the history of water crisis and reforms. The Korean government, which traditionally led economic growth and controlled the market (HJ, Chang 1993), had to react to this new challenge with their own initiatives. The resilience of centralised water governance structure, shaped in times of state-led economic development, meant that the changes through water policy reforms were incremental. Whilst the state control continued to be present in the recent water policy reform measures, the multi-layered structure of water governance known as the CMWM managed to involve provincial and metropolitan government leaders in the basin management processes. At the same time, the nongovernmental actors at all levels and governments at community level were invited to consultation, but only to its initial stage. Thus, the CMWM shows the limited extent to which the centralised Korean water governance allowed newcomers, such as local authorities and

nongovernmental actors, into formal policy processes. Under the democratisation and devolution of the 1990s, these newcomers came to gain greater power, and the limited CMWM collaboration anticipated the emergence of co-governance water institutions.

In the next two sections, new paths of developments will be analysed, which are in contrast to the rigid and incremental change in national water policy. These new paths show signs of empowerment of local actors and collaboration between government and nongovernmental actors.

5.2 Local capacity building 1: the LA21 movement and national policy reforms

As outlined in Chapter 2 of this thesis, Agenda 21 is referred as an action plan of the United Nations (UN) related to sustainable development and was an outcome of the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, in 1992. In Chapter 28 of Agenda 21, local actors' role in Agenda 21 is emphasised. Local programmes to actualise Agenda 21 is called as LA21(UN/DSD 1993).

The organisational structure, operation and the agendas of LA21 are strongly related to the concepts of co-governance institutions. The initiatives of local governments and NGOs led to the rapid increase in the number of LA21 action plans and local offices between 1997 and 2000(GG,

Kim 2005).³¹ This critical juncture of this institutional change had been initially planned and implemented at the local level. Thus, local actors were able to experience 'co-governance' through the LA21 campaigns by leading this bottom-up and swift development of LA21 planning publications. Therefore, it was a new path development of local initiative and participatory governance, which later nurtured the creation of water partnerships in urban areas in particular.

Table 5.2 describes how these LA21 movements came to create the critical juncture in Korea, which laid the foundation for achieving the empowerment of local actors. The following sub-section explains this in detail.

³¹ This result of the LA21 movement in Korea was acknowledged in the WSSD in Johannesburg, 2002 as 'a best practice' achievement (Kim 2005).

Table 5.2 Paths of institutional changes: the LA21 movement in Korea (1960~2000s)

Paths	Incidents	Period
Precondition	State-driven economic development with minimum environmental policy	1960s~1989
↓		
Critical Juncture	NGOs participation to United Nations Conference on Environment and Development (UNCED)	1992
	Participation of local authorities starting from Busan	1994
↓		
Reproduction period	Creation of the Presidential Commission for Sustainable Development in Korea and wide spread of permanent offices for LA21	1999~

5.2.1 The critical juncture: global reform discourse on sustainable development

Water governance reform in Korea was related to the international promotion of the LA21 campaign. In 1992, a comprehensive plan of action, Local Agenda 21 was endorsed by international, national and municipal leaders at the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, Brazil. Local Agenda 21 campaign aims to empower local stakeholders to plan a comprehensive sustainable development in a consensus-based way (Conca 2006). At local level, it is envisaged that a local office for LA21 is formed as a partnership composed of local government-NGOs-private actors, planning and delivering Local Agenda 21 action plans. As well as delivering a Local office for LA21, national and global participants play 'support roles' to the campaign, which is designed to operate in a structure of multi-level

governance. Lastly, LA21 covers not only traditional environmental management topics such as air, water and ecology but also planning, culture and local governance. Particularly, the Chapter 18 of the LA21 guide is devoted to the protection and sustainable management of freshwater resources(UN/DSD 1993).

The beginning: NGOs' participation in global reform dialogues

The start of the LA21campaign in Korea was initiated by the NGOs that participated in the UNCED in 1992, resulting in the first published agenda for a small satellite city, Ansan near Seoul in 1994. This humble start was picked up by city officials in a metropolitan city, Busan, which then had further knock-on effects on other local authorities.

Local actors working together on LA21

Whereas the participation of NGOs in the UNCED in 1992, the active participation of Korean local authorities in the LA21 movement was the other critical juncture for institutional change. There were two driving forces for local authorities to join the movement: the re-introduction of a local election system in 1995 and the active enforcement of global dialogues by the NGOs to encourage the local authorities' involvement.

The reintroduction of a full local election system in 1995 proved to be one of

the significant institutional factors behind the empowerment of local actors and the development of co-governance institutions. The elected authorities and their fiscal power enabled local authorities to adopt autonomous and more consensual planning such as LA21. However, the local authorities did not yet have sufficient experience, and planning power whilst the central government maintained its traditional developmental state management (KR, Seong 2000). The collective power of local NGOs was another key driving force for LA21 progress at local level (Local Autonomy Research Institute 2005). Thus, even if each local NGO might turn out to be weak in influencing a particular local authority, joint action by multiple local groups through social learning, mutual understanding and communication had the potential to generate significant momentum to maintain the LA21 movement. Therefore, the Korean LA21 movement was based on various opportunities provided by working arrangements between local authorities and local NGOs.

After the worldwide promotion of the 1992 Rio summit, experts from local authorities and NGOs were globally encouraged to participate and lead the LA21 movement. For example, informal actors were invited to work together in preparing workshops and independent pre-research works before the Global Forum in 1994 held in Manchester, U.K. (MJ, Yu 2005). In Korea the spread of the LA21 initiatives to a number of cities started in Busan when the city officials prepared a regional follow-up conference, the

4th Northeast Asian Conference on Environmental Cooperation (NEAC hereafter) (Ministry of Environment 1992)³² in 1995. The regional trans-national discussion that took in place in 1995 triggered the beginning of the LA21 campaign in the host city, Busan. Thus, the LA21 movement in Korea was strengthened by the combined efforts of national and local governments' involvement and NGOs initiatives under the influence of global reform dialogues.

Domestically, interest in the LA21 campaigns was stimulated through access to the international dialogue around LA21. For example, a Korean non-government board was organised for the first time to participate in the second United Nations Conference on Human Settlements (Habitat II) in 1996. The two year preparation period resulted in 126 Korean participants from NGO and local governments (JI, Gu 1996). Habitat II validated the legitimacy of proactive local actions for sustainable development (JG, Seo 1996). In other words, while the notion of sustainable development had been recognised in 1992 and 1994, the details of 'local action' were discussed at the 1996 conference. Local NGOs and public bodies in Korea experienced the learning processes by witnessing this international dialogue together

³² The multiparty discussion group in North East Asia that comprised China, Japan, Mongolia, Republic of Korea, and Russia, along with experts from UNEP (United Nations Environment Programme), UNDP (United Nations Development Programme), and ESCAP (UN Economic and Social Committee for the Asia and the Pacific) participating as observers, which officially started in 1992.

despite the inevitable variance in localising this global reform discourse to meet diverse local contexts.

Whereas the traditionally passive local authorities have become more active in supporting NGO-initiated partnerships by providing funding and institutional support, central agencies still played a significant role in steering the movement. The MoE reported the national action plan to the UN in 1996, following Cabinet-level approval of the outcomes of national consultation, and began to actively engage in promoting LA21 by publishing the 'Guide for Creating Local Agenda 21' in 1997 (Ministry of Environment 1997). Since its publication, the MoE has run nation-wide information briefings on how to publish a LA21 plan for local authorities, which helped the spread of LA21 into more local authorities (DM, Park 2000). Despite an impressive increase in local initiatives and voluntary planning, the central government played a major steering role in the rapid growth of the LA21 movement, at least, in terms of numbers of published LA21s. Therefore, the critical juncture of LA21 promotion in Korea happened in the mid-1990s through newly established interaction between local and global actors with the support of national agencies. Then, the synergy of this interaction resulted in a rapid increase in LA21 planning publications by local actors (See Figure 5.3 below). As a result, during the ten years from the mid-1990s, almost all municipalities published their own LA21 action plans.

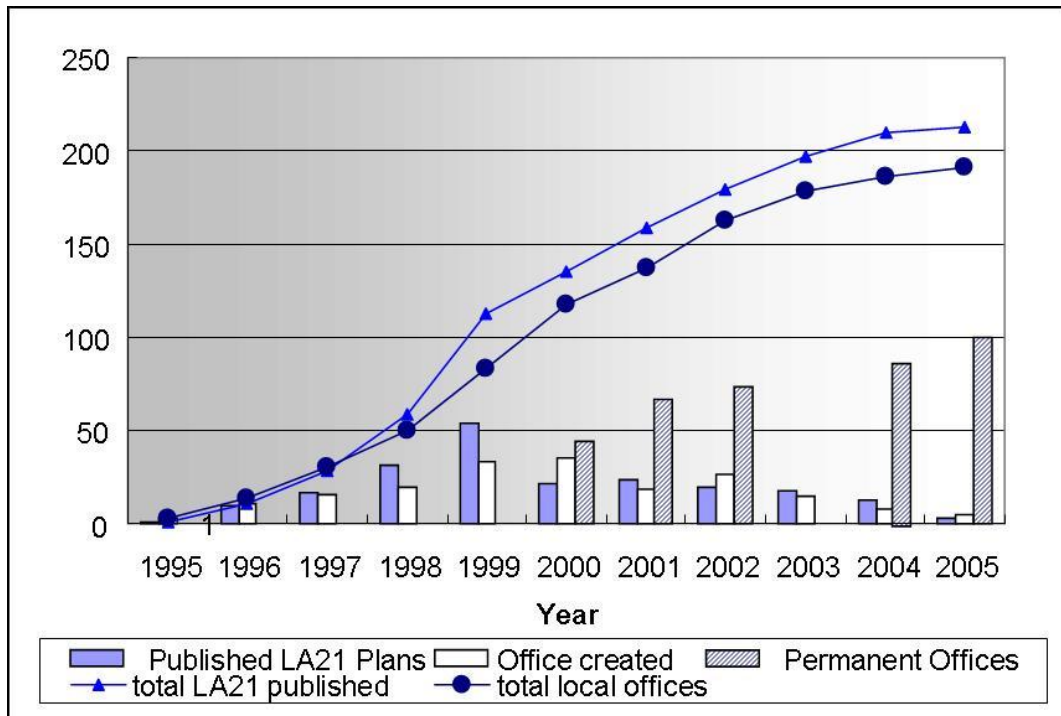


Figure 5.3. Trend of LA21 in Korean Local Authorities

(Source: KCLA21(2005a; 2005b))

Note: The number of permanent local offices for LA 21 implementation in 2003 is not available in published reports.

5.2.2 The reproduction period: introduction of environmental governance at the national level

The LA 21 movement of Korea reached its reproduction period as described in Mahoney’s periodization(See Section 3.2.1), when this movement hadmatured enough to sustain a stable formalised system beyond its quantitative growth (see Figure 5.3 above). In Korea, since public bodies and their activities are based on written laws, unlike common law culture, the introduction of the LA21 movements into formal policy systems means the beginning of stable institutional processes. In Jeonju, one of urban partnership cases for this research, about 150 people from environment, education, gender, culture, religion groups participated with city

government officials, academics and private firms at the establishment ceremony of the local permanent office for LA21 on 18/02/2000 (Jeonju office for LA21 2000). The apparent achievement of a more stable LA21 movement indicates the maturity of the institutional change, which involves the creation of formal institutions such as permanent local offices and legislation of local bylaws and national laws.

Another indication of the stable institutional adoption of LA21 is the growth of coordination bodies, e.g. the creation of a national council for LA21, a voluntary network of local offices in 1999, and the Presidential Commission on Sustainable Development (PCSD) in 2000.³³ Both organisations have provided learning and coordination effects. Whilst the Korean Council for Local Agenda 21 (KCLA21 hereafter) was more focused on promoting LA21 through local offices, the PCSD, one of the highest-level organisations for sustainable development in the hierarchy of government organisations, was designed to encourage central government to mainstream the notion of sustainable development into public policy and planning. Thus, the LA21 movement in Korea created the permanent offices for LA 21, co-governance organisations at the local level, which was then

³³ The first national meeting of Local Agenda 21 held in Jeju-do in 1999 was a good chance for actors in local and national level to recognise the rapid progress in LA21 movement in Korea. Following the first in Jeju-do and seven other meetings of local office representatives, the national association of local offices, ‘Korean Council for Local Agenda 21 (KCLA21)’ was created in June 2000.

orchestrated by a nation-wide coordination body, KCLA21.

As one out of the four features of the reproduction period discussed in Chapter 3, the official institutionalisation of the LA21 movement sowed the seeds for co-governance at local level, creating the capacity for partnership development later on. As one of the positive outcomes of LA21 movement in Korea, there has been a significant change in the relatively weak capacity of local authorities. For example, local authorities' financial commitment reached 97% of total budget for LA21, which was increased from 4 million US dollars in total in 1999 to 11 million in 2005 (Korean Council for Local Agenda 21 2005a: 104). Thus, the local authorities, especially in the metropolitan cities and rich provinces such as Seoul and Gyeonggi province have become more prepared to lead the reproduction period since they could afford to pay the large set up costs. Due to the varying degree of fiscal capacity of local authorities, the availability of financial resources to be put into setting up local partnerships came to be uneven. In Chapter 6, how this uneven development of the movement is consistent with the development of urban water partnerships will be analysed.

5.2.3 Implications of institutional change to Korean water governance

Since the 1992 World Conference on Environment and Development, local government and NGOs in Korea have embraced LA21 capacity building. The LA21 campaign was a surprising example of state-society

collaboration in a society, where the conventional relationship between governmental and non-governmental bodies had been rather hidden and/or often antagonistic. Given the Korean context of 'strong state and contentious society' (H, Koo 1993), the adoption and creation of partnerships between state and non-state bodies initially gained approval from the actors of both sectors despite the fact that there had not been a thorough assessment of possible outcomes. While coordination for LA21 at national level emerged as a network organisation of local offices (KCLA21) and a strategic advisory body (PCSD), the networking of community actors at a local level was instituted between 1999 and 2000 through the rapid increase of newly organised local offices. For everyone in almost every participating council, there was a new experience of working together (collaboration) for local sustainable development (expanded environmental management). As KCLA21 (2005b) indicates, the local offices acted as a platform to accommodate diverse participants.

Additionally, the empowerment of local authorities under the global promotion of sustainable development shifted the focus and attitude to the environmental agenda, in particular, the issue of local management of water resources. A traditional environmental conservation approach focused on handling water crises by remote public bodies, but this changed to an approach emphasising planning and quality of life issues with the sense of 'placeness'. The new approach stressed the importance of delivery by

participants themselves. For example, the Local Agenda 21 prepared by the participants in cities such as Incheon metropolitan city and Jeonju city considered water resources quality in the neighbourhoods(e.g. urban rivers), and stood in contrast to the central reforms, which focused on water sources for consumption.³⁴ The range of activities adopted under the LA21 movement, including monitoring, workshops, and regular clean up of rivers and educational visit programmes, was accessible to nongovernmental actors in contrast to the implementation tools employed by the government reforms - e.g. investment in treatment facilities and regulation. Thus, the broader interests and softer campaign approaches came with more diversity among participants. Therefore, based on this positive impact of the LA21 process in Korea, which emphasised social collaboration among different groups, it set the precedent for subsequent similar attempts to attract public and political approval when developing new environmental institutions. The legacy of LA21 campaigns for the water partnership cases will be examined in Chapter 6.

5.3 Local capacity building 2: Saving River Campaigns and the LA21 movement

During the 1990s, Korea's water governance focused on the pollution crisis and responsive pollution control measures. However, as discussed in Chapter 2, the remit of water resource management has been expanded into

³⁴This aspect is deeply related to the Saving River Campaigns, to be analysed in the next section.

a broader spectrum of topics from its traditional concentration on water quantity and quality management to the more recent promotion of ecological conservation and watercourse rehabilitation. Water issues have evolved with the progress of water institutions as problem-solving mechanisms. Within this cascade of institutional development, the mix of institutions such as water policy and organisations becomes more complicated. In short, there have been growing concerns and related institutional developments to conduct river ecosystem conservation in public and private sectors.

Table 5.3 describes how these Saving River Campaigns came to create the critical juncture in Korea, which laid the foundation for achieving the empowerment of local actors. The following sub-section explains this in detail.

Table 5.3 Paths of institutional changes: the Saving River campaigns in Korea

Paths	Incidents	Period
Precondition	Water supply and pollution control led by the national state	The 1990s
↓		
Critical juncture	Government-funded research on river restoration; NGOs campaigns on saving Rivers	1989~
	Becoming a nationwide agenda by a popular restoration case in Seoul	2003-5
↓		
Start of reproduction period	Network for saving river campaigns Becoming a symbolic policy agenda	2003 2006

5.3.1 The critical juncture: the discourse of rediscovering hidden urban rivers

Beginning with public funded research and nongovernmental campaigns

By contrast to the LA21 initiative, international influence came late in the process of institutional development for river restoration in Korea. Following a river clean-up project initiated as part of the preparation for the 1988 Olympic Games (known as the Han River Integrated Development Project), the MoCT and the MoE respectively funded pilot research projects in the early 1990s to see if the project could be expanded nationwide (See Table 5.4). A central government-funded research institute, Korea Institute of Construction Technology, embarked on the first public research on river environment management in 1991. The focus of these early academic projects was on how to apply the knowledge and technology developed

elsewhere in other countries such as Germany, Switzerland and Japan to Korean contexts.

Table 5.4 below shows the list of historical incidents in relation to the River Saving Campaigns and water policy changes in Korea between the late 1980s and 2000s.

Table 5.4 Chronology of Saving River Campaigns and programmes in Korea

Paths of institutional changes	History of water institutional changes in relation to Saving River Campaigns
Critical Juncture	<p>1987. Clean-up projects for polluted river projects led by the MoE, renamed as Clean-up more natural rivers project, later in 1990s.</p> <p>1996. The first participatory restoration of Suwoncheon after successful campaign against the plan to pave over the river in Suwon city</p> <p>1996. The 1st stage of river rehabilitation project started in Yangjaecheon</p> <p>1997. River environment management project in Osancheon, led by the MoCT, the 1st environment-stressed river management project after a long history of flood control and water front development by the same agency</p> <p>2000. Cancellation of Youngwol Dam project in the Dong River by President Kim, D.J.</p> <p>2000. Natural river improvement programme included in the amended River Act: the restoration of river channels to a near-natural state to improve aquatic habitat and for flood protection; 1987, 2000</p> <p>2002. MoE published the Guideline for River Restoration; the Korea Network for River and Watershed (KNRW), preparatory committee awarded the five best practices in saving rivers campaigns, and then organized 1st River Day held in Yangpeong near Paldang reservoir.</p>
Reproduction period	<p>2003-2005 Cheonggyecheon rehabilitation project with the demolition of roadwork and park development took place at the centre of Seoul; the Korea Network for River and Watershed (KNRW) officially created</p> <p>2006 MoE announced its long-term policy plan including ecosystem conservation, The Water Environment Management Plan ('06 – '15)</p>

Source: (River Researches Group ; SK, Oh 2003; BK, Lee 2006)

Urban river rehabilitation projects gained public attention as the media and

the nationwide NGOs initiated the Saving River campaigns in the mid-1990s. The early success of the campaign was witnessed at local level. For example, a campaign was launched by local NGOs to stop the local government's attempt to cover part of an urban river located in a historical city of Suwon, south of Seoul (MS, Kim 2003). This was the first successful case of participatory river rehabilitation and hailed as a textbook example of the consensus building approach. Suwon's success paved the way for more support from the central agencies (See Table 5.4 above). For instance, the MoE and the MoCT separately funded two other rehabilitation projects in 1996 and 1997. Thus, nongovernmental actors at national level such as the YMCAs as well as major daily newspapers (e.g. Chosun Ilbo) started the Saving River campaigns (SC, Cha 2006). The involvement of local actors in Suwon and Seoul, developed river rehabilitation projects under the support of the central government. As with the LA21 movement, even though knowledge of restoration techniques and the rationale for action drew upon previous lessons from Western countries' experience (HS, Woo and Kim 2000), the key driving force behind institutional development was domestic.

Becoming a nationwide agenda through a popular project in Seoul

These publicly funded, minor programmes emerged as an issue on the national agenda through the Chonggyecheon rehabilitation project in Seoul. Located at the centre of the capital city, the project was to complete the demolition of old overpasses and restore the river hidden underneath.

It was a defining incident for the Korean public because a symbol of the economic development pressure, a road and bypass, was replaced by the 'river'. This symbolic transition was a key issue in the local mayoral election in Seoul in 2002, which eventually became a nationwide social topic (MS, Kim 2003). When the project was completed in less than three years in 2005, it attracted a large number of visitors, 10 million in 1 year and 8 months (YK, Kim 2007) as well as international recognition (Vidal 2006). As 'Mayor Lee's signature achievement', this was a major factor in bringing him to national media attention and eventually to his presidency by winning the presidential election in December 2007 (Sheridan and Wehrfritz 2008). This case thus proved that a river restoration project might be a useful item for election campaigns, which appeals to other local politicians. How the political significance of river rehabilitation boosted through the adoption of the popular Seoul project, triggered the creation of water partnerships will be analysed further in Chapter 6.

Despite putting the issue of river rehabilitation on the national agenda, the Chonggyecheon project actually compromised the initial design of participatory processes and environmental aspects, including the participation of residents and businesses in the neighbourhoods. First, in order to complete the project before the end of the mayor's term, the mayor cancelled the original plan that had aimed at a more participatory co-governance model in the midst of carrying out the project. Second, the

degree of restoration was more like an artificial waterfront development, which coincided with the much criticised practices in the US (Committee on Restoration of Aquatic Ecosystems: Science and National Research 1992), discussed in Chapter 1. The 12 kilometres of the riverbanks became an open waterway park, filled with expensive purified water and far from the ecological habitat of a natural river. One of the original supporters for restoration plan, the renowned novelist, late Park Kyung-Ni criticised that the process of construction work became 'development project' rather than conservation plan(KN, Park 2004). Third, the outcomes of the restoration were not impressive in terms of co-governance due to a bribery scandal involving a deputy mayor, and the exclusion of local stakeholders. From the start of the project, there was no proper consultation procedure to involve local residents and businesses in the adjacent commercial blocks even though the demolition of the commercial areas had been included in the plan (MR, Cho 2003). In this respect, the traditional role of the city government, as provider on the one hand, and local citizens as mere consumers on the other, remained intact in the case of Seoul. This limited participation of non-governmental actors during the restoration project was far from co-governance practices found in water partnerships.

5.3.2 The reproduction period

Apart from the dual grant schemes run separately by the MoE and the MoCT, described in Table 5.4 above, the major outcomes of the Saving River

Campaigns were the guidelines published by the MoE in 2002 and the on-going publications by the River Research Group (www.river.re.kr). At the same time, the scattered cases of river restoration projects at community level began to create a network of experienced actors who would learn from each other and develop larger capacity. This included the launch of River Day, an annual conference to celebrate and share the experience of river conservation and management, initiated in 2002 and led by several NGOs and local partnerships with financial help from the MoE and local authorities. The regular conference came to play a role as an open forum for information sharing and encouraging community works by acknowledging the progress of river conservation at various scales and in different contexts (Interview #O4, an organiser of the first River Day, 2004. 12)(SK, Oh 2003). Thus, the establishment of this networked organisation and information sharing meant the creation of political templates for river restoration campaigns.

The national state acknowledged the discourse of river restoration in public policy much later than the creation of a river related network. The MoCT, which has been at the centre of channelization of natural rivers for the purpose of water supply and flood control, amended the River Act by including an additional aim 'more river nature friendly maintenance and conservation' in September 2005. Soon afterwards, it created the River Environment Division, which oversaw the river

environment ³⁵. Subsequently, river rehabilitation was officially acknowledged in national policies such as in the MoE Water Environment Management Plan and the amendment of the River Act by the MoCT in 2006. The MoE's plan covering 10-year period aims to promote the water environment as a whole, which includes not only the traditional interest in the quality of water supply sources but also the enhancement of more natural water ecosystems (Ministry of Environment 2006). This formal change in national policy is meaningful in terms of addressing the broad spectrum of integrated water management (KU, Kim, Koh et al. 2007: 19).

The 2006 River Act amendment in particular aimed to include the river environment and restoration, as well as the land use of floodplains in river management, which had been largely ignored in mainstream river management (MS, Kim 2003). One of the motivations behind the changes in the long-lasting dual system was that the then President Roh ordered the two key ministries to work together and tackle the problems of segmented management after reviewing the PCSD's policy assessment of the restructuring of water management systems (Interview #O5). However, the related policy strategy and detailed action plans did not take place (KU,

³⁵ Given the then President Roh was about to decide the innovation of water management organisation including an option to merge the river-related affairs of the MoCT with the MoE (interview with a PCSD subcommittee member, 2006); the institutional progress led by the MoCT included a strategic defence of organisational interests. As President Roh decided to maintain the traditional dual system by creating the apex coordination committee and the legislation of IWRM in October 2005, the MoCT's concern for river restoration remains tokenistic.

Kim, Koh et al. 2007) before the next presidential election in 2007. Thus, this orchestration of national policy change in 2006 implies two contradictory aspects of this new institutional development. First, the significance of river ecosystem management, including rehabilitation projects, had begun to be taken seriously in the public policy arena. Second, this change in the national water plan, mentioned above, remains incomplete, and thus, symbolic and not stable.

5.3.3 Implications of Saving River Campaigns to Korean water governance

The case of saving river campaigns shows the on-going dynamics of institutional change in relation to a new field of water management, that is river ecosystem management. When compared with the LA21 movement, the international influence on institutional developments in river restoration in Korea was recognised albeit research-based one. Instead, publicly funded academic works and NGO activities started the domestic institutional development, which became an issue on the national agenda through the popular Seoul example. Apart from Seoul case, in comparison with the traditional way of depending on the central agencies for policy planning and implementation, a range of actors and groups, mostly local, voluntarily participated in the delivery of river restoration projects. This will be examined in details in Chapter 6. Some evolved from a pilot experiment in locally adaptive restoration, while others chose to adopt landscape

rearrangement and waterfront redevelopment. Given its popularity and no national plan to foster co-governance institutions for river ecosystem management by 2006, river ecosystem management may trigger the development of co-governance institution where local actors independently initiate it. In other words, when the experience of collaboration and local empowerment (e.g. the LA21 movement) meets a popular topic (the saving river campaigns), the creation of co-governance institutions is more likely to happen.

Conclusion

In this chapter, national water governance was analysed after the brief discussion of the general background of social changes in Korea before the 1990s. The next two sections covered the new incremental changes of governance reforms at the national and local levels: the LA21 campaigns and the Saving River Movement respectively. The chapter concludes with the recognition of the development of multi-layered water governance in Korea in the 1990s (See Figure 5.2). The theoretical identification of these exogenous factors here provides two critical contexts before the case analysis in the following two Chapters (See the left-top side of Figure 5.1 earlier).

The first part of the chapter examined recent developments in state-led multilevel water governance in Korea, as stimulated by the recent water

crisis. It sets the governance context for Mahoney's periodization analyses of water partnerships in Sections 5.2 and 5.3. Thus, it is argued in this section that the significance of socioeconomic development and institutional consequences is striking in the shaping of Korean water governance. Before using Mahoney's periodization analysis, the key physical conditions of Korean water management need to be presented.

Korean water governance was changed and restructured in the 1990s. There has been diverse institutional development involving nongovernmental actors and local authorities in formal and informal water governance in Korea. The background analysis found that highly centralised water governance has incrementally changed towards participatory governance through the national reforms. Yet, despite providing a foundation of locally specific management, the functions of coordination, continued at the ministry level. Thus, reformative measures including the introduction of public consultation procedures and the creation of the river basin committees resulted in their co-existence with the top-down, regulatory system within the multilevel water governance. The key drive of the reforms to address severe water pollution in the major rivers explains this consequence of institutional mix, which was rather domestic. Therefore, the centralised nature of Korean water governance persisted but the addition of participatory procedures and basin roundtable committees meant the beginning of more complicated structure of governance.

In comparison with the national policy change mentioned earlier, two new institutions as part of local capacity building were initially promoted at different levels, through global and nation-wide NGOs, respectively. The LA21 campaigns have a longer history than river restoration projects. This campaign played an incubating role for building water partnerships in Korea. In particular, the key players of LA21 and the Saving River Campaigns at local levels become crucial in the discussion of case studies of water partnerships in the following chapters. In addition, the analyses of the LA21 and Saving River Campaign cases indicate that local rivers have become a significant field for new institutions.

At the same time, Mahoney's periodization analyses show that the newly developed institutions in local capacity building and river rehabilitation emerged recently in Korean water governance. Even though the existing water governance remained in the control of the central agencies, the change towards more collaborative governance was anticipated given the growing power of nongovernmental actors. The examples of LA21 and the Saving River Campaigns demonstrate this.

How these new paths of collaborative local resource management emerged confirms the previous discussion about the motivation of institutional emergence and the significance of management topics. It was evident that

the LA21 movements had been led by the combination of national policy and local capacity building related to global reform discourses with the rapid growth of NGOs. Saving River campaigns were initiated by nongovernmental actors such as NGOs and a newspaper but the river restoration projects were selected and partly funded by the central government. The interests in the ecological management of water resources have been increased by the continuous work commissioned to the public research groups from the MoE and the MocT. Local river and ecosystem rehabilitation were less contested and remained politically peripheral. At the same time, the key issues in water governance in the 1990s were pollution control and consumptive water usage, reflected in national water reform. Hence, both institutional changes faced little resistance, which is quite different from environmental conservation issues contesting development projects in Korea (See Koh, Kim et al. 2005). This chapter thus reveals that water governance in Korea started to develop along multiple paths since the 1990s. Therefore, the institutional development of co-governance will be analysed in Chapters 6 and 7 in relation to this multiple path development of multi-layered water governance at different scales and addressing different management aims.

CHAPTER 6 INSTITUTIONAL ANALYSIS OF EMERGENCE OF WATER PARTNERSHIPS IN KOREA:A COMPARATIVE CASE STUDY

Introduction

This chapter examines the emergence of six water partnerships in Korea by using a modified IAD framework, developed in Chapter 3. This comparative case study is to understand the institutional development of co-governance institutions under less explored context. The discussion will show how the apparently autonomous development of co-governance institutions could emerge in highly centralised contexts, and how the national and local actors applied the reform discourses about co-governance in the emergence of partnerships. The notion of social basin is employed to capture the changes in the relationship between the slowly shifting nation-state-dominated water governance and the newly established institutions, water partnerships. Six water partnerships, which emerged between 2000 and 2004, are selected for this research.

6.1 The emergence of six water partnerships: Overview and the initial structures

The selected six water partnerships are namely, Jeonju partnership, Daecheong lake partnership, Busan city partnership, Incheon city partnership, Paldang lake partnership and Gyeongnam Water Forum (See the locations of the cases in Figure 4.2). Jeonju was the first and Daecheong

came as the second in 2001, whereas the remaining four were established in 2003 and 2004. This section provides the overview of how the six partnerships were formed with an analysis of the initial structures found in each case. The summarised initial structures of partnerships will be used in the section 6.2 for comparative case study depending on the classical IAD framework.

Management functions as a factor for certain types of partnerships will be examined in the division of two subgroups out of six cases. Three similar partnerships emerged in urban areas, mainly for river rehabilitation projects, and three other cases created in regional areas, largely for water conservation. In terms of scale of management and the nature of the problem to be solved, the regional cases are different from the urban partnerships. The ones at the regional scale work beyond the boundary of a single municipality. Additionally, the key programme of the regional partnerships is related to the conventional management of regional water sources that had previously operated through central government. Thus, a comparative analysis of these regional partnerships provides a more comprehensive explanation of co-governance institutional development in the management of key regional water sources.

6.1.1 Urban water partnerships in Jeonju, Busan and Incheon

Jeonju water partnership

Created in 2000, Jeonju water partnership was one of the first co-governance institutions to emerge in Korea. Jeonju is the provincial capital of Jeollabuk-do, a southwest province. This historical city is built on the Jeonju River basin (Jeollabuk-do government (Jeollabuk-do cheong) ; Jeonju city government (Jeonju-si cheong)) (See Figure 6.1).

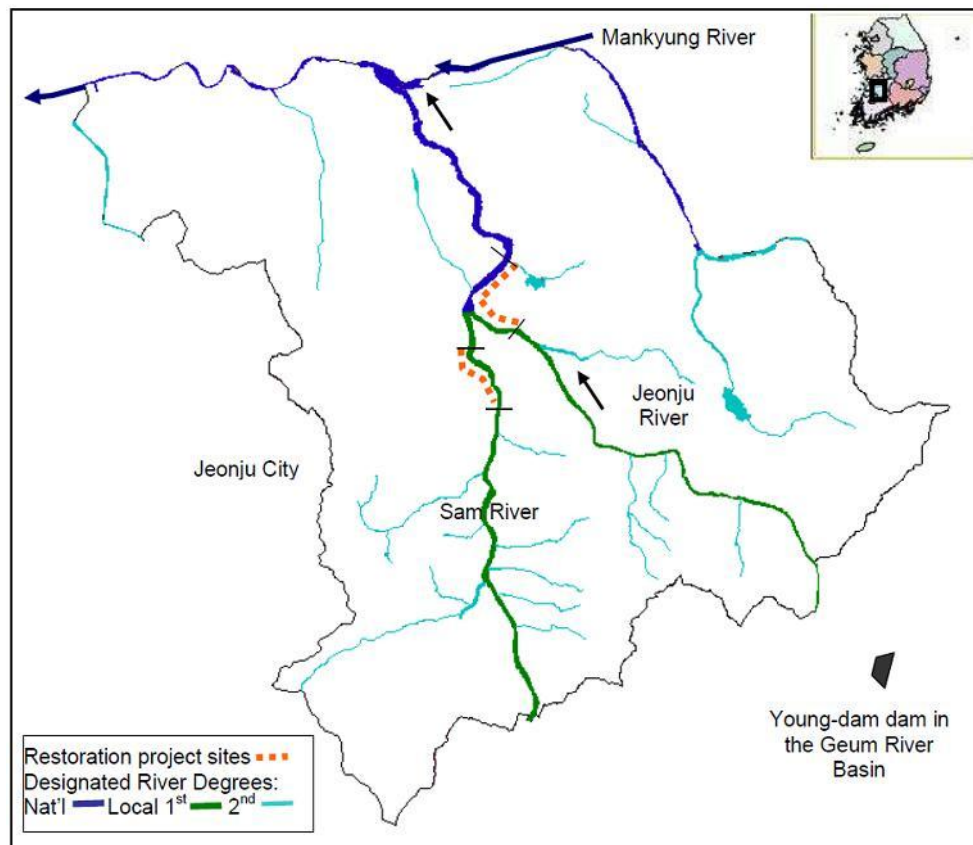


Figure 6.1 The Rivers in Jeonju city

(Source: Adopted from Environmental GIS service by MoE, available from EGIS.GO.KR)

A debate about the then mayor's proposal for land use along the riverside in 1998 resulted in the creation of a water partnership in Jeonju. An ambitious ex-technocrat-turned-local politician, the mayor WJ Kim had proposed 2 billion Korean won (₩) (Official exchange rate, average period in 1998, 1 USD = 1,401.44 ₩)(International Monetary Fund 2012)for the

Jeonju River Park construction plan during his election campaign (SH, Park 1999).³⁶ However, the park plan announced was heavily criticised by local NGOs and experts, mostly under the umbrella of an LA21 campaign (Interview #J1, current general secretary of Jeonju Office for Local Agenda 21, 2005). A few active members of the LA21 campaign, ranging from professors to the NGOs activists, persuaded the mayor and local officials using documented evidence that similar development projects that installed fountains as aerators to improve water purification in other cities had suffered from a secondary pollution backlash (Jeonbuk KFEM (Korean Federation of Environmental Movement) 1999).³⁷ After visiting a case site (Daegu Metropolitan City) at the beginning of 2000, all the participants joined the debate and concluded that the Mayor's River Park Plan was likely to fail both financially and environmentally (Jeonju city government (Jeonju-si cheong))(Interview # J1).

Mutual learning from the Daegu visit obviously persuaded the city hall and

³⁶He proposed six major development projects including the World Cup Stadium development project to renovate Jeonju city. Given that Jeonju had been selected to hold one of the 2002 World Cup games, Jeonju city was hoping to boost its growth with the new leader.

³⁷ In 1997, Daegu city government built the river park in the town centre, where the lack of instream flow was to be overcome by pumped discharge from a downstream sewage treatment plant. This idea was to renovate the typical dry urban river to the more natural landscape of fountains in the beginning; however, it soon caused major problems. The energy-pumping sewage discharge killed hundreds of fish; moreover, it also caused an extensive negative odour (Park, S.-H. (1999). Interview of the mayoral candidates of the Honam region Kyunghyang News. Seoul, Society team (2008). Cover story: Nationwide copycats of Cheonggye-cheon. Newsmaker (Weekly Kyunghyang). 759.)(Interview #J1).

the conflict situation was shifted into negotiation. When city hall gave up the waterfront development plan, the NGOs and the local academics started to debate how to realise their anti-park campaign into a policy draft. The campaigns were divided into two sections: (a) a comprehensive rehabilitation versus (b) a modification of the park plan towards nature-like restoration. The comprehensive rehabilitation idea was proposed by an environmental group, the Jeonbuk KFEM, which argued for the cancellation of all artificial interventions after removing the previous built structures, concrete-channels and car park (See Jeonbuk KFEM (Korean Federation of Environmental Movement) 1999). The rest of the members of the anti-park campaign supported the modification idea because they believed this idea was to form the consensus with the city hall, hence, it was a practical, compromising solution (Interview #J2). The key points of modification were (1) Cancellation of the park project and revision to restoration; (2) Adoption of a heuristic approach, developing and implementing a pilot restoration plan; and (3) Cancellation of the controversial inflow maintenance option. In August 2000, the Jeonju water partnership was created by the majority at the negotiation table, the mayor, city officials, local NGOs (except the Jeonju KFEM) to modify the River Park plan.

Initial structure of Jeonju water partnership

A broad range of stakeholders was invited to join the Jeonju partnership, e.g. local NGOs, affiliated experts and civil servants in the city government. There were 14 original participants in August 2000 comprising six city

officers (City mayor, local government officers), six NGOs (general executive Jeonju citizen commission, local NGO campaigner, 2 experts of Jeonju office for LA21) and 2 elected city council members. The Mayor and the head of a local NGO shared the Committee chair, while a smaller set of six key members acted as a working group. Because of its unofficial organisational status, the working group operated without any statute or articles of association. The Jeonju water partnership was designed as a task-force team to supervise the first restoration projects and subsequently took on an advisory role after completion of the projects.

Table 6.1 Composition of the Jeonju water partnership in 2000

Composition	Numbers of people
Local government officers	6
Elected local councillors	2
City-based NGO	6
Water partnership staffs	2
Sub-total	16

Source: (Jeonju partnership 2000)

Busan and Incheon metropolitan partnerships

In 2003, following the development of the Jeonju partnership, water partnerships between local governments and non-governmental actors emerged in two metropolitan cities, Busan and Incheon. Busan, the second biggest city, located in the south-eastern Korean peninsula, is home to 3.5 million people (Figure 6.2), while Incheon, the metropolitan city next to the

capital city, Seoul, accommodates 2.5 million people in 2005 (Figure 6.3). Both are port cities that have used the adjacent large rivers under the national government's authority as the source of water provision, but numerous small-scale streams that feed into these rivers suffered from contamination and lack of instream flow (See Appendix II for more information about two cities).

In Busan, an active alliance of NGOs demanded the creation of a partnership, later further influenced by an exogenous event, the Cheonggyecheon restoration project in Seoul in early 2003. In February 2002, seventeen local NGOs formed the Alliance for Saving Busan Rivers (Busan Alliance hereafter) to advance the campaign for urban streams. They shared the history of water conflicts over the control of pollution in the Nakdong River (see section 5.1). The Busan Alliance agreed on campaign goals, which included the rehabilitation of urban streams into natural ecosystems, the recreation of river ecosystems not only for their environmental value but also for community integration, and finally, the recovery of the eco-belt of Busan city (JK, Lee 2003). With the support of the Busan office for LA21 as a mediator, city government officials and the Busan Alliance reached an agreement on the urban stream campaign. Soon after, they co-participated in fieldtrips to investigate earlier rehabilitation projects within Korea and in Japan: they also co-hosted workshops and a joint research project on six local streams (River Network 2004). In May 2003, the passive city hall agreed

to create a partnership with the other participants of the workshop shortly after the completion of the Cheonggyecheon project in Seoul(River Network 2004).³⁸



Figure 6.2 Satellite image (LANDSAT) of the Busan Metropolitan city

(Source: Adopted from Environmental GIS service by MoE, available from EGIS.GO.KR)
* Yellow line indicates the boundary of the city area (the North-east rural county is omitted)

In Incheon, the initiative was taken by the mayor who was inspired by the popularity of the river rehabilitation projects adopted in Seoul and Busan. There had been rather quiet but continuous campaign for local rivers led by the local NGOs under the umbrella co-ordination of the LA21 movement.

³⁸ The participants of a 2-day workshop in September 2002 announced the ten agreements on local river management. A loose networked form of NGOs and the city hall led a project that published maps about local streams in January until early 2003.

Two exogenous events occurred in early 2003 and influenced the mayor (Interviews # I1 and I2): the completion of the Cheonggyecheon project in Seoul and the creation of a water partnership in a rival metropolitan city, Busan. The newly elected Mayor, Mr Lee (BK) endorsed the urban stream master plan co-drafted by an array of local NGOs and the city government officers in May 2003.³⁹ This plan led to the establishment of a partnership in September 2003.

This triggering event from outside was significant to the following two cases in cities. As analysed briefly in Chapter 5 (see section 5.3.1), the Cheonggyecheon river restoration project at the centre of the capital city earned the mayoral election to Mr Myeong Bak Lee. As interviewed city official in Busan, a full-time staff at the partnership and an NGO worker in Incheon explained, through the local election, this locally cultivated issue of saving urban streams had become a nationwide agenda (HK, Kang 2007), eventually influencing Busan and Incheon cases (Interview #B2) (Interviews # I1 and I2). Additionally, the interviewees also indicated that they were inspired by the precedent cases through the information sharing in the River Day and the documents published by the MoE. The political motivation of the mayors in Busan and Incheon was clear in forming

³⁹ The incremental growth in watershed-based community campaigns, as with the Busan case, had been mainly led by local NGOs and nurtured by the Busan office for LA21; however, the characteristics of the movement in Busan had been stronger (See section 5.2.2).

partnerships with non-governmental actors. As a result, unlike the Jeonju case, these two metropolitan partnerships were created without any local conflicts about the water resources but emerged in different ways.

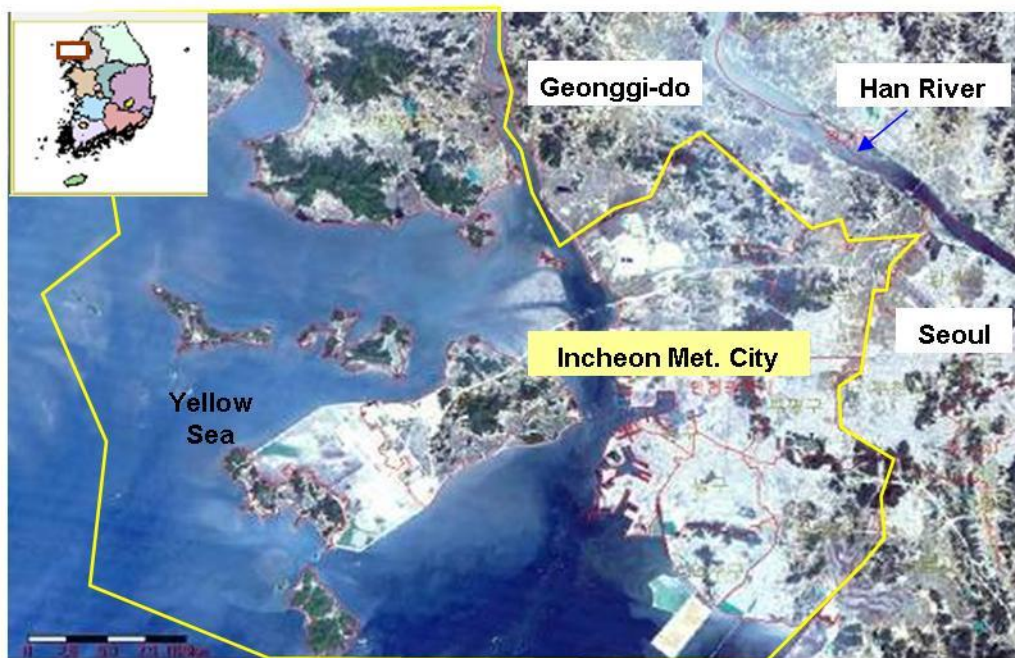


Figure 6.3 Satellite image (LANDSAT) of the Incheon Metropolitan city

(Source: Adopted from Environmental GIS service by MoE, available from EGIS.GO.KR)
* The yellow line indicates the boundary of the city area (the islands in the west-north area are omitted).

Initial structures of metropolitan partnerships

In terms of initiation processes, the features found in the initial structure of Jeonju case were not the same in the other two urban partnerships in Busan and Incheon. While informal oral promises and agreement comprised the start of partnership organisation in Jeonju, the partnerships in Busan and Incheon were prepared through a formal process, involving the set-up of preparation committees, where participants including city government

officers, elected city council members, NGO campaigners and experts became engaged in social learning and discussion. This was before the establishment of actual partnerships.

In terms of formal institutional development, Incheon city government quickly adopted the demand for urban river management by NGOs and the Busan office for LA21's into the comprehensive plan for reshaping local rivers. This in July 2003 gave official confirmation of the creation of the partnership and endorsement for the urban river rehabilitation projects. The key non-governmental actors were allowed to join the formal institutional development throughout the whole process, while the formal preparation committees were also involved in informal events, such as workshops and fieldtrips following the co-research project on six Busan rivers, funded by the local office of the LA21. Thus, the processes to create two metropolitan water partnerships were similar. They collectively declared the importance of the urban river rehabilitation campaign through collaboration between government and non-governmental actors.

The initial structures of urban partnerships after the actual establishment were found in two types. The two metropolitan cases in Incheon and Busan show differences in their initial structure, although the way the partnership emerged and the scale of management were similar, as discussed earlier. The first structure of the Busan partnership was a single committee

comprising seventy-eight individuals from various backgrounds, from schoolteachers to the city's vice-mayor. This structure shared similarities with Jeonju partnership. In contrast, the Incheon partnership was organised in a multi-layered structure (See Figure 6.4 below). The co-chairs, allocated to the Vice mayor and the citizen representative, were to make decisions with three committees: Planning & Management Committee, Coordination Committee and Stream Network Committee. To facilitate the partnership operation, the Citizen & Government United Office was created with a fulltime staff of three city officials and two civilians.

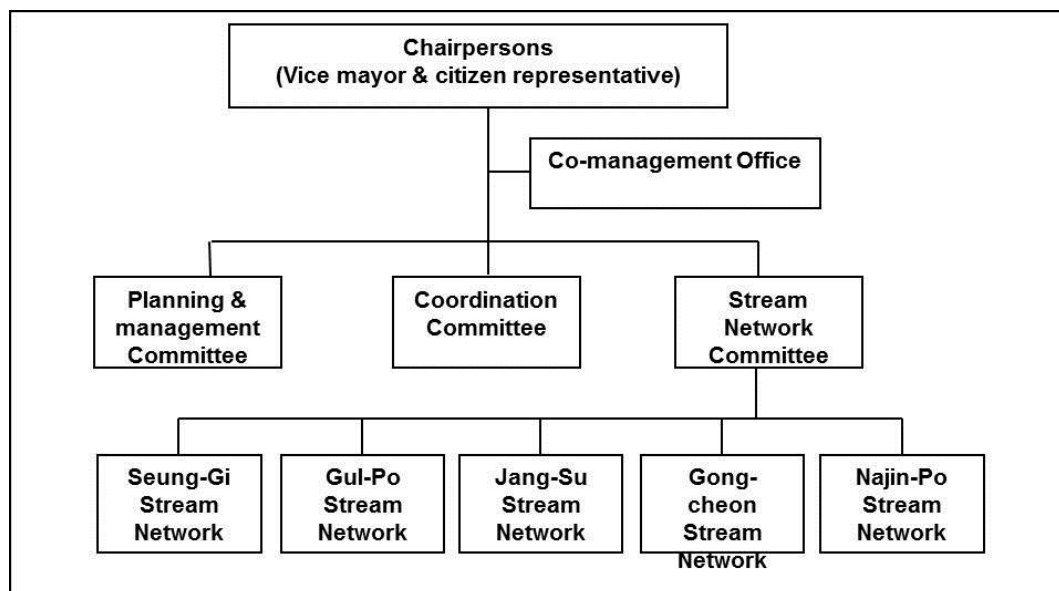


Figure 6.4 The organisational structure of Incheon Water Partnership

(Source: (Incheon water partnership and Incheon Regional Environmental Technology Development Centre 2004))

6.1.2 Regional water partnerships in Daecheong, Paldang and Gyeongnam

Daecheong water partnership

In 2001, 2003 and 2004, three regional partnerships were respectively developed to manage the water resources that had deeply been in the hands of the central government.

The first one among the three regional ones, Daecheong partnership was created in 2001 (See Figure 6.5 below for its location). A public organisation initiated the creation of Daecheong partnership in contrast to the proactive roles played by nongovernmental actors in the Jeonju and Busan, urban partnership cases. While the basin-wide participation of various actors began as part of the decision-making process for the CMWM (See Section 5.1.2), greater dialogue was precipitated by the largest ever spread of algae occurred in the Lake in 2001. Subsequently, a state owned water-supply enterprise, KOWACO (recently changed to K-Water) initiated and fully supported the Daecheong water partnership. In summer 2001, as Ms JH Park, the ex secretary general of the partnership, said in the interview #D3, the KOWACO Dam Department, with the support of the executive level, proposed to local NGOs that they would fully fund the Daecheong Lake Networked organisation.

The Chungcheong region's local NGOs shared similar history of water conflict with the NGOs in Busan, which had been allies in the Dam issue in the early 1990s. By accepting a generous funding suggestion from the KOWACO, the local NGOs agreed to create a partnership, despite some

reservations about it being potentially limited to a roundtable function without any real engagement with the policy process. Following a workshop about the Daecheong Lake management, all participants signed the memorandum and the Daecheong Lake Rehabilitation partnership was created in April 2002 (Daecheong Water Partnership (Daecheong-ho Bojeon Undong Bonbu)).



Figure 6.5 The Daecheong Lake basin (the white circle above the Jeonju watershed) based on the administrative division within the Geum River basin Area

(Source: Adopted from Environmental GIS service by MoE, available from EGIS.GO.KR)

Initial structure of Daecheong partnership

Among the six cases, the Daecheong Lake partnership started with the most comprehensive structure including multiple tiers of different units. After

signing the memorandum of the association, the preparation committee led by the NGOs organised a legally registered corporation aggregate, composed of four sub-basin networked organisations, having four fulltime staffs, the board of trustees, the working committee, and the executive committee (Interview #D2). During the five meetings that involved local NGOs and KOWACO, the eight organisations identified the scope of possible membership, persuaded them to participate and arranged pre-workshops and events before the creation of the partnership. While NGOs showed increasing interests in the idea of forming a partnership from the early period, the formal government organisations and educational organisations preferred to be involved only after the partnership's establishment. Thus, the leading power to shape the organisation through mobilising ideas and vision has been in the hands of NGOs, especially the ones in the preparation committee, listed in Table 6.2 below.

Table 6.2 The composition of the preparation committee in Daecheong

type	Participants	The first-order organisations
NGOs	4	Daejeon/Chungnam Green Korea Chungbuk KFEM Chungju CEEJ Daejeon KEFM
Research	2	Professor at the Hanbat University Professor at the Korea National University of Education
Local governments	3	Daejeon Met City Water Management Dept. Chungcheongnam-do Water Quality Management Dept. Chungcheongbuk-do Water Management Dept.
SOE (KOWACO)	2	Head of Environmental management dept. Head of Daecheong Dam management
Sub-total	11	-

Source: (Daecheong Water Partnership 2004)

Paldang water partnership

In Paldang case, a central agency, the Ministry of Environment, proposed the idea of organising a partnership with the local authorities in the protected water source region of the Paldang Lake sub basin (see Figure 6.6 below). In 2002, it was obvious that the Paldang Lake's water quality had not improved to the target level, despite more than 1 trillion Korean won of investment (Ministry of Environment 2002a) mobilised through the series of national water reforms (See section 5.1.2). In response to this in May 2003, the MoE proposed a policy draft to reverse the 1994 de-regulated land use policy, this time enabling a public consultation process. This draft provoked immediate opposition from seven county governments. During the tense public consultation process, the MoE led the formal procedure and proposed to opponent groups a partnership to work together on policy-making in the affected region in July 2003. An ex member of the Paldang

partnership, Dr SW Kim stated in the interview #P1, local groups were initially surprised by the central agency's shift of attitude but joined the preparation process to create a partnership (Interview #P1). Soon after the MOE's suggestion, three community representative meetings, three pre-committee meetings and seven citizen and county official meetings paved the way for the formation of the partnership between central government, local counties and community representatives.

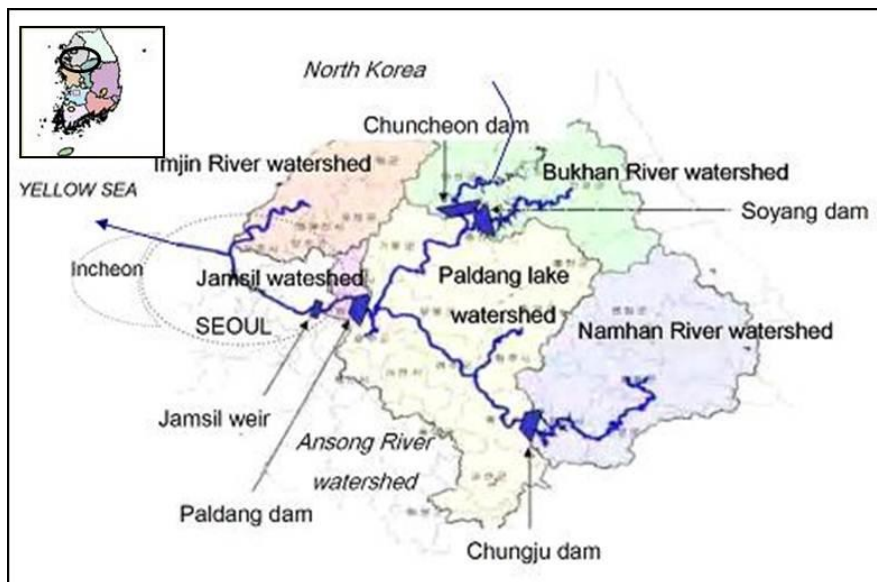


Figure 6.6 Paldang Lake watershed with other sub-basins of the Han River Basin

(Source:(Ministry of Environment 2006))

To be brief, in Daecheong and Paldang, the public water organisations persuaded the non-governmental actors into a field of water management when they could not control pollutions in two water sources. As the interviewees mention, the historical tension between the public and non-governmental organisation that had mostly been caused by the lack of

procedural justice was eased by the proposal of the state agencies (Interviews #D3 and #P1). The active involvement of the stakeholders was promised through the creation of the partnerships, where the impressed NGOs to join.

Initial structure of Paldang partnership

The Paldang partnership, known as 'the Paldang Water Policy Council', was formed in a two-tiered structure, which was composed of the executive committee, and the working committee with a small group of administrative and expert staff. However, this structure was distinct from the Daechong case in terms of formality and in its direct relationship with the MoE. First, the partnership is the legally bound negotiation body composed of local actors in the public sector and civil society, water experts and the MoE officers in the interest of better water conservation in the Paldang Lake. Second, the MoE (a central agency in charge of water regulation) mostly led the discussions in the initial stage in terms of involving local governments and community representatives (those affected by water regulation). According to an interview with a MOE officer, the MoE persuaded the community groups involved in the violent protests to join a partnership instead of pursuing a prosecution (Interview #P6). In the same interview, a MoE official explained the background to this impressively pro-active willingness to go beyond the formal boundary of public consultation in 2003, as being the result of pressure from community

groups in the Paldang Lake since the incident in 1998,

‘[t]he inner atmosphere of newly formed government led by the President Roh, a human rights lawyer, wanted the harmonious management of the issue rather than enforcement of public power. At the same time, personal characteristics of then MoE officers in charge preferred peaceful communication as a conflict management tool.’ (Interview #P6)

Thus, the initial structure of the Paldang partnership was a negotiation platform over the regulation of a specific regional water source between four parties: the MoE, the county governments, the community groups from affected counties and the provincial government (See Table 6.3 below). With the active participation of the MoE and county government, two fulltime experts joined to assist the establishment of the partnership.

Table 6.3 The composition of the Paldang partnership

Organisational memberships	Numbers of people
Central government	1
River basin authority	2
Local government officers	8
Community group	8
Partnership staffs	2
Sub-total	21

Source: (Paldang Water Partnership 2008)

Gyeongnam water partnership

Unlike the two public-initiated regional partnerships introduced above, the Gyeongnam Water Forum (GWF hereafter) was initiated and managed by a

few local NGO campaigners. The province of Gyeongsangnam-do – in short, Gyeongnam – is the geographical base of Gyeongnam Partnership (see Figure 6.7. below). The initial momentum was provided by 14 NGOs that had been members of an umbrella organisation, Civic Federation for Masan Bay Watch, which conceived the idea of a provincial wide debate at the workshop on GO-NGO collaboration in April 2003. They were inspired by the recent success of global and domestic water events in 2003, e.g. World Water Forum in Kyoto, Japan and Chuncheon Water Forum in Chuncheon, Korea (Interview #K1). Then, the head of the working committee at the Gyeongnam partnership, Mr SY Lee, pointed out in the interviews (#K1, K2) that a few campaigners of KFEM Water Research and Information Centre in Masan city and Changwon city started to persuade local actors to join the preparation committee and engage in fundraising.

Two preparation meetings with local NGOs, the provincial government and Gyeongnam office for LA21, were held in Feb. and Mar 2004, with a relatively low participation by NGOs- 6 and 8 groups, respectively. Finally, nearly a year of preparation ended when the Organisation Committee for Gyeongnam Partnership announced its opening ceremony on World Environment Day, March 22, 2004. . Subsequently, the first Gyeongnam Water Forum was held with the attendance of 200 people on Mar 26-27. Thus, in comparison with the previous two partnerships, the problems in water resource management in Gyeongnam (further discussed in 6.2.1),

existed but were not enough to trigger the creation of partnership. As found in the interviews with the full-time staff (#K1, K2), a few policy entrepreneurs proactively shaped the emergence of Gyeongnam Partnership.

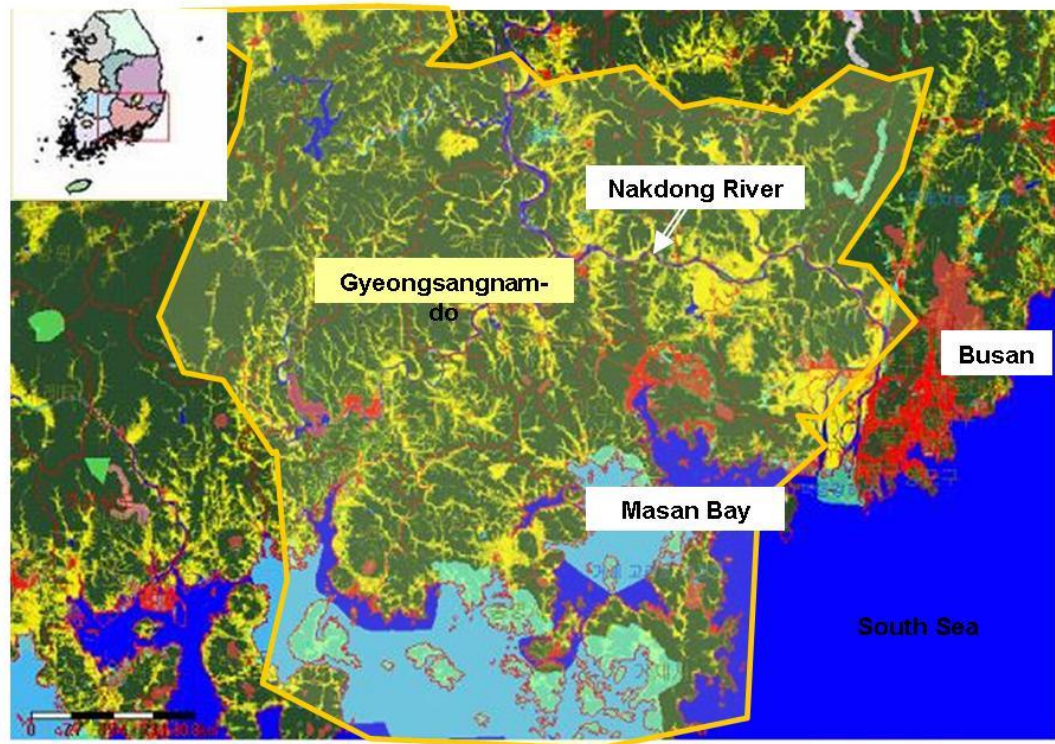


Figure 6.7 Modified GIS land cover map of Gyeongsangnam-do

(Source: Adopted from Environmental GIS service by MoE, available from EGIS.GO.KR)

Initial structure of Gyeongnam partnership

In the case of Gyeongnam Partnership, the initial structure, known as the Organisation Committee for Gyeongnam Water Forum seemed to represent a comprehensive participation of stakeholders, although a small number of key actors did most of the work. The details of the membership in the organisation committee are shown in Table 6.4 below. This partnership was formed in three levels of sub-units: a leading activist from a local NGO, the

Organisation Committee itself and its members. The committee was legitimated by the support of a wide range of membership basis. The key actor in creating this partnership was one local NGO activist, Mr Sang-Yong Lee of KFEM (Korean Federation of Environmental Movement), with help from his senior colleagues. KFEM and Gyeongnam University supported this campaigner by providing administrative and management assistance. Due to this concentration of activism, the role of local NGOs and other organisations was limited in the actual practices of Gyeongnam Partnership, especially in the very early stages of partnership formation.

Table 6.4 The composition of the Organisation Committee for Gyeongnam Partnership

Organisational memberships	Numbers of people
Central government	1
River basin authority	1
Local government officer	1
Local council	1
Public research and education	1
Public Owned Corporation	1
City-based NGO	3
Community group	
Private research and education	6
Private organisation	
Local Office for Local Agenda 21	1
Water partnership staff	*1
Sub-total	15

Source: (Organisation Committee for Gyeongnam Water Forum 2004)

6.1.3 Summary

In all six-partnershipcases, the management functions of water resources in partnership emergence influenced the creation of different types of partnerships. The newborn partnerships in metropolitan cities were to

apply the latest management topic to the newly found water resources, local streams. The regional water partnerships were developed to address the polluted water sources for consumption and the general water issues.

The creation of the six partnerships in Korea showed the embedded development of co-governance, which is far from that influenced solely by small and informal organisations (See the details of the US and EU cases in Chapter 2).⁴⁰ While the local actors were active to apply the co-governance idea in cities, the governmental bodies took the initiatives in developing the partnerships in two regional cases in Daecheong and Paldang. Unlike the other five cases, the local NGO in Gyeongnam led the whole development of the partnership, the Gyeongnam Partnership. The previous history of water governance again influenced the development of the Daecheong and Paldang regional water partnerships, which was less obvious than the experiences found in the urban cases. The overview of six cases supported the need for an analysis of embedded development of water partnerships in Korea.

The initial structures of six partnerships were diverse in terms of boundary and scales of organisations. Despite the relative similarity in terms of management scale and period of creation, two distinctive types of the initial

⁴⁰ In terms of factors on the partnership emergence, six cases were far from the US style (small and informal organisations) and the EU case (top-down planning of partnerships).

structures were found in the analysis of the six cases. The first type was the roundtable organisation composed of stakeholders. Jeonju, Busan and Gyeongnam belong to this category (Jeonju partnership 2000; Organisation Committee for Gyeongnam Water Forum 2004; Busan Development Institute 2006). The second type was the multiple tiered structures, found in Incheon, Daecheong and Paldang cases (Daecheong Water Partnership 2004; Paldang Water Partnership 2008). Hence, despite the similarity of the key water issues within the subgroups of urban and regional partnerships, locally embedded variations in the institutional development of water partnerships were observed.

Hence, regarding the dividing six cases into two sub-groups, the initial structures of six partnerships did not match with the division of urban and regional sub-groups. This finding confirms the locally embedded development at large, which are tuned to local contexts. In contrast to water partnerships in Western Europe were formed in nearly homogenous type under the guideline of the European Union's top-down policy, these Korean cases were shaped into two categorised structures. Those are roundtable and multi-tiered ones respectively (See the details in section 2.2.1) using a modified IAD framework, the following section examines the three surrounding arrangements (i.e. preconditions) before the emergence of partnerships in order to address the details of contextual factors.

6.2 Using the IAD framework to explain the emergence of water partnerships

As discussed earlier in Chapter 3, the IAD framework explains the emergence of an institution through the interactions between actors and three preconditions. Under an 'initial structure', rationally bounded actors, who are constrained by surrounding social, economic, political and physical settings, initiate an 'embedded' institutional development. In other words, three preconditions (physical conditions, attributes of community and rules-in-use with norms) may act as triggering factors, resources or constraints in the creation of water partnerships by concerned actors. Thus, this section will examine to what extent these three preconditions explain the rather diverse development of the six water partnerships, starting with the analysis, and the initial structures of water partnerships.

6.2.1 Physical conditions: chronic water problems as a necessary condition for partnership emergence

The severity of the water problem or the existence of problematic conditions in terms of river environment cannot explain why the partnerships suddenly emerged since the early 2000s in Korea. Daecheong partnership was the only one that had severe pollution problem in the related water resource right before the partnership emergence. However, the chronic problem of algae bloom in the Daecheong lake was worst ever in 2001 after the completion of Yongdam Dam in the upstream (Ministry of Environment

2002b). Actually, this issue became a local agenda because the conflict over building an additional dam between the Chungcheong Region, Daecheong Lake basin and the adjacent Jeollabuk-do. The worse algae bloom in the Daecheong Lake sparked the anger of local residents in the area, mostly the Chungcheong region. Because the proposal of the KOWACO directly triggered the creation of the partnership, the physical condition and attributes of community were one of the necessary conditions for the creation of the Daecheong partnership.

The urban partnership cases had chronic problems with regard to water resources and management. These formed the necessary conditions for the partnership emergence. Urban rivers in Korea, including those in the three cases studied here, have rarely been used as water sources because of pollution and the centralised regional supply system (see section 1.3). Furthermore, modification of the river system, via straightening and channelization, was a predominant feature of the urban streams. For example, the Jeonju River had seen a non-sustainable ecological system, vulnerable to seasonal run-off and secondary pollution, with an offensive odour and sporadic fish kills (SH, Choi 2005). By 2001, 96.2 % of the river channels in Busan had been artificially changed (Ministry of Construction and Transportation 2001), while 61.2 % of rivers in Incheon including those in the rural islands had seen their channels modified by 2005 (Incheon water partnership and Incheon Metropolitan City 2005). The Jeonju River

waterfront had been covered by impermeable materials and used for car parking and local commercial purposes without proper management until a new usage of this river was proposed. Water quality problems persisted in the major rivers due to intensive urbanisation in the floodplains. Although neglected urban streams showed some improvement in water quality from the late 1990s, water quality problems remained in most urban streams in Incheon. Despite their poor condition for more than three decades, policies addressed by the MoCT and even the MoE had rarely considered the water quality of urban rivers seriously until the Saving River Campaigns started in the 1990s. Thus, an explanation needs to unpack why these particular cities observed the creation of water partnerships.

The chronic water problems in the Paldang and Gyeongnam Partnership at the regional scale were deeply related to the failure of existing governance in pollution control. The Paldang case has always been a centre of water management debate in Korea because of its political salience (D, Chung 2004). As a supply source for the largest population in the capital region, the Paldang Lake has been strongly related to the early stages of Korean water management, led by the public corporations, mainly for the purpose of rapid economic development. When the application of the latest regulation in pollution control failed in 2003, the MoE initiated the partnership with the local riparian counties (see section 5.1 for the series of regulatory reform measures). In Gyeongnam Partnership case, a local NGO that had

campaigns for local water problems initiated the organisation of a partnership. The chronic problems in the local water resources have existed but remained trivial for partnership creation. In details, there were the inter-regional conflict over the water allocation of the Nakdong River (Special team 1991; SH, Choi 2007), pollution of the Nakdong River due to the population increase (Ministry of Land Transport and Maritime Affairs 2008). Again, these two cases indicated the physical conditions could not explain the emergence of partnerships in these areas.

6.2.2 Attributes of community

In all six cases, the participants of the partnerships did not have any direct economic interests in water resources management (See Tables 6.1 to 6.4 and Figure 6.7 above). This contradicts the claim of the classical IAD framework. Based on the rational choice approach, the conventional framework understands the emergence of new institutions as the creation of problem-solving mechanisms, mostly drawn from the direct economic interests of participants. Thus, the motivations that inspired or pushed the participants in the urban partnerships needs to be explained through the modified framework in relation to the Mahoney's periodization analysis conducted in the previous Chapter 5.

Local conflicts within communities about water resources triggered the creation of partnerships in Jeonju, Daecheong and Paldang to some extent.

This factor did not matter in Busan, Incheon and Gyeongnam. In the Jeonju case, the issue of land use at river waterfront triggered partnership development. In fact, the river's water quality had been improved through the gradual development of wastewater treatment facilities during the late 1990s, funded by top-down water policy reform. While the MoCT report in 1995 stated that no species of fish were found in the Jeonju River, there were 14 fish species in the upstream and 5 species in the city area by 1999 (Interview #J1). Cooperation based on the experience of past conflict was also found in the case of Daecheong (Interview #D2). The central government persuaded the local governments and residents to join the partnerships in the case of Paldang partnerships. Thus, whereas conflict over urban stream management or development triggered local actors to form partnerships in Jeonju and Daecheong, the conflict did not determine the formation of other partnerships (See the section 6.3. for the details).

The scales of communities in three regional partnerships contradicted another presumption (discussed earlier in Chapter 3): the smaller the partnership scale, the better the cooperation. While one of the three urban partnerships was compatible with this idea, the Jeonju case, this presumption did not hold in the regional partnership cases. Three regional partnerships covered more than one municipality: two provinces in Daecheong, seven counties in Paldang and one province in the Gyeongnam

Partnership.⁴¹ Therefore, the scale of the communities was hardly a determinant in the formation of regional partnerships, which needs further explanation.

6.2.3 Rules-in-use and norms

The rules-in-use were not as clearly observed in these six cases as emphasised in the literature (Ostrom, Burger et al. 1999; Blomquist, Heikkila et al. 2004) (also see section 3.1.1). The members from six partnerships mentioned that there were no rules to punish or reward members within each partnership (Interview #J1, B3-1, I1, D5, P4 and K1). Hence, no partnerships used any sanctions when the rules were not enforced. This was deeply related to the fact that there were no direct economic interests promoting the formation of the partnerships as co-governance institutions.

Instead, two norms were found to be evident in six water partnerships. The first norm was *the conservation of related water resources*. This was evident not only in practice but also in the forms of most of the partnerships. In the cases of urban partnerships, 'saving our rivers' were broadly used as the key aim for partnerships (Interview #J1, J2 and J3; Busan Water Partnership

⁴¹ The communities for the Daecheong and Paldang partnerships were the area served with supplies of water from the two lakes, whereas the attributes of community for Gyeongnam partnership were the administrative district, Gyeongnam and its relations with the only water source, the Nakdong River and its tributaries.

(Busan Hacheon Sal-li-gi Simin Undong Bonbu) ; Incheon Water Partnership (Incheon Hacheon Sal-li-gi Chujindan)). Both Incheon and Busan metropolitan partnerships formally acknowledged this co-governance discourse in the official documents (Incheon water partnership and Incheon Regional Environmental Technology Development Centre 2004). In particular, the six points in the Declaration statement on the inauguration of the Busan partnership in May 28, 2003, listed below, clearly indicate the principles of co-governance around the theme of 'saving our rivers' discourse.

"The partnership's ('Undong Bonbu' in Korean) missions are:

1. To draft the detailed action plan for saving the local rivers to with an ecosystem rehabilitation priority;
2. To develop the citizen-led saving river campaign as a citywide environmental movement;
3. To reactivate the local community by bringing back the history and culture of rivers;
4. To stress the transfer to watershed-based integrated management;
5. To pursue a byelaw enactment as institutional support of the saving river campaign and;
6. [for all members of the partnership] to act under the principles of co-planning, co-management and responsibility sharing."

(Busan office for LA21 and Gwangju office for LA21 2003: 70)

As shown above, in Busan, the notion of saving local rivers was combined with the notion of 'co-operation between local actors'. This was in comparison with the situation in Jeonju where 'co-management' was more emphasised. For the regional partnerships, the water sources of the Paldang Lake, the Daecheong Lake and the Nakdong River and their local streams were regarded as the object to be 'revived' or 'saved' despite the different degree of emphasis on this norm (see section 6.3.1) (Daecheong Water Partnership (Daecheong-ho Bojeon Undong Bonbu) ; Organisation Committee for Gyeongnam Water Forum 2004; Paldang Water Partnership 2008).

The second common norm was *consensus-based decision-making*, in other words, 'keeping agreement among the participants', though the degree of enforcement of this rule differed in each partnership. There has been consensus to maintain a political 'balance' among the members of the partnership after KFEM, a radical NGO, withdrew from the project (Interview #J2).⁴² The similar preference to this reciprocity was found in Incheon (Interview #I1), Daecheong case (Interview #D5) and Gyeongnam Partnership (Interview #K2). However, this norm was found weak in Busan and Paldang where internal conflicts were evident (Interviews #B3 and Bp1

⁴² For example, the city hall avoided enacting bylaws or creating permanent offices and the rest of the members agreed with this unofficial status of the partnership instead of creating internal tension by challenging the city government.

and #P3).

To sum up, the preconditions based on the IAD framework revealed that the development of water partnerships in Korea was contextually complicated. The chronic problems in the local water resources, either abandoned or unsuccessfully managed were found to be necessary conditions for emergence of partnerships to some extent. However, three preconditions cannot explain completely why and how particular actors decided to apply the co-governance idea. Thus, a modified analysis framework is applied in the next section for a more comprehensive explanation of the regional partnerships' emergence.

6.3 A modified IAD framework: additional analytical elements

Based on the interconnectedness of multi-layered water governance, it is argued in this thesis that to explain the emergence of the water partnerships, there is a need to consider exogenous factors (See Figure 6.8 below). This study proposes three factors beyond the geographic and administrative scope related to each partnership: (i) co-governance reform discourses promoted globally; (ii) national water policy reforms; and (iii) local capacity building fostered at the national and local levels. Each of these three factors is explained in sequence in the following sub-sections.

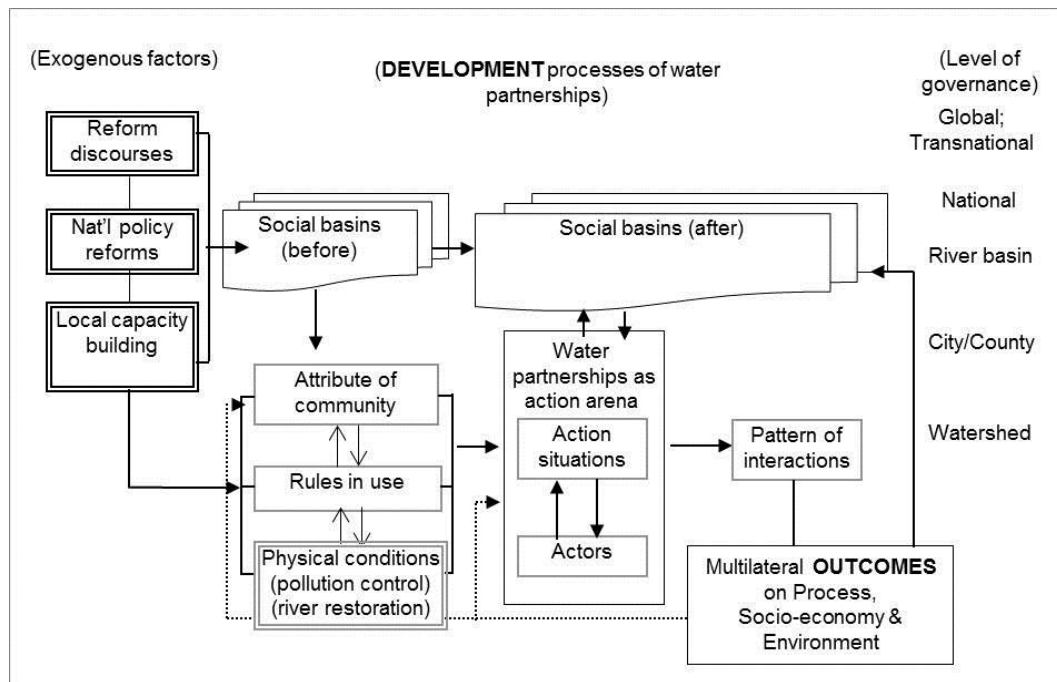


Figure 6.8 Modified IAD framework

6.3.1 Reform discourse of co-governance

There was no evidence that the emergence of water partnerships in Korea was directly intervened by any international organisations or formal/informal international agreements. Instead, the document analysis found that the reform discourses rather than direct economic interests in water resources inspired those local actors who initiated three urban partnerships and the Daecheong regional partnership (see section 4.2.1). In the Jeonju case, before the creation of its partnership the co-governance discourse was cited repeatedly as ‘people-public co-operation’ in the partnership documents, related newspaper articles. The fieldwork interview for this study with the previous campaigner for Jeonju LA21 also

testifies this (Interview #J2) (SJ, Cho 1999; BJ, Park 2004; SH, Choi 2005)⁴³.

With the nongovernmental actors accepting the mayor's new proposal, the notion of co-governance in this case was changed from 'public participation in policymaking' to 'co-management', and 'working together' in the delivery of public services (Interview #J1 and J2). The notion of collaboration between nongovernmental actors and the government was the most frequently quoted idea in the documents produced by all three urban partnerships (Hwang 2004; Incheon water partnership and Incheon Regional Environmental Technology Development Centre 2004; Incheon water partnership and Incheon Metropolitan City 2005; Busan water partnership 2006). As pointed out in section 6.2.2, this co-governance discourse was adopted by the local actors without there being conflicts over the urban streams in Busan and Incheon. Among the regional partnerships, the Daecheong partnership was unique in which adopted the co-governance discourse rather stressing the virtue of 'unity of the Chungcheong region' (See Figure 6.4) (Daecheong Water Partnership (Daecheong-ho Bojeon Undong Bonbu)).⁴⁴ Therefore, all three urban

⁴³ The Jeonju partnership did not announce any missionary statement and published only workshop papers on the rehabilitation projects. Thus, the documentary analysis on governance discourses were used in the relevant publications and the interview scripts were used to counter-check it.

⁴⁴ Furthermore, the emphasis on the region, the lake basin, was found stronger than that of 'collaboration', shown in the catchphrase of the partnerships: 'Daecheong, the Future of Chungcheong'. In the establishment announcement, the term, '250 million people in the cities and provinces (of Chungcheong-do)' was used three times and the term, the Chungcheong-gwon

partnerships (that is, partnerships in Jeonju, Incheon and Busan) and one regional partnership in Daecheong were inspired by the co-governance discourses of 'collaborative management' of 'our local resources'.

In contrast, the procedural legitimacy of transparent decision-making was the prominent virtue that sparked the creation of the Paldang partnership and Gyeongnam Partnership. The co-governance discourse for the Paldang case was about 'being equal for negotiation' between government and regulation-affected regions. This was related to the nature of participatory decision making rather than 'co-management of shared resources'. For instance, co-governance in the Paldang case was interpreted as 'co-existence' with the dual aims of promoting better lake management and enhancing the quality of life in the Paldang community (Paldang Water Partnership 2008). In the case of Gyeongnam, the partnership's representative indicated in his interview that the networked organisation was created in order to contribute to solving water problems by promoting 'information sharing' and 'better co-operation' among wide range of social actors (Yang 2004: 294). By repeatedly using discussion and agreement, he emphasised the norm of participation among diverse stakeholders, which was expected to bring

(Chungcheong region) was used once, while the collaboration related term, 'collaborative commitment', was also used once. (see Daecheong Water Partnership (Daecheong-ho Bojeon Undong Bonbu). "Daecheong water partnership's homepage." Retrieved Dec 12, 2006, from <http://www.daecheong.or.kr/>.)

open debates.⁴⁵In the case of Paldang and Gyeongnam, the emphasis on ‘local water resources’ was relatively weaker. This was because the focus of the Paldang partnership was on how to balance conservation and economic development (Interview #P3) and the focus of the Gyeongnam Partnership about more general water-related issues that go beyond the ones about the Nakdong River. Thus, the co-governance discourses were locally interpreted and adopted in largely two different ways. This explains that water partnerships in Korea are influenced by the political motivation of participating actors.

In the next section, how these different interpretations of co-governance discourses occurred will be examined by connecting Mahoney’s periodization analysis to the six cases.

⁴⁵ These two co-governance discourses were evident in the five key activities of the Gyeongnam partnership:

- 1) Projects to promote joint participation and cooperation among civic, government, industrial and academic actors;
- 2) Projects to organise comprehensive discussion and consensus-based agreement to represent the voices of management, users and consumers of water resource;
- 3) Projects to boost the campaigns to save Nakdong river and water resource in Gyeongnam, especially water quality enhancement;
- 4) Campaigns to promote the diffusion of wastewater treatment technology and of water saving projects along with research and;
- 5) Water Forum and other relevant academic, cultural events. See Yang, U.-J. (2004). To save the Nakdong River and Water Resource of Gyeongnam. 2004 Gyeongnam Water Forum, Bugok, Korea.

6.3.2 Application of co-governance discourses at the national and local levels

As discussed in Chapter 3, institutional development tends to be locally embedded by the domestic actors who applying reform ideas generated not only from locally but also from nationally and/or globally. The examination of co-governance discourses in the partnerships partly backed this proposition, but needs more explanation about which particular factors within the water governance structure fostered the reform discourses.

Continuous development of national water reform

The national water reforms significantly influenced the creation of the regional water partnerships. In particular, the Daecheong and Paldang cases confirm that the creation of co-governance institutions resulted from the incremental development led by central agencies or public corporations that provided a surprising gesture to the local actors in order to keep the lead in centralised water governance. In contrast, this was not the case in other partnerships in Jeonju, Incheon, Busan and Gyeongnam. For three urban partnerships, the local streams to be addressed by the partnerships were not in the charge of the central government. The political significance of the water resources in the case of Gyeongnam was not great as the ones in the Paldang and Daecheong based on the history of land use regulation about the source water areas, as discussed in Chapter 5. Thus, the path of the central water governance was strong influence to all six partnerships.

Given the results of the Mahoney's periodization analysis in Chapter 5, the water issue in the Paldang area was a prototype of water management model that has been closely connected with land use regulation. Here, the influence of national reform was clear. Until 1998, the water management in the Paldang area featured fragmentation, involving 16 agencies with overlapped work scope and jurisdiction. Contradictory regulation with weak enforcement was also apparent. The long river flowing through three provinces, one metropolitan city and the capital city, entailed complicated water usage and riparian land development patterns. For example, the economic development of upstream rural areas had been under control. Furthermore, eight large dams and one weir in the Paldang region heavily modified the water environment in order to provide water provision to highly populated downstream urban areas. The size of supplied population (24 million people was roughly half of the national population) was dependent on the Paldang Lake. This dependence made the issue of water management in this region more salient than other regions. Series of strong protests were observed in the 1990s, which were by local communities around the Lake against the national water policy (Korea Statistical Information Office 2005). The politicisation of the issue increased the tensions between the state and citizens.

In the Paldang case, the collaboration between the central agency (MoE), the

group of local governments and community representatives was branded as a 'win-win strategy or choice' from the beginning, a term used mostly by the initiator, the MoE. Given the partnership's focus on information sharing and participatory policymaking, the Paldang partnership was created as a result of the recent policy reform, the updated version of the CMWM through enhanced participation. The Paldang members interpreted co-governance discourse as 'a dialogue' for conflict management, 'negotiation' for more consultation with local communities and 'collaborative decision-making' over water quality regulation (Paldang Water Partnership 2008). It was confirmed in the two interviews with the previous research fellow, Dr Sang-woo Kim and the then research fellow, Dr Kyeong-min Kim (Interviews #P2&P4). The initial discourse was instrumental in conflict management through a consensus-building process because the MoE needed to choose a more radical form of institutional development after a series of national water reforms.

In the case of the Daecheong partnership, the recent national water reform acknowledged and institutionalised the notion of a locally shared resource, the Daecheong Lake. For example, when the public consultation started for the first time in the Geum River Basin, local NGOs spoke with one voice about how the CMWM needed to be applied in the Basin. This was found in the interview with Ms Jeong-hyun Park, ex secretary general of the Daecheong partnership and then secretary general of Daejeon Green

Federation (Interview #D4). Additionally, the engagement with the CMWM provided opportunities of social learning for basin-wide NGOs as well as for local authorities and water organisations.⁴⁶ The ‘commonality’ of the shared water resource in the Lake came first, rather than having roundtable cooperation. Furthermore, the notion of working together for a common resource, the Lake, was frequently used to link the diverse local communities, from the largest consumers in the metropolitan city to the regulated in the small and relatively poor agricultural areas. Another exogenous factor to motivate the initiator, KOWACO (now K-Water), was the increasing pressure against the building of dams without public consultation(See section 4.1.1). However, local capacity building was also significant in the creation of the Daechong partnership.

Local capacity buildings: LA21 movement and saving river campaigns

In contrast to the Paldang case influenced by the policy reform, local capacity building achieved by two social movements in the 1990s were consistent with the key argument of this study. Namely, the combination of global politics, national policy reform and local capacity building motivated and allowed local actors to form the water partnerships. The

⁴⁶ During the debate before the enactment of the Special Act, the roundtable of NGOs within the Geum River Basin was formed: Geum River Conservation Network – Geum Gang Bojeon Network in Korean- in 2001. The participation of various stakeholders were limited and seemed rather compromise to silence varied voices (Interview #D4). The Network that originally aimed to monitor the government’s policy making and implementation was not effective in addressing the conflicts.

incremental changes in water institutions, particularly the legacy of local capacity building, were found to be critical to the active adoption of co-governance institutions. The local actors in three urban partnerships, the Daecheong partnership and the Gyeongnam Partnership, were able to create partnerships owing to the national reforms and the local capacity building of LA21 and saving river campaigns. However, the LA21 movement in the Paldang case was relatively weak in the forming the partnership. The LA21 movement in the Paldang area remained in the hands of the county government and managed to publish the LA21 strategy only (Interview with an expert member of the Paldang partnership, Dr KM Kim: interview #P5).

Mature and capable Local NGOs

The creation of the Daecheong water partnership was possible because the local NGOs were prepared to adopt the co-governance discourse for the creation of the partnership. The local NGOs had a chance to build a consensus about the better management of the shared resource, the Daecheong Lake, while attempting to resolve the historical conflicts with the water supplier, KOWACO and the neighbour province (JH, Park 2005). When the algae bloom problem became severe in 2003, following the conflict over a dam building, criticisms of the water management were led by the regional NGOs, which became a crucial factor in prompting the writing of KOWACO's proposal to form a partnership with local NGOs

(Interview #D3). Unlike Paldang that did not see active formation of a partnership in spite of a similar experience of conflicts, the Daecheong partnership benefited from the presence of mature and capable NGOs that led the creation of partnership.

In the case of Gyeongnam partnership, in contrast to the previous two regional partnerships, the event-focused networking discourse was actively proposed and implemented by local nongovernmental actors with the emphasis on relational, procedural governance. According to an interview with the campaigners in the 2005 Gyeongnam Partnership (interview #KM), the legacy of a nongovernmental event, the Chuncheon Water Forum, partly supported by the MoE, turned out to be the only direct exogenous factor in the creation of Gyeongnam Partnership. Due to a relatively low degree of central agency interests in regulation in the province, the local actors took the initiative of exploring the institutional development of water partnerships. Instead of demanding institutional changes on the part of the central government agencies, this voluntary initiative by local actors in the Gyeongnam Partnership soon found partners in the local provincial government and the LA21 organisation (Interview# KM). In other words, these local institutions came together to create the partnership, because they experienced locally independent resource management. This positive condition provided a platform for mature local NGOs, which were rather different from the intervention of the central government into the Paldang

and Daecheong cases. , Thus, leadership by a few local campaigners⁴⁷ was the critical factor in the creation of Gyeongnam Partnership, even though national water reform and local capacity building were contributing factors.

The legacy of the LA21 movement

The three urban partnerships in Incheon, Jeonju and Busan showed an even higher degree of local capacity building, which influenced the creation of partnerships through engaging with the LA21 movement and the Saving River campaigns. In the Jeonju case, the experience of collaboration through the LA21 campaign and the leadership of local NGOs persuaded the mayor to create a water partnership and the river rehabilitation project. This experience was also shared by Incheon and Busan. In all cases, the political salience of the 'saving river campaign' around the time of partnership preparation was critical. Particularly, influential was the river restoration project in Seoul (Interviews # Bp2 and I1).

In Jeonju, collaboration between the city government and NGOs became relatively stable because of pressures for the restoration project and the institutional legacy of local collaborative governance through the Jeonju office for LA21. There was no attempt to go beyond the project such as enacting bylaws or creating a permanent office. Mr Shin, a member of the

⁴⁷ This exceptional leadership was acknowledged at the national level when the only fulltime campaigner received Environment Activist award given by MoE in 2004.

partnership, described the situation when the partnership was given responsibility to manage the restoration project:

‘Public and private actors felt united because we were desperate to achieve the first ever experiment...with huge responsibility’ (Interview #J1).

Additionally, the institutional legacy of local collaborative governance gained through the process of the LA21 campaigns provided the critical human resources for the partnerships, ranging from full-time facilitating campaigners to environmental professionals. For example, the previous left-wing local movement groups merged into a new social movement organisation, 'Citizen Action 21' in 2000, comprised of activists who had gained experience through the democratisation movement of the 1970s and 1980s. This increased the power of environmental advocacy in Jeonju. The composition of the Jeonju partnership was different from the 1980's Korean democratic movement and more like a new society movement with strong emphasis on the city itself. In addition, the participation of local business actors was hardly observed apart from the Presidential award winner for Environment Day 1997, Samyang Sa's case: "the company volunteered four cleanup activities per year in the River. As a whole, the different paths of NGO empowerment and emergence of strong leadership resulted in a first ever-official partnership, the Jeonju office for LA21. This shows that the legacy of the rapidly emerging LA21 campaign was critical to the generation and operation of water partnership owing to representativeness, feasibility and the power of negotiation. Thus, the outcomes of LA21

campaigns nurtured the capacity of NGOs and attracted a diversity of local NGOs; subsequently, the accumulated power of non-governmental bodies led to the government-NGO partnership for rehabilitation projects.

The Local office for LA21 in Incheon and Busan also fostered the emergence of water partnerships in the metropolitan cities during the early stage of the urban river rehabilitation campaigns. The growth of the LA 21 movement was synchronised with the application of local autonomy in the mid-1990s. For example, the involvement of nongovernmental actors in city policy had been practiced through the LA21 campaigns since 1995 in Busan and 1998 in Incheon. Thus, generally, the LA21 campaigns provided the foundation for all members to be active in urban river rehabilitation campaigns.

Especially in the case of Busan, the participation and activities of non-governmental actors were more significant than those of local government actors were. A broad range of non-governmental actors organised the Busan Alliance for the campaign, and then engaged a dialogue with the city government, influencing the creation of the partnership. In Incheon, the local NGOs and experts who joined the LA21 campaigns led the partnership development process along with political support from an elected member of the city council, Mr Young-En Sin, and local media (Interview #I1). Therefore, the locally embedded development of co-governance institutions complemented the similar institutional legacy of

local capacity building from the LA21 movement.

The spectrum of different backgrounds found in partnership members in Incheon and Busan is wider than in Jeonju. In particular, in contrast to the tradition of very limited public participation in Korean environmental policy, the scope of members of Busan and Incheon partnerships showed a significant capacity for community engagement through co-governance institutions. The members in Incheon and Busan partnerships included, for example, secondary school teachers, employees of a community welfare centre, community groups and local experts. In Incheon, the local universities and the local media groups also took part, about 6,600 citizens in total participated in a series of events in the course of partnership creation. Hence, the key actors in creating water partnerships in Busan and Incheon were an array of non-governmental groups, from citywide professional organisations to community groups assisted by a local office for LA21.

The legacy of Saving River Campaigns

The issue of degraded river environments gained attention when the nationwide campaigns for clean streams started in the mid-1990s, though this issue was not reflected in the CMWM in 1996 (See section 5.3.2). Concerns over urban streams soon developed into an awareness of the need for better management, mostly recognised in the Local Agenda 21

campaigns. Thus, a history of collaborative governance through LA21 campaigns played a key role in fostering water partnerships, but the trigger point for creating partnerships was different from each other in Incheon and Busan.

In the Busan case, the fight to save a local stream, Oncheon River, inspired the subsequent creation of networked organisations for several urban watersheds, eventually leading to the creation of a partnership (See CS, Kim 2005). In 1995, community groups and county governments had begun the 'Oncheon River SOS campaign' and small-scale waterfront park projects to save the local stream. At that time, the Busan office for LA21 played a key role in this growth of urban stream networks through grant distributing schemes (JK, Lee 2003) and led a dialogue between the joint committee of county and city government officials and the Oncheon River Network. Six meetings were held in 2001, involving the networking NGOs and the county-city governments to discuss the Oncheon River master plan. Subsequent rehabilitation projects composed the first stage of a social learning process for building co-governance for these participants. Simultaneously, new actors, such as schools, small community-based organisations, experts and social enterprises, started to engage in this urban stream management. These new actors had not previously been involved in any environmental campaigns. This was in contrast to the rich experience of citywide environmental NGOs, which traditionally campaigned on water

issues over the Nakdong River.

In the case of Incheon, as soon as the LA21 campaign started in 1998, the rehabilitation of one of its local streams, the 7.63 kilometre-long Jangsu River was subject to discussion. This led to the setting up of an annual theme, 'Rivers in Incheon city' by the Subcommittee for Water Resources under the Incheon office for LA21. The campaign expanded to cover another stream, the Seunggi River, by means of mobilising community partnership group and forming a network called 'People love the Seunggi River' in 2000 and another one in Gulpo River in 2001. However, the initial LA21 campaigns had no immediate policy influence. This lack of political influence was a common drawback to the general LA21 campaign, and remained the case until the newly elected Mayor, Mr Sang-soo Ahn ordered the development of a master plan for urban stream management in 2003.

The division of labour and acknowledgement of diverse participants in Incheon's saving river campaigns was more developed than in the Busan case. For example, the small community watershed partnerships, such as the Seunggi partnership and the Gulpo partnership with the Incheon office for LA21, had been active in educational programmes, including participatory monitoring, before the creation of a citywide partnership. The organisation of the citywide partnership and river rehabilitation plan with professional and financial support in Incheon contributed to the rise of

community-based, small-scale diverse campaigns. In comparison with the Busan case, these sub-community campaigns were significant elements of co-governance discourse in Incheon.

To conclude, the national and local institutional changes enabled the members to organise the partnerships to realise the co-governance discourses. Three additional elements of co-governance discourses, public water reform and local capacity building experiences through the LA21 campaigns and the Saving River movements, provided a more comprehensive understanding of the emergence of three urban water partnerships in Korea's highly centralised society. In contrast, the saving river campaign were weak in the Paldang, Daecheong and Gyeongnam where three regional partnerships were created to cover the conventional management issues such as water pollution control and regulation. Hence, even though the creation of water partnerships was apparently independent, various aspects of the multi-layered water governance intertwined in the development processes of the partnerships.

6.3.3 Social basins: before and after the creation of partnerships

In this section, the concept of social basins as 'a sub-basin, a local or regional unit of government, or a hybrid unit' (Blomquist, Dinar et al. 2005: 35) will be used to reveal the relationship between the partnerships as new co-governance institutions and the existing multi-layered water governance.

This notion of social basin is chosen to capture the changes in the structure of water governance after the operation of the water partnerships. This section will verify the research questions proposed in Chapter 3. The notion of social basin will lead a comparative case study to investigate the interactive development between water partnerships and multiple-structured governance before and after the creation of water partnerships.

Urban partnerships

There was an empty space for the urban partnership to generate co-governance to be in charge of conserving the ecosystem of urban streams in Jeonju. The local rivers in Jeonju did not receive the attention of the centralised water governance and were left to local government and actors. For example, the Jeonju River and a shorter stream, Sam River had been remotely governed under the larger river basin governance structures that included different river functions (See Figure 6.9). Each function, such as water supply, water quality management and flood control in the expanded social basins, was not coordinated or integrated with any plan or organisation. Before the emergence of Jeonju water partnership (Yang 2004), water governance in the Jeonju River had been typically multi-layered, involving various actors such as central agencies, affiliated local offices, the larger river basin committee and local governments (See Figure 6.9). Each one of them exercised some sort of control, and the local government mainly worked as a coordinating agent for these external governmental agencies

before the partnership was created.

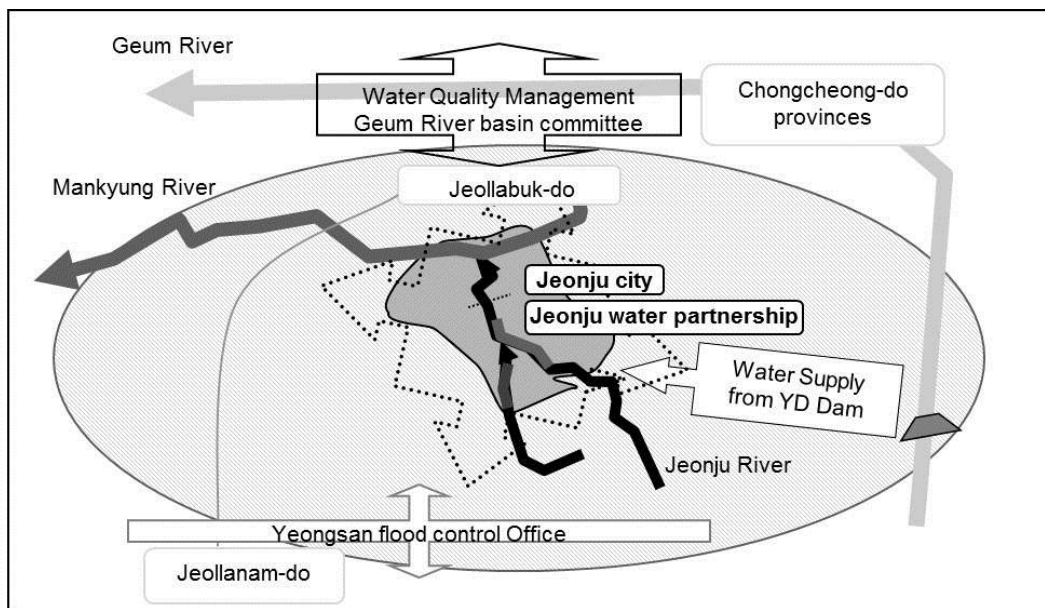


Figure 6.9 Jeonju social basin: Expansion and contraction of the Jeonju watershed

The three characteristics of the water governance before the creation of the partnership of Jeonju River were listed as below. To begin with, the management was functionally segmented. While general river planning and maintenance projects were the key responsibilities of the MoCT, (or the relevant local Construction department), water quality management and related land use regulation remained the hands of the Ministry of Environment and relevant departments in the local government. According to the different purpose of usage and demand-supply contexts, three providers - local government and two public-owned corporations (Korean Water Corporation, then-KOWACO) and Korea Rural Community and Agricultural Corporation, KARICO)) participated in the complicated water supply system. Furthermore, flood control and water quantity monitoring

were the responsibility of the Yeong-san River Flood control Office, which belonged to the Yeongsan River Basin area under MoE management.

Another characteristic was hierarchical division of river management. Two urban streams and tributaries have been managed by different administrative units depending on how each stream and tributary was categorised on the basis of management priority by the central government. As explained in Chapter 1, for example, the Jeonju River was divided into three sections: one 6.81km section as a national class river, 14.9km as the first-degree local and 10.79km as the second-degree local river.

Lastly, overlapping and patchy links to the integrated basin management also characterised Jeonju's water governance. In addition to the fragmented management discussed above, recent reform measures to promote integrated management resulted in the triple layered management system because of resistance from existing administrative units to the newly integrated river basin system (Interview # P6). In addition, apart from the typical functions of the Geum River Basin Committee, the Jeonju watershed and the institutions based in the watershed were rather indirectly connected to the larger river basin authority. The designated functions of the Committee based on the Special Act for Geum River Basin are more focused on water quality improvement including the introduction of water user charges, Total Pollution Load Management (TPLM) and a riparian buffer

zone. Apart from applying TPLM to the downstream section junction with the Mankyung River in 2007, the Jeonju watershed had not been included in the new basin management system.

In the cases of Incheon and Busan, the situations were similar, and there was an empty space for new institutions to emerge. Busan and Incheon as metropolitan cities have more power and resources than small towns such as Jeonju in Korea's highly centralised public sector. For instance, the metropolitan city mayors were in charge of local water purification facilities, wastewater treatment and were members of the respective River basin committees. Moreover, they were responsible for setting up long-term plans to check conditions and to manage the local rivers as stipulated by the River Act, even though management had been mainly limited to flood-control.⁴⁸ In general, management of the urban streams had been rather neglected until these resources became an opportunity for local actors.

In the end, the emergence of the urban partnerships filled the gap in the existing water governance. A neglected function of urban river rehabilitation enabled an easy establishment of new organisations without support or even opposition of current power holder, the central

⁴⁸ There are committees open to non-governmental actors, such as the National River Management Committee based on the Act, but, it is criticised as an overlapping with the MoE-led River basin committees and lack of conflict management. See Kim, J. (2008). The key issues in the Bill of Water Act. Water Journal.

government. The independent feature of these partnerships resulted in no linkage between the urban partnerships and the existing water bodies. This will be Chapter 7, when partnership outcomes are discussed.

Regional partnerships

The social basins of the three regional partnerships covered the functions and geographical areas managed by the existing water governance. This was in contrast to the creation of very new institutions dealing with new management issues in urban partnerships. There have been close relationships with water agencies in Daecheong and Paldang and a supportive relationship with the local authority in GFW. For example, in the Daecheong region, the Geum River Authority matched the Chungcheong Region and the Daecheong Lake basin. In the case of Gyeongnam, the Forum targeted the inhabitants of the Gyeongnam province; however, in the process of partnership development, the Gyeongnam Partnership expanded its boundary beyond the province.

Despite the overlapping with existing water bodies, the regional partnerships tried to differentiate themselves from the existing water management. As stated above, more participation in policy decision-making was the starting point of the Paldang partnership. More information sharing and open debate were promised by the Gyeongnam Partnership. The Daecheong partnership was also created to cover the gaps

in the formal management, eventually evolving to explore in new topics such as river rehabilitation, and the voluntary agreement of water savings. These were in contrast to the existing water governance in the other three urban cases that were characterised as fragmented, multi-layered management systems.

As a final point, two urban and regional subgroups created different social basins, which revealed the consequences of partnership development to address gaps in the existing water governance. While the urban partnerships filled in relatively unoccupied niche, the regional partnerships established a linkage with the existing water organisations. For example, the Paldang partnership was directly engaged with the national policy processes, while the Daecheong and Gyeongnam partnerships internalised the public organisations by inviting them as partnership members. Additionally, the management function played a significant role in these social basins. River restoration, i.e. ecosystem conservation, in the three urban cases was 'new wine in new bottles'. Urban partnership cases prove that this new topic attracted local actors with collaborative working experience to work together. The LA21 movement and Saving River campaigns had been stronger in cities rather than in rural areas where three other regional water partnerships were formed. Furthermore, polluted water as consumption sources in the major rivers triggered the emergence of regional water partnerships. The case studies found that water pollution

was differently interpreted by each regional partnership, and there was diversity in the ways in which each regional partnership addressed the issue. The Daecheong partnership operated through integrating the participants into the lake watershed. The Paldang partnership focused on how to influence and negotiate the national land use regulation. The Gyeongnam Partnership paid attention to improve information sharing among broader array of stakeholders of Gyeongnam water management. This diversity was in sharp contrast to the nearly identical idea of river restoration found in the urban cases.

Conclusion

This chapter examined the emergence of the six water partnerships in Korea using the classical and a modified IAD framework. The chapter has shown that the emergence of the six partnerships was locally embedded. The nature of related water resources is significant feature to understand the dynamic development of water partnerships in Korea. The division of six cases into two subgroups is backed by these two different explanations for water partnerships.

The analysis verified that three preconditions (physical conditions, attributes of community and rules-in-use with norms) were necessary but not sufficient factors to explain the partnership development. Above all, these three preconditions address social, political, cultural aspects of

communities as well as their interactions with physical environment. However, *the preconditions found in the classical IAD framework cannot fully explain the political choices of local actors.* Additionally, this framework hardly provides adequate explanation about partnerships developed at a large scale of water resources. Thus, additional elements, namely reform discourses, their application at the local level and social basins, were used to find out why the participants were motivated into applying co-governance idea to the management of the local water resources.

The legacy of co-governance under the support of national government was a critical factor in the emergence of the urban water partnerships, the Daecheong partnership and the Gyeongnam Partnership. This finding is consistent with the analysis conducted in Chapter 5. Because there was no top-down institutional design, relationships between existing water governance and newly created co-governance institutions in the five cases apart from the Paldang partnership that included the representatives from the central agency. The legacy of the LA21 movement and Saving River Campaign built the local capacity for the urban partnership development. Comparatively, a local NGO without the assistance of the LA21 office initiated the Gyeongnam partnership. In Gyeongnam case, the combination continued to work by the strong lead of a local NGO that persuaded a broad spectrum of participants from national to local levels. Additionally, the Daecheong NGOs, similar to the Jeonju case, showed the mature

capability to lead the partnership development after the experience of local conflict over water pollution and allocation. The discourse of co-governance and water management reform in connection with national water management was found to influence local actors.

The legacy of water reform and subsequent changes in water governance influenced the emergence of co-governance institutions in two protected water source regions. Again, the creation of three regional water partnerships was explained by the use of modified IAD framework. Two regional partnerships based on the major water sources, Daecheong and Paldang, were formed by local actors: however the public water organisations, the KOWACO and the MoE respectively took the initiative at the early stage, making suggestions to local actors. This combination of enabling support from the public and actual facilitation by local actors manoeuvred the development of partnerships in the highly centralised Korea. Thus, the legacy of national water reform, mediated by local actors, led to the development of two regional water partnerships. Therefore, given the diverse features of water partnerships in Korea, the scale of water management alone cannot explain the institutional development of co-governance institutions in the regional partnership cases.

The Korean cases using a modified IAD framework shows how the co-governance idea has been adopted through complicated dynamics among

the global, national and local actors and governance systems. The analysis of social basins revealed that the emergence of the six partnerships shifted the existing multi-layered water governance in Korea. While there were new institutions to address new management needs in cities, complementary ones were developed to address enduring problems in regions. Furthermore, in the case of the urban partnerships, the lack of integration with existing governance structure could be a source of concern, but in the case of the regional partnerships, their independence could become an issue. How this different degree of relationship with existing governance structure works in the partnership operation, and their outcomes, will be analysed in the following Chapter.

CHAPTER 7 ASSESSING THE OUTCOMES OF KOREAN WATER PARTNERSHIPS: A COMPARATIVE CASE STUDY

Introduction

This chapter presents a comparative case study of the outcomes of co-governance institutions for water management in Korea. It is argued in this study that the outcomes of water partnerships are determined by their institutional development linked with multi-layered water governance. To explore the dynamic features of the outcomes, three categories of assessment criteria are applied to the data collected for six cases. The seven analytical elements of the IAD framework are used to explain the results of a multiple-criteria-based assessment. Three additional elements are used to complement the IAD framework. The purposes and contexts of institutional development in these subgroups will provide a deeper understanding of co-governance. Therefore, the second research question, how the locally embedded development of water partnerships in Korea yielded certain outcomes is to be answered through the modified IAD framework.

This chapter opens with an analysis of the outcomes of urban and regional partnerships, using the fieldwork data. The next section will focus on how the IAD framework explains the assessed results about the partnership outcomes. After the discussion on the analytical elements of the IAD

framework, the theoretical modification, developed in Chapter 3 will be applied to fill the gaps in the classical framework on the partnership outcomes. The chapter concludes with a comparative analysis of the outcomes of the two subgroups to depict the collective operation of water partnerships in Korea.

7.1 Outcomes of water partnerships in Korea

7.1.1 Overview

The attitude survey was conducted to reveal the partnership outcomes⁴⁹ with three sub-sets of evaluation criteria and the overall satisfaction.

⁴⁹ See Chapter 3 for the details of how this survey was designed and implemented.

Table 7.1 Selected evaluation criteria for the attitude survey

Category	Criteria
Satisfaction with overall partnership outcomes	
Procedural issues	'Mutual understandings' among members Learning and change beyond the original group: 'More application' and 'Expansion' in short Changes in attitudes, behaviours, institutions & practices: 'Citizen awareness' in short Costs due to cultural and professional gaps among members: 'Gaps' in short Transaction costs: 'Cost' in short
Environmental outcomes	Water quantity Water quality Ecosystem sustainability
Socio-economic outcomes	Trust building (capacity for) conflict management

Source: Modified Connick and Innes (2003), Conley and Moote (2003), Innes and Booher (1999: 9), Rydin and Falleth (2006) and Kenney (2000)

The majority of respondents of all partnerships were found to be satisfied with the partnership, which were consistent with the positive perception of the process-related and socio-economic outcomes at least. Out of 77 members of the six water partnerships (response rate: 59.7%), it was found that 54% of respondents were satisfied with the outcomes of their own partnership (the sum of respondents chose 'most agreed' and 'agreed'). The median data for each outcome indicator shows that the majority of respondents acknowledge that positive outcomes were produced by each partnership. As shown in Figure 7.1 below, between two subgroups of partnerships, the average median data of the positive perceptions about the

urban partnerships overall equal to or exceeded the ones on the regional partnerships (See Figure 7.1 below). In detail, among averagely positive perceptions about three sub-sets of evaluation criteria and satisfaction with each partnership, some 63.2% responded that process-related outcomes of their partnerships were agreeably and strongly agreeably positive. The percentage of positive perceptions about socio-economic outcomes (average 60.8%) and environmental outcomes (average 38.7%) followed in rank. Why and how these differences in three categorised outcomes occurred will be analysed in the following sections of this chapter.

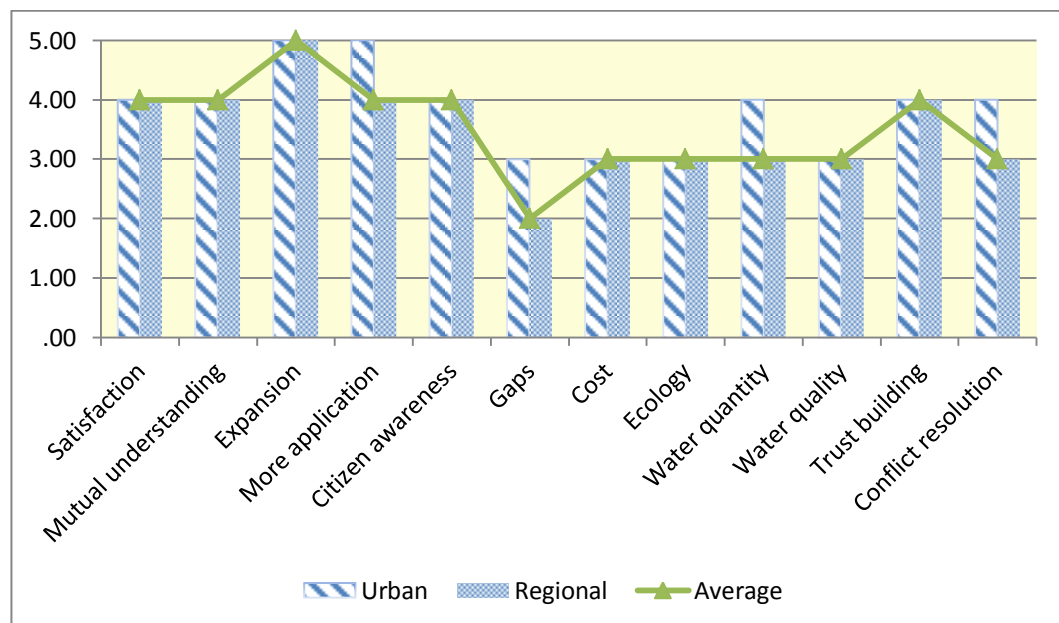


Figure 7.1 Perceived outcomes and self-satisfaction of the two sub-groups of partnerships (Average median)

*: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree.

Members' satisfaction with each partnership

The Table 7.2 below shows a positive overall endorsement from members in urban partnerships. Jeonju showed the highest (87.5%), followed by Incheon (63.6%), leaving Busan rating at 35.7%. In Busan, half of the respondents picked 'neutral' answer. This result shows their hesitance over expressing either positive or negative opinions over the overall partnership outcomes. Among the regional partnerships, Daecheong partnership members show the highest degree of satisfaction, while Paldang members show the lowest degree. The continuous internal conflicts found in the Busan and Paldang cases may be the reason for low satisfaction.

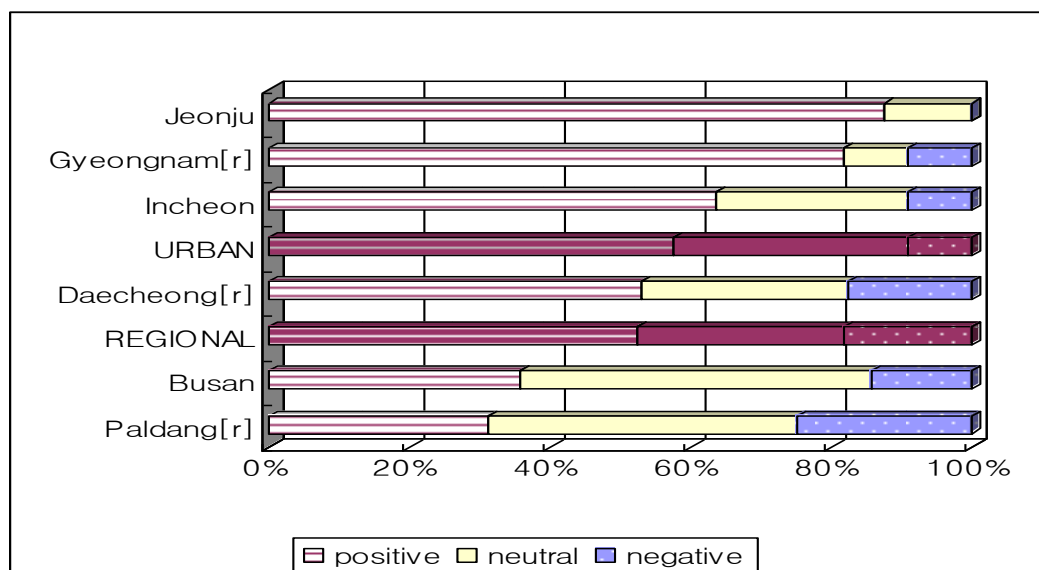


Figure 7.2 Satisfaction with each partnership (percentage)

(r: regional partnership, average of subgroups is in Capital character URBAN, REGIONAL)

Table 7.2 Scoring on Satisfaction with each partnership in the Likert scale and Percentage

Cases	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Jeonju (%)	-	-	1 (12.5%)	5 (62.5%)	2 (25.0%)
Busan (%)	-	2 (14.3%)	7 (50.0%)	3 (21.4%)	2 (14.3%)
Incheon (%)	-	1 (9.1%)	3 (27.3%)	6 (54.5%)	1 (9.1%)
Urban: Sub-total (%)	-	3 (9.1%)	11 (33.3%)	14 (42.4%)	5 (15.2%)
Daecheong (%)	2 (11.8%)	1 (5.9%)	5 (29.4%)	6 (35.3%)	3 (17.6%)
Paldang (%)	-	4 (25.0%)	7 (43.8%)	5 (31.3%)	-
Gyeongnam (%)	-	1 (9.1%)	1 (9.1%)	9 (81.8%)	-
Regional: Sub-total (%)	2 (4.5%)	6 (13.6%)	13 (29.5%)	20 (45.5%)	3 (6.8%)

7.1.2 Process-related outcomes

Based on the median marks for the six process-related criteria from mutual understanding to cost), ‘expansion of the current partnership activities’ was the much positively perceived criterion for the urban and regional partnerships (Figure 7.3 below). ‘More application of the partnership practice into other fields’ was the much positively perceived one in the urban partnerships, while it was the second in the regional ones. The perception about mutual understanding and citizen awareness followed the previous two criteria. Unlike other criteria, the partnership members disagreed most with the criterion, ‘the difference between members (gaps)’. The average median data of the Jeonju and Incheon members indicated

'neutral'. Busan and all regional partnership members averagely disagreed with this criterion. The perception on the other negative criterion, 'the transaction costs' was slightly higher than the opinion about the 'difference among members'. The urban partnership members chose 'neutral' on the occurrence of transition costs. The members of the Daecheong and Gyeongnam selected 'disagree' (2 in average median data) on the occurred costs in contrast to the members of the Paldang partnership selection of 'agree' (4 in average median data).

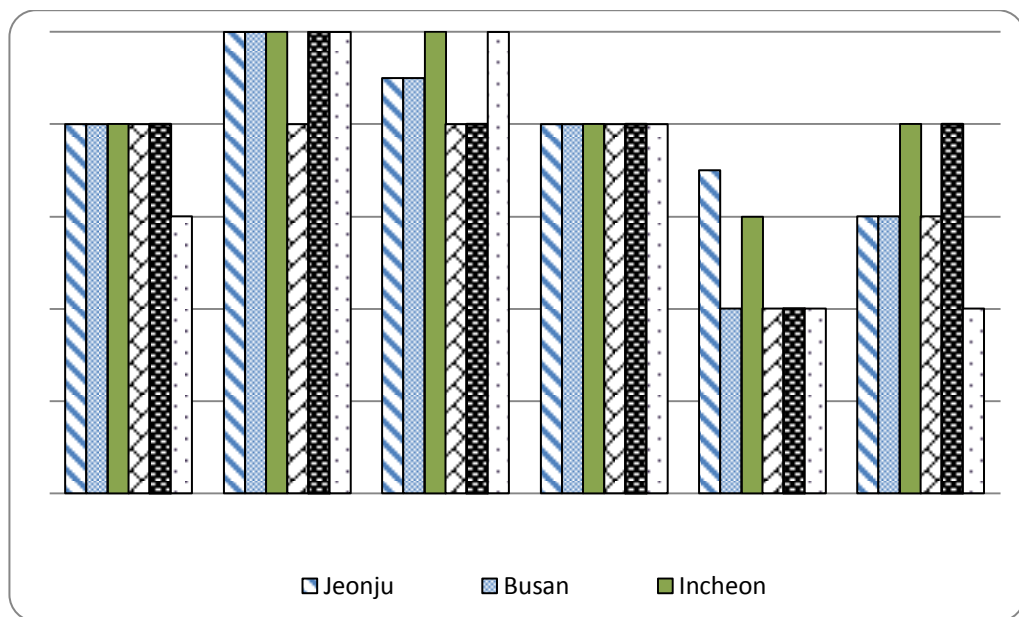


Figure 7.3 Process-related outcomes in the Likert scale (median)

7.1.3 Environmental outcomes

According to the average median data as shown in Figure 7.4 below, the partnership members expressed 'neutral' opinion about the respective partnership's outcomes in terms of environmental enhancement. This result

indicated the lowest among the three categories of assessment criteria. The members of Jeonju from the urban group and Daecheong from the regional group were the only ones who expressed positive perceptions about the ecological improvement of local water resources, while the members of remaining partnerships chose 'neutral' to this criterion. Regarding the improvement in water quantity, the median data from the responses in the Jeonju partnership was only 'positive'. In terms of innovating water quality, the only positive median was calculated from the responses of the Daecheong members.

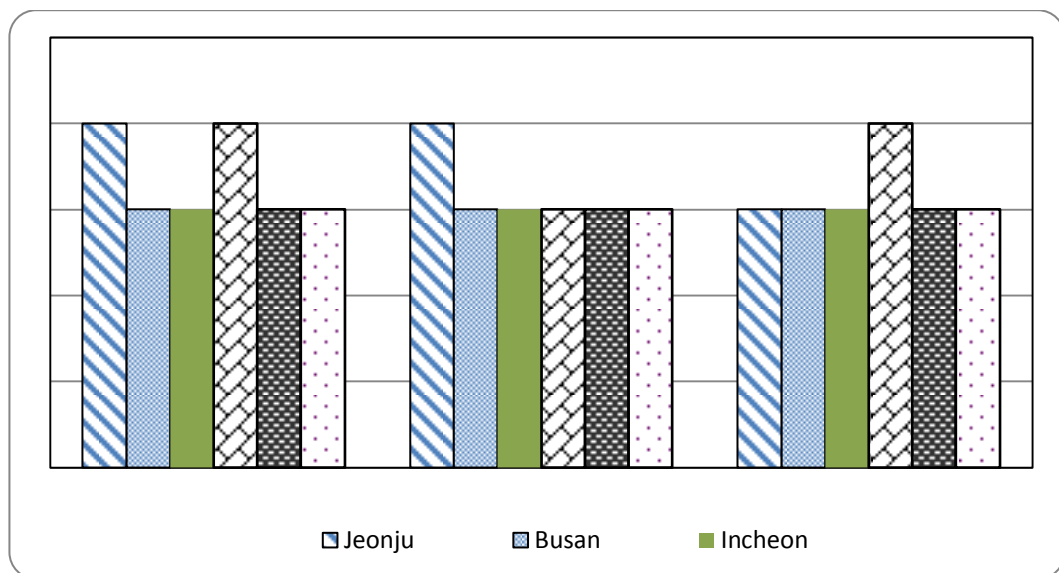


Figure 7.4 Environment outcomes in the Likert scale (median)

7.1.4 Socio-economic outcomes

As shown in Figure 7.5 below, perceptions about the trust building indicated that members were in general positive about the role of the partnership in building trust, with the exception being Paldang. The

average median data about this criterion was lower than the one about process-related outcomes. In terms of the partnerships role in conflict management, the members of sub-groups expressed different ideas. The urban partnership members perceived positively about the partnership's role in conflict management with an exception of the Busan case (neutral). The members of the regional partnerships, instead, chose 'neutral'.

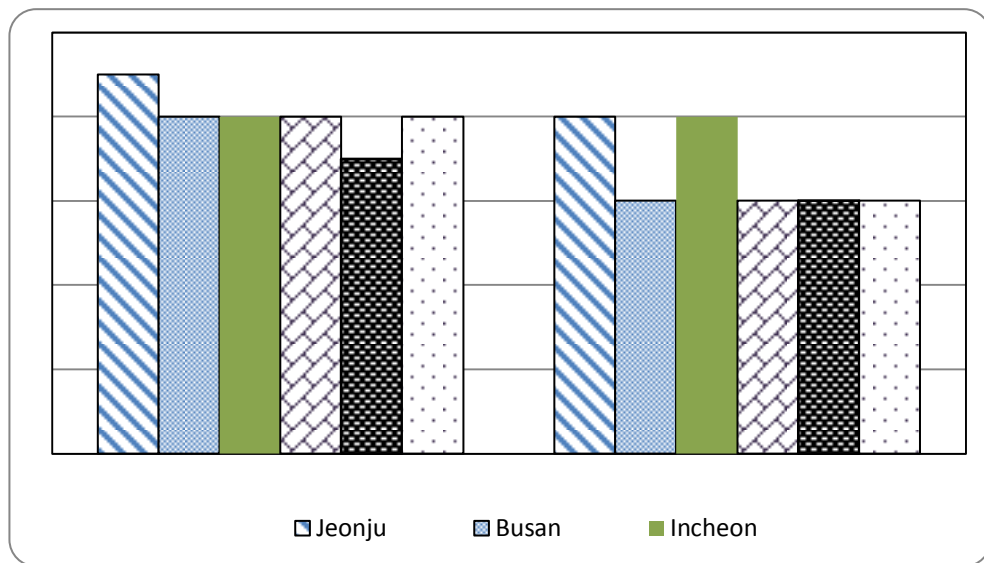


Figure 7.5 Socio-economic outcomes in the Likert scale (median)

7.1.5 Summary

In summary, the overall responses regarding outcomes perceived by the partnership members were diverse. These results disagree both with protagonists' positivity and with sceptics' negativity over the outcomes of water partnerships, which are briefly mentioned in Chapter 2. Some might overlook this result based on the immaturity of these partnerships, but this complexity of the partnership outcomes requires partnership studies

approach that is more realistic. Thus, an analysis needs to explain why and how some partnerships performed better or vice versa. The following sections are dedicated to answering to these research questions.

Among three evaluation criteria, partnership members expressed positive for process-related and socioeconomic outcomes. In spite of that, the responses about environment outcomes remained neutral or negative. The members of partnerships in each sub-group found their outcomes differently. Two regional partnership members in Paldang and Gyeongnam expressed doubts about the socio-economic outcomes, whereas the overall positive results were found in a regional partnership in Daecheong.

Largely, the members of urban partnerships assessed their outcomes more positively than did those in regional partnerships. This result can imply that the management functions and the scale of management matter in the partnership outcomes.

The survey results capture the diversity of the partnership outcomes beyond the division of two subgroups. The attitude survey revealed that Jeonju partnership among the urban group and Daecheong partnership among the regional group received positive outcomes in all three sets of evaluation criteria. In particular, the Jeonju partnership members expressed a generally positive evaluation apart from two criteria, 'cultural difference among members' and 'transaction costs'. Whereas Jeonju was the only case

with completed rehabilitation project at the small scale, the Daecheong partnership brought an interesting diversity of positive outcomes to this comparative case study. The scale of water resources and the management topics in the Daecheong partnership were different from the Jeonju partnership. This case at the regional scale was inconsistent with the proposition raised by Olson, which stated that more effective cooperation would be achieved if the scale of community was smaller. How the Daecheong partnership showed this result will be analysed in detail in relation to the scale of community, in the section 7.2.3 and the co-governance discourse in the section 7.3.1.

The scale of water resources and the management topics that determined the emergence of two different types of water partnerships were not determinant factors in producing positive outcomes. Additionally, the outcomes of remaining four partnerships also need more elaboration. Slightly lower but still positive perceived outcomes were found in the metropolitan cities in comparison with the successfully completed Jeonju case. The regional partnerships such as the Paldang and the Gyeongnam achieved positive process-related outcomes and trust building of socio-economic outcomes but not in the rest of criteria. How and why these results occurred will be analysed in the next sections with the classical IAD framework and a modified one in order.

7.2 The IAD framework analysis on the partnership outcomes

In this section, an attempt will be made to show how some out of the six partnerships produced better or worse outcomes about process, socio-economic aspects and environment, analysed in the previous section than others. Given that a significant focus of this study is to understand the contextual development of co-governance institutions, how the seven analytical elements of the IAD framework (see Table 7.3 below) affected the assessed outcomes is investigated employing the data on partnership operations using the comparative case study method. Of course, as this analysis is addressing actual partnership outcomes, it is not necessary to discuss '(4) potential outcomes' here.

Table 7.3 Seven analytical elements for intra-action arena of partnerships

Analytical elements and Rules-in-use	Analytical elements in Action situation	Rules in use (Operational; Collective-choice)
	(1) the set of participants	entry & exit rules
	(2) the specific positions to be filled by participants	position rules
	(3) the set of allowable actions and their linkages to outcomes	scope rules
	(4) the potential outcomes	authority rules
	(5) the level of control	aggregation rules
	(6) the available information	information rules
	(7) the costs and benefits	payoff rules

Source: Ostrom, Gardner et al. (1994: 37-43)

7.2.1 The set of participants

An array of stakeholders participated in the six water partnerships, which reflected the internal politics of each partnership. In some cases at the larger scales, the multi-layered structures were found. The Daecheong case

showed that the multi-layered structure of well organised four distinct tiers in a large scale partnership could produce positive outcomes. The highest level, the Secretary General, his/her advisory committee and the board of trustees comprising the national assembly members and basin authority heads and the second level- executive assembly- led the partnership activities. The third layer with administration and implementation function consists of Standing Committee and Permanent Office and the fourth layer down to community level contains five sub-basin network branches in five local authorities and three research clusters of education & outreach, research & survey and policy analysis, respectively. Thus, the scale and organisational framework of the Daecheong partnership are more comprehensive and self-contained in comparison with other partnerships.

The other example was the Incheon partnership, which was a multi-layered network with a working group. Supported by a bylaw, this partnership was formed with a pyramid structure of three layers. This partnership showed the efficiency in decision-making in comparison with the other metropolitan partnership in Busan. This was confirmed in an interview with a fulltime staff (NGO) of Incheon Partnership, Ms Hyae-Ja Choi (Interview #I1). The Busan partnership had the broad but thin involvement of membership within the relatively static structure. Until the creation of a subcommittee in 2005, Busan partnership showed a slow progress in

conducting the river restoration projects. This was apparent in Busan's low proportion of streams,⁵⁰ which have been restored (13.8%) (see the table below). The result was affected by the way in which members led the restoration projects. In Incheon, the partnership took charge of restoration. In Busan, the city government and borough authorities directly managed the projects and consulted the roundtable structure of the partnership.

Table 7.4 Planned or completed restoration length in two metropolises

Features	Busan	Incheon
Length (km)	26.6 km in 6 streams	38.56 km in 5 streams
Project Period	2003~2011	May 2003 ~ Dec. 2007
Restoration length proportion of the total urban streams	13.8%	54%

Source: Busan water partnership (2006); Busan Metropolitan City (2005); Incheon water partnership and Incheon Metropolitan City

The regional partnerships such as the Paldang and the Gyeongnam cases achieved positive process-related outcomes through the participation of stakeholders, which had been absent in the formal policy process in Korea. The agreement over the national regulation about the water quality control by the Paldang partnership wrote a new history in public policy history in Korea. The success of the event, the Water Forum run by the Gyeongnam partnership was evident.

⁵⁰ One of the reasons for the contrasting project progress was the relatively challenging nature of river conditions, e.g. the coverage of urban streams, 96.02% in Busan, and 58.11% in Incheon in 2004. See River Information Centre and Ministry of Land, Transport and Maritime Affairs. (2010). "River Management GIS (RIMGIS)." Retrieved January 28, 2008, from <http://www.river.go.kr> .

However, there was a problem with the availability of data about the outcomes of the regional partnerships. For example, the Paldang partnership has been operating mainly to coordinate the conflicting interests of the stakeholders instead of implementing projects. In comparison with the implementation functions of the urban partnerships, environmental outcomes of the regional partnerships in particular could not be backed by data and the survey results. On top of that, given the survey was conducted only 2-3 years after partnership creation, the overall negative perceptions about the environmental and socioeconomic outcomes can be understood in terms of a 'time-lapse' effect of co-governance in practice. Given the respectively different types of positive outcomes, the scale of management in relation to the partnership outcomes needs to be understood in their contexts.

The Paldang and Gyeongnam cases showed that the lack of representation was problematic. In Paldang, the partnership only invited the officials from the Ministry of the Environment (MoE), which missed the participation of the related ministries such as the Ministry of Construction and Transportation (MoCT). Given the degree of complexity and overlapping nature of the jurisdictional responsibilities for the management of Paldang Lake (Chung 2004), the bilateral partnership between the MoE and the locals excluding the water supplied regions surrounding Seoul may only depict some of the issues. Dr Kyeong-Min Kim, a water expert for the

Paldang partnership pointed out that the lack of representation by these other agencies meant that negotiation over issues beyond the MoE's remit, such as land regulation managed by the MoCT, took extra time to reach a conclusion (Interview #P3). This would affect the outcomes of co-governance. In Gyeongnam, the working body of the partnership included only a few NGO campaigners. The Forum campaigner also found that it made sense to stick to the most commonly agreed topics. In an interview with the leader of the Gyeongnam partnership, Mr Sang-young Lee, he stated that

'...it was agreeable that some local communities in conflict over water management, e.g. Jinju city over expanding the Namgang Dam, were reluctant to join the Forum(Interview#K3).'

This explains why the survey response to the conflict management element was rated very negatively and why members highlighted the transaction cost problem in the case of Gyeongnam.

The above explanation shows why some partnerships at the larger scale with multi-tiered structures were more effective than other partnerships: the cases of the Daecheong and the Incheon. The lack of representation in the Paldang and the Gyeongnam partnerships was consistent with the weak role of the partnerships in conflict management, shown in these cases.

7.2.2 The positions: the key actors within the partnerships

Two distinctive types were found in terms of members' positions in the six cases: 1) 'balance between multiple leading actors' and 2) 'single or a few leaders'. The former included the Jeonju, Incheon and Daecheong partnerships and the recent Gyeongnam, whereas the latter involved with the partnerships in BusanPaldang and Gyeongnam in the initial stage. The positions of members reveal the power of relations within partnerships, which indicate who are the key actors in each partnership.

On the one hand, the balanced relationships among members were shaped through the commitments of multiple leading actors in Jeonju, Incheon and Daecheong. The multiple key actors and the balance among them were secured through the exchange of 'reciprocity'. As Ostrom (1998) argues, reciprocity with trust and reputation boost cooperation, in a relatively small social group. In Jeonju, the city government offered a dramatic cancellation of the River Park Plan by the then mayor and further positive efforts within a limited budget. Two local activists participated the office for LA21 in Jeonju, Mr Jaecheol Shin and Mr Jaebyeong Kim made their voices in unison in the interview. They stated that the NGO members also tried to keep the conflict-free environment within the Jeonju partnership with the exchange of 'reciprocity' of commitment (Interview #J1 and #J2). The similar pattern was found in Incheon (Interview #I1). The city government supported to create the bylaw, stable funding and other resources for

businesses, which were matched with the commitment from the NGOs and the local academics. The key actors in the Daecheong partnership were the water supplier (KOWACO) and local NGOs, most of the NGOs had been active since the preparation process. Given the positive outcomes of these three partnerships, the committed leading actors and the representation balance among them may be another critical factor in institutional development of co-governance. However, keeping the balance among diverse members was not a 'free lunch', which is reflected in the relatively high recognition of 'costs' in the evaluation of partnership outcomes. This issue is to be re-visited later in this chapter in section 7.2.6.

On the other hand, in the cases of Busan, Paldang and Gyeongnam, single or a few leaders led the partnerships. Furthermore, the partnerships could not manage the shaping of 'the reciprocal commitment', which were present in other three partnership cases, discussed above. The lack of commitment reciprocity resulted in the lower level of mutual trust, reflected in their weak conflict management. The Busan city government's lack of commitment became a continuous source of internal tension among governmental and non-governmental actors. For example, the NGO campaigner who was one of the two appointed executive secretaries in the Busan partnership has been practically the actual leaders of the partnership. Then secretary general of the office for LA21 in Busan pointed out that the city government has been quite passive in terms of leading that partnership

(Interview #B4). This was in sharp contrast to the Incheon partnership. The case in Incheon saw more active roles of city government. Furthermore, the initial city government members of the partnership were replaced with new officials, especially high-ranking ones such as the vice mayor and the head of the environmental policy department (Interviews #B1 and #B2). The non-governmental groups with a strong will and driving force felt betrayed by the city government's lack of support, e.g. the limited budget allocation, and the loss of accumulated mutual understanding with their city government counterparts due to their replacement. This explains the lower outcomes in conflict resolution in the Busan case.⁵¹

In the Paldang case, the tense balance between the two key groups, the MoE and county governments, was apparent in the initial partnership process. By contrast, two other actors, Gyeonggi-do and community representatives proved to be relatively passive, with weak voices. The community representatives had less experience than the NGO campaigners had (Interview #P3), while Gyeonggi-do was inhibited by its supervisory role to approve and monitor the much discussed new regulation system based on the pollution load in addition to conventional concentration-based control applied in the seven counties. (Interview #P2) The spectrum of strong and

⁵¹ Two partnership staffs – one civil servant and one paid NGO campaigner- were appointed according to the Code of Operation, however, the combination of the continuously circulating position of a 6th degree civil servant and a NGO campaigner without a permanent office was a key challenge to the partnership for the first two years (Interview #B1).

weak voiced actors shows the highly political situation in which the Paldang partnership was embedded.

When the public bodies supported the partnerships financially and attempted to control co-governance institutions with the strong NGOs, internal conflicts were inevitable. The public bodies funding the regional partnerships took a passive, tokenistic commitment to realise co-governance, whilst the NGOs tried to make the most of this opportunity in the Busan, Paldang and Gyeongnam cases. Due to the limited support of fulltime staff, the civil servants had to combine the partnership work with their primary employment and had no incentive to actively engage with partnership activities, which led to the public staff being described by NGO participants as 'being less enthusiastic'(Interview #B2; #B3). The Paldang partnerships failed to motivate the local counties to work together apart from the negotiation about land regulation (Interview #P1). The Nakdong River Basin Environmental Office, the Gyeongnam's key funder, did not join a creation of co-governance organisation about river management, which ended up being composed of mere NGOs members (Meeting observation #KM). The Nakdong River Basin Environmental Office offered 8.5 million Korean Won in 2003 (Meeting Observation #KM).

One of the reasons for passive involvement of the public actors was the cultural aversion against the information sharing with the non-

governmental actors when there have been conflicts about policy implementation (Interviews #B1, #O2 and #P6). A similar pattern of conflicts and management was observed in the Paldang case. Thus, given the relatively high conflict within the partnership with less committed city government in Busan, the key to shape this reciprocity tends to be in the hands of the public bodies, especially in this state-driven society. When the existing water management bodies remained passive in engaging with non-governmental groups, either internal conflicts increased or collaborative decision-making was limited. Therefore, extra efforts of governmental actors are called for in order to maintain a newly emerged co-governance on conventional management issues.

According to the IAD framework, these positions assigned to the actors determine the possible actions, which are linked to the outcomes, to be examined in the next section.

7.2.3 Allowable actions (authority) and the potential outcomes

According to the IAD framework literature, allowable actions, one of the analytical elements is supposed to be directly linked with the outcomes in comparison with other elements (Ebenhöh 2007; Poteete, Janssen et al. 2010). For this study, the types of activities were the key feature of this element. Based on the outcomes assessed at the beginning of this chapter, this section reviews how the allowable actions were linked with the results of

partnership outcomes survey. For this reason, the outcomes element in the analytical elements of the IAD framework will not be analysed separately in this study.

The highest perceived outcomes of the Jeonju partnership were possible through clear and focused activities involving a few committed members empowered through the path dependent LA21 campaigns. For the Jeonju partnership, the high level of agreement among its members enabled their passionate persuasion of local residents, who were sceptical about replacing the parking lot in the riverbank with a more natural riverside (Interviews #J1 and #J2).

In terms of the environmental outcomes, the Jeonju was the only case that showed some evidences of improvement. For example, the river rehabilitation project covering the 7.2 km section in the city centre transformed the artificial channel into a natural type of river with meanders. Only one year after the completion of the project, the fish population in the stream became more diverse: increasing from 14 species in 1999 to 20 in 2003 in the upstream and 5 to 17 in the middle section. By 2003, 25 species were found in the restored stream including the rare native fish, Shiri, which is usually found only in clean water; this was hailed as a great achievement by academics. It was positive to see that further efforts to extend the restored section in the Jeonju River were being made and that

the city government announced its intention to restore the four other sections of the river in the city (Jeonju city official, Mr. Lee H-H, Interview #J4). Improved water quality in the restored section confirms the positive results of the perceived outcomes in Jeonju. For example, the Biological Oxygen Demand (BOD) at three points in the River consistently dropped from 2.3 before the project to 1.0, from 3.5 to 1.7 and from 6.7 to 1.2 (Ministry of Environment and National Institute of Environmental Research). Water quality improvement was achieved by eco-friendly vegetation in the riverbed and banks, as well as by an enhanced sewage collection system. However, after time, insufficient instream flow led to the occurrence of the repeated incidents of dead fish floating in the River. The maintenance of water quality after the rehabilitation project remained a serious issue in Jeonju (the meeting observation #JM).

Similar to Jeonju, the Gyeongnam and the Paldang partnerships also had a limited number of activities but their activities were continuously intervened by the conflicts, which eventually affected the outcomes. The key activity of the Paldang partnership was policy consultation regarding the adoption of a pollutant load-based water quality standard system. For example, when just after an agreement among the members of the partnership to apply binding pollution load-based regulation⁵², the

⁵² The participants (except one county, Y-cheon si) of the Paldang partnership agreed to accept the maximum pollution load, this additional regulation as compulsory in Sept. 2005 and all of the seven

'Presidential Committee on Balanced National Development' announced a plan that did not reflect the agreed demand of seven counties. This announcement effectively nullified the painful and hard negotiation processes. In 2005, during the fieldwork for this study, this politically motivated decision from outside of the partnership stopped all the formal meetings of the partnership until the MoE proposed another negotiable idea to persuade the local governments and community representatives (Interview #P2). This negative aspect was reflected in the survey result. The Paldang partnership members expressed relatively negative opinions about 'more application of partnership in other fields' (12.5% of the respondents).

For the Gyeongnam Water Forum, the avoidance of contested topics, limited opportunities for open debate over complicated, and highly politicised, water governance issues, and thus reduced the possibility of experiencing social learning. By avoiding discussions about politically sensitive issues, they could attract financial support from the Basin authority and the provincial government as well as a number of audiences (about 200 in the 1st and about 300 in the 2nd Forum) (Gyeongnam Water Expo and Forum organisation committee). In other words, channels that link the partnership to palpable outcomes were too controlled for participants to learn and develop co-governance practices that might work in the contexts of Gyeongnam. The great majority of Gyeongnam

counties and community members agreed in Feb 2006.

respondents also expressed neutral feelings about the outcomes in conflict management. This result is related to the limitations of the event-focused partnership programmes, despite creating a new opportunity for stakeholders to share information.

In contrast to the Jeonju, Paldang, GyeongnamDaecheong, Busan and Incheon partnerships saw a broad range of activities conducted. However, the process-related outcomes were only evident in the Daecheong partnership. In Daecheong, the range of participation broadened as previously passive groups in the upstream areas became engaged, but this resulted in more debates between upstream and downstream regions. Since the partnership chose to build 'solidarity within the Basin of Daecheong Lake', as a wide-ranging watershed organisation, representativeness has matured to more collaborative governance. For example, the exchange visit programmes between cities and counties were well received by participant regions. These programmes were linked with the positively perceived result in trust-building by the Daecheong members.

However, in terms of environmental outcomes, no large-scale partnerships (i.e. Busan, Incheon and Daecheong) proved to yield positive outcomes. Two metropolitan partnerships were conducting several river restoration projects that covered more than a watershed in 2007 (Busan Water Partnership (Busan Hacheon Sal-li-gi Simin Undong Bonbu) ; Incheon

Water Partnership (Incheon Hacheon Sal-li-gi Chujindan)). Rather the ongoing rehabilitation projects resulted in unstable water quality in the rivers (Interview #B2).⁵³ Despite the positive Perceptions about water quality enhancement in the Daecheong partnership, in fact, water conditions in large river basins were not dramatically changed the emergence of co-governance institutions. As Figure 7.6 shows, there has been little improvement in BOD and COD data. This confirms the difficulty in the management of multi-use water resources and the slow changes in institutionalising reform ideas.

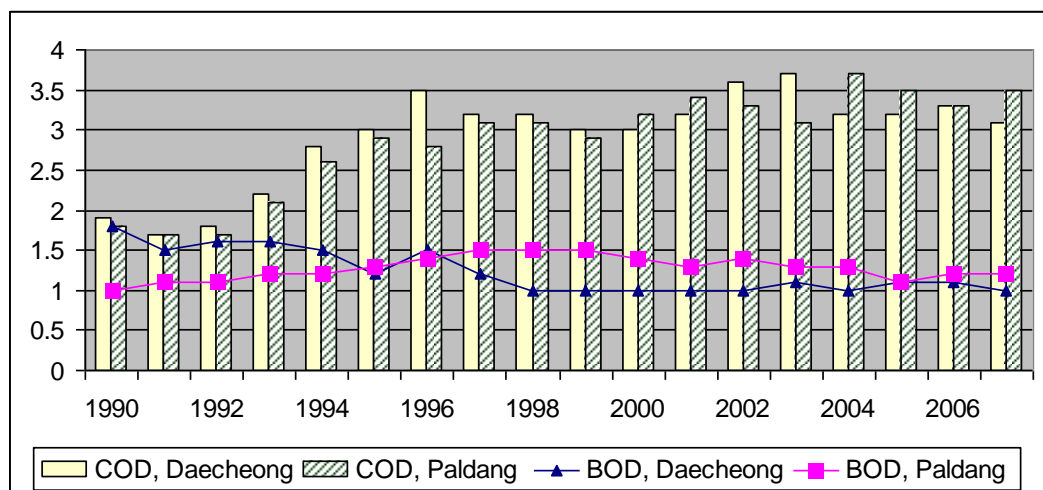


Figure 7.6 Annual Water Quality Trend of the two Lakes (unit: mg/L)

*: Paldang data is the monitored one at the Paldang Dam station.

Source: (Ministry of Environment and National Institute of Environmental Research)

In summary, the types of partnership activities did not affect the outcomes too much. Also, their related scales of partnerships could not explain these

⁵³ In terms of water quality data, the assessment of Busan case is difficult due to the complex intertwined situation, while rivers in Incheon show an understandable instability in BOD data due to the ongoing projects.

diverse outcomes. The types of partnership activities varied from supervising the rehabilitation projects, running informal public education programmes, allocating the grants to local organisations to consultation of national water policies. Interestingly, the Daecheong partnership with the broadest range of activities and the Jeonju partnership with the narrowly defined activities were found successful in the outcomes survey. The documentary analysis and interviews supported their achievement in process-related, environment and socio-economic outcomes. In this regard, the classic IAD framework needs to be complemented in order to understand the partnership outcomes occurred in Korea.

7.2.4 The level of control (aggregation)

All six partnerships have platforms such as management committees to control partnership operations as well as to influence members' behaviours. Local actors facilitated the operation of the urban partnerships, whereas central agencies managed the conventional water governance. The voluntary organisation of local actors means no linkage with the existing water governance. For example, the flood control and the water supply for insteam flow management needed coordination with the regional offices of the MoCT and the MoE in addition with the provincial governments. Without the linkage, the river rehabilitation projects in the three cities suffered from either insufficient water flow or the flood control in connection with the sewage and wastewater treatment facilities. The

negative perceptions about the environmental outcomes are directly related to this issue. This aspect contradicts the significance of self-governance by Ostrom, which indicates that 'boundedly rational individuals' led the autonomous institutional processes with 'no external enforcers' (2007: 48).

In the regional partnerships, the level of control by the public bodies was stronger. This intervention was managed differently in each regional partnership. Additionally, the low commitments of the public organisations produced the negative impacts for partnership outcomes. The most self-contained comprehensive network found in the Daecheong partnership inherits challenges due to the uneven commitments of public actors, in particular, local government representatives. The report for the 3rd Annual General Assembly, held at Yuseong, Korea on February 23, 2004 indicates that the actual implementation of various campaigns within the communities and basin scopes was actually carried out by the NGOs. Furthermore, the only node of interaction with the basin water governance outside the partnership boundary was the participation in the advisory committee. An NGO member of executive committee had worked as a member of advisory committee for River Basin Management Committee. Despite the intervention and the low commitments of some powerful actors, the Daecheong partnership managed to produce impressive outcomes. Again, this result was inconsistent with Ostrom's proposition, which claims that voluntary local organisations can be effective in managing shared

natural resources.

The success story of the Daecheong partnership was not repeated in the Paldang and Gyeongnam cases. The written responsibilities of the Paldang partnership have been published in the 572nd Ministerial order of Environment in 2006. Among the five responsibilities, the first indicates the partnership's complementary role in relation to the national policy-making. This could make local actors feel uncomfortable when being part of co-governance institution as their presence in the partnership would suggest being co-opted by the previous adversary, i.e. the central government that used to be authoritative until the democratisation in the 1990s. The passive participation of some county governments and overall community representatives was to some extents caused by the MoE-branded attempts to formalising a governance structure (Interview #P4). This imbalance resulted in the neutral perceptions about trust building and the continuously observed internal conflicts.

In Gyeongnam, the actual decision-making was concentrated within the hands of a few NGO campaigners. The campaigners worked hard to operate and create the water partnerships, however, their commitments contrasted against passive participation of stakeholders nationwide to the Water Forum. The observation of the Gyeongnam Water Forum by the author in 2005 confirmed this contrast among the active minority and

passive majority. The degree of co-governance was found weak when the partnership managed to create the River Network sub-committee but failed to involve any public organisations (Interview #K3, KM). Government officers were reluctant to commit themselves beyond participating in events, which indicates the broad but low level of co-governance in Gyeongnam.

This analytical element, level of control, explained the limited scope of three urban partnerships, which resulted in relative poor environmental outcomes. However, the invention observed in three regional partnerships brought uneven outcomes. For example, the level of internal control was high in successful Daecheong case. In contrast, the other two cases in Paldang and Gyeongnam showed low internal control, following fluctuating outcomes.

7.2.5 The available information

The partnerships that produced their own information produced positive perceived outcomes. In Jeonju, as members of the LA21 campaign, local academics joined the regular meetings with city officials to provide a flexible consulting system. In addition to the enhancement of ecosystem sustainability, the Jeonju partnership produced an innovative outcome - a pilot scheme to find native species that were adapted to local conditions. The partnership questioned the standard river restoration design, which had been, for the most part, imported from West European or Japanese

experiences and looked for site-specific vegetation in the 20 pilot beds (Interview #J1 and meeting observation #JM). Thanks to this, Jeonju river restoration project was completed with the locally proven plants, which was found to contribute to enhancing bio-diversity in Jeonju (BJ, Park 2004). This case proved that uncertainty as one of the difficulties in water management was overcome by 'trial-and-error' activities that were based on the principle of locally adapted management.

The Daecheong partnership served as a knowledge centre by not only collecting information from each member but also producing new knowledge itself. In fact, collecting information was not easy, due to the uneven commitment of public actors who held the official information related to water, but new local knowledge continuously accumulated through community campaigns and the activities of research clusters. Newly published information has been actively disseminated via an on-line information warehouse on the partnership's website. For example, there are new maps created by a local NGO with funds provided by the partnership, depicting not only the lake watershed but also the cultural heritages of local communities. The partnership also published monthly newsletters, research reports and educational documents. Like the Jeonju case, these active roles in information production and sharing made positive impacts on the outcomes of the Daecheong partnership.

The Gyeongnam provided access to government documents and the opportunities to hear the talks of governmental officials in the Water Forum (Interview #K2). For example, a government official from Gyeongsangnam province came to unveil and discuss the 10-year demand management plan of water resource. When the first Forum-led participatory policy process and compliance was held, the Nakdong Basin Office disclosed information about new regulation based on the pollution load. This type of open discussion about national regulation was unprecedented in the province (Interview #KM). The Forums played a role as an information warehouse by covering comprehensive water management topics that ranged from technological to policy ones. Such information became an alternative source of knowledge, which was one of the merits and achievements of the Jeonju, Daecheong and Gyeongnam partnerships.

However, despite the broad range of the information produced by the Daecheong and the Gyeongnam partnerships, the degree of debate was subject to criticism within partnerships. In the Daecheong case, internal criticism (JH, Park 2005) has repeatedly pointed out the need to pay more attention to policy issues, and to establish clear and detailed goals (Daecheong Water Partnership 2004; Daecheong Water Partnership 2005). In Gyeongnam, the agreement among the spectrum of national, local and community participants after the 1st and 2nd Gyeongnam Forums appeared less impressive. Criticisms were also raised against the low level

of activity of the Organisation Committee, and the ways in which debates avoided politically sensitive topics. Additionally, locally produced knowledge was rarely found in national policy documents and academic research papers. Given the positive outcomes produced by the Daecheong partnership, information clustering by the partnerships without having politically sensitive discussion might have been 'safe' tactic for short term. This risk-avoid tactic of the partnerships can be dilemma to co-governance institutions for long-term because co-governance is required to address not only co-production by stakeholders but also conflict management among different social interests over water management. This dilemma was supported by the growing political tension over water resources management, which has grown since the 1990s in Korea.

The lack of information sharing and production was directly linked to the lower achievement of the partnership outcomes in the Paldang case. The information produced and/or used in the Paldang partnership was rarely publicly accessible with the exception of their quarterly published newsletters, called 'Paldang Sarang', and its less active website, - www.paldang.or.kr-. The continuous internal conflict without a third party mediator prevented the staff from doing anything more than dealing with the painfully repetitive negotiations about regulation (Interview #P3).⁵⁴

⁵⁴Additionally, one research project, on 'the current conditions of local communities' daily lives and perceptions on water quality management in the Paldang Water Source Areas', conducted by a

Based on the interview with a staff member, the fatigue and confusion of permanent office staff with the partnership's roles persisted due to the extended and fierce negotiation process. The internal conflict undermined the opportunities of producing and sharing information by the Paldang partnership, which was found related to the relatively low achievement of this partnership outcomes.

In the case of the metropolitan partnerships in Incheon and Busan, two research organisations played an important role. A MoE- funded local research hub was created in Incheon and was named as the Incheon Regional Environmental Technology Development Centre (IETEC). In Busan, NGO campaigners created a private research institute, called as Hacheon Research Centre. These two research organisations played an external supporting role for the partnerships by undertaking on-going research projects. Furthermore, the IETEC in Incheon provided academic style engineering information for actual rehabilitation projects. The Hacheon Research Centre in Busan organised citizen-monitoring programmes and supplied social movement information to include a rationale and vision for campaigns to save urban streams (Hwang 2004). The range of information that powerful members brought to the co-governance institutions played a significant role with regards to resolving

private consulting firm in 2004, endorsed by the partnership, was made available to this researcher only after repeated requests during the field work in 2005.

internal conflicts (Interview # B1) and cause greatly the successful operation of the partnerships.

Additionally, the active use of external information and the interactive distribution by the metropolitan partnerships provided a platform for partnerships to communicate with local citizens. For example, unlike the unofficial and flexible Jeonju partnership, both metropolitan partnerships operated more formally, with official mission statements and publications. In addition, these partnerships were more openly reviewed and promoted by local newspapers, which made information about partnerships more abundant and accessible.

To summarise, some partnerships managed to incorporate relevant information into locally adaptive knowledge, which apparently influenced the outcomes. The first and second analytical elements of the IAD framework, namely, the positions and sets of participants, influenced the availability of information. As discussed earlier, thanks to the variety of participant organisations, the available information on the Daecheong partnership was the most comprehensive among the six cases.

7.2.6 The costs and benefits

Two different types of assessment criteria, namely, transaction costs ('Cost' in short) and costs due to cultural and professional gaps among members

(‘Gaps’ in short), capture the awareness of members regarding the costs of the partnership operation. Unlike other criteria, the responses to these two negative outcomes vary according to affiliated partnership and indicators. While the majority of respondents in Jeonju thought that, the difference among members was evident, while Busan respondents (57.2%) and Incheon respondents (45.5%) disagreed with this. However, transaction costs were perceived to be high by a majority of Incheon respondents by 63.7%, while the respondents in Jeonju and Busan doubted the negative occurrence of such costs.

Based on the survey and interview results, the participants in all six partnerships started to acknowledge the costs of co-governance during the operation of the respective partnership. Because all six partnerships were funded by the public bodies with fixed annual budget, the awareness of costs did not affect the operation and possible outcomes of the six partnerships. Thus, no feedback loop was found in terms of transactional costs in six partnerships.

On the contrary, the partnerships showed more sensitive responses to the impalpable costs such as costs due to cultural and professional gaps among members (‘Gaps’ in short). Two reasons were found in the case studies. First, the successful partnerships with strong participation of members expressed concerns with the cultural costs within the organisations. This

“participation fatigue” was perceived by the members in Jeonju and Incheon. Two partnerships worked as ‘task-force’ team to manage river rehabilitation projects. The case of Gyeongnam partnership counter proved this reasoning. Because the most members participated the annual Forum only and a few staffs covered the most activities in the Gyeongnam partnership, the members’ awareness of costs was the lowest among the six cases. Second, the recurrent aspect of the Paldang partnership, internal conflict and consequential negotiation processes was shown again the higher remarks on the transactional costs and gaps among members. Given the perceptions of partnership members tend to emphasise positive aspects of the outcomes, as discussed in Chapter 2, addressing the internal conflicts in the multi-stakeholder organisations is critical in terms of managing operational costs.

Furthermore, the IAD framework literature (Agrawal and Gibson 1999) regarded sanctions as a key enforcement in the operation of collaborative management of natural resources, but in the case of six partnerships, there was no particular sign of imposing these. Instead, some partnerships excluded the source of potential conflicts. For instance, an outspoken NGO with a strong view was excluded from the Jeonju partnership, while sensitive issue about the polluted water in downstream was all together dropped from the discussion in Daecheong. The previous secretary general of the Daecheong partnership put it this way in the

interview:

‘It was a reciprocal position of the NGOs to drop sensitive issues for the host, KOWACO, such as the regional tap water provision plan for the downstream area around Gongju city, from the discussions, in return for financial support for the partnership (Interview # D3).’

Politically sensitive topics were also dropped from the Gyeongnam partnership. For example, the Incheon partnership with written codes of conduct reported less internal conflict than Busan, which had no such bylaw. Given the compromised discussions within the partnerships and the degree of conflict management found in the case analysis above, setting up political sanctions preferably with written codes of conduct might be more desirable in the Korean case in the future.

7.2.7 Summary of the classical IAD framework analysis

The results of the case studies and the survey confirm the intricate relationships among the seven analytical elements of the IAD framework. Whilst the allowable actions were directly connected to the partnerships outcomes, the composition of the members, the level of control and the information affected the operation of the partnerships. In six Korean cases, the information and costs did not affect the outcomes directly but were regarded as the consequences of the partnerships operations.

The application of analytical elements to six cases reveals that to a certain degree, the comparative analysis using the classical IAD framework explains how partnerships achieved the outcomes. The operations and outcomes of the Jeonju partnership fit with the classical IAD framework as being a group of committed members that managed a clear project about the water resources at the scale of a relatively small homogenous community. The commitment of the key members explained well the other high achiever, the Daecheong partnership as well.

However, this study found that the inter-relationships between the actors in the six water partnerships cannot, by themselves, explain their outcomes. The general composition of participants could not explain why certain partnerships were more productive-e.g. Jeonju and Daecheong partnership being the best performers and two metropolitan partnerships (Incheon and Busan) in the second rank. The scope and aggregation elements provide only a partial explanation on the diverse range of water resource issues managed by municipally organised partnerships. Additionally, the outcomes that are related to the wider existing water governance structure in the country cannot be explained thoroughly. The next section is dedicated to examining the exogenous factors that may complement the conventional IAD framework in order to understand the diverse outcomes yielded by six water partnerships in Korea.

7.3 Modified IAD framework in partnership outcomes

The empirical analysis is expanded now to examine how the *exogenous* factors affected the partnership outcomes. These exogenous factors include the discourse of co-governance, the application of the reform discourses at the national and local levels.

7.3.1 Discourse of co-governance

The Daecheong partnership utilised the co-governance discourse in their various activities. The strong local initiative and the homogeneity of regional culture have been eagerly picked up by the Daecheong partnership. It was critical in motivating the partnership to adopt an innovative initiative to save water as well as to connect the urban consumers to the lake residents. The Daecheong partnership successfully undertook water saving campaigns through encouraging urban citizens in the housing complex to sign a voluntary agreement to monitor and change their water use behaviour. Hence, the Daecheong partnership managed to represent the region more broadly by stimulating the participation of more passive urban consumers and by creating networks that linked them to the regulated in rural areas. This innovative activity was related to the historic disputes over the building of the Yongdam Dam in the upstream basin. Additionally, the local networks with a history of concerns over forestry and water-related animals were given grants to maintain their specialties, which broadened the partnership's structure and activity base. 'Working together' as an

aspect of 'co-governance' was interpreted in the local context and portrayed well in the programmes, which resulted in better perceptions about the partnership outcomes.

Other partnerships found difficulties in maintaining the co-governance discourses that affected their creation during the operation of the partnerships. For example, the Paldang partnership could not establish 'consensus' about 'sharing responsibility'. It was mainly because the partnership could not go beyond the initial agenda, that is, the negotiation about the land regulation (Interview #P2). As stated earlier, the lack of balance between the commitment of members in the Busan and the Gyeongnam partnerships failed to build the trust based on reciprocity, in contrast to the cases in Jeonju and Incheon. The internal conflict in the Busan partnership was not well managed because there was no agreement about what co-management meant⁵⁵. As a mid-level civil servant indicated (Interview #B2), the internal conflicts were due to an unwillingness to negotiate with other members or different ideas. The initial agreement to work together through the creation of partnerships was not sustained without extra efforts during the partnership operation. Given the cases suffered from the internal conflict, extra efforts to keep the discourse of co-

⁵⁵ After the initial promise to legitimate the partnership by a bylaw was finally rejected by city government, there have been continuous disagreements about how to fund administrative costs and support the partnership executives, including the non-participatory process of stream rehabilitation projects in a local river.

governance were critical in order to yield better outcomes.

7.3.2 Application of the reform discourses at the national and local levels

The national water policy reforms that influenced the creation of partnerships, in particular, at the regional scale constrained the operations of the six partnerships. Because the contexts in which the regional partnerships were created were greatly shaped by the series of water policy reforms in the 1990s, the regional partnerships played complementary roles to the multi-layered governance. Because the Basin committees were not open to nongovernmental members, the partnerships were not invited to participate in formal water governance. In contrast, all three partnerships in cities suffered the low in-stream flow problem that needed coordination with the existing water governance, which was reflected in the poorly perceived environmental outcomes. Furthermore, the large rivers, which were the key sources of water for consumption, frequently became a constant cause of tension between governmental and nongovernmental actors.⁵⁶ The difference between the regional and urban partnerships was the inclusion or 'overlapping' of governmental members with the ones in

⁵⁶ For example, in Busan, when a city-owned public service delivery unit, the Nakdong River Environment Development Group built banks in the environmentally challenged intensive agricultural area of the Nakdong River mouth, the environmental NGOs confronted the city government in 2004. In the end, the partnership was unable to facilitate a constructive discussion (Interview #B1).

the basin committees.

The legacy of local capacity building through either the LA movement or the Saving River campaigns was strong in the cases of Jeonju and Incheon. For example, it was possible to produce positive outcomes with the high degree of process-related outcomes perceived by members in Jeonju, which had been built up through the LA21 movement. In terms of wide participation among members, both Incheon and Busan metropolitan partnerships showed a progress compared with that of the Jeonju partnership. While the Jeonju partnership was organised by previously active local participants, NGO campaigners and academics who had joined the LA21 movement in the metropolitan partnerships saw the involvement of new comers. They include private enterprises such as the local broadcasting station and factory-owning companies, secondary school teachers, and diverse community groups, or citywide NGO campaigners with specialist interests in river environment, human welfare, local culture, history and so on.

For regional partnerships, the locally nested reform discourses were found in the Daecheong partnership that drafted and published the LA21 for the Daecheong Lake through the collaboration with the local offices of LA21 (Daecheong Water Partnership 2004). In Gyeongnam, rather than being the precursors of the partnership, the Gyeongnam provincial office for LA21 was created simultaneously with the Gyeongnam partnership (Interview

#KM: executive secretary of Gyeongnam office for LA21). By including the working bodies in networked forms, the Forum has evolved from a mere issue-making event organiser to facilitator of co-governance. For example, in the beginning of the Gyeongnam partnership, some local NGOs in West Gyeongnam were reluctant to join the partnership participated in the federation of NGOs later (Interview #K4; Interview #KM: Meeting observation of River Network). The Paldang partnership was the only case without publishing or having any relation with the LA21. Without the help of the LA21, this partnership suffered from the too narrowly positioned agenda about the regulation of land use. Therefore, the legacy of locally nested water reforms again needed an extra effort to be sustainable and be a constructive factor to the partnership outcomes.

7.3.3 Linkage with the existing water governance: Social basins

As being defined as 'as 'a sub-basin, a local or regional unit of government, or a hybrid unit' (Blomquist, Dinar et al. 2005: 35), the concept of social basins allows us to portray a stable and dominant national state and a set of newly emerged local actors in the development of six water partnerships in Korea. The social basin concept is introduced as a linkage between the IAD framework and the Mahoney's periodization analysis of exogenous factors (see in Chapter 2). This is a useful concept for exploring the hidden relationships between the newly emerged water partnerships and existing water governance. An analysis of changes after the creation of the

partnerships in the social basins is presented here to elaborate the findings, and prove that the existing governance provided room for the creation of water partnerships, filling regulatory gaps in the existing social basins.

Urban partnerships in Jeonju, Incheon and Busan

The urban water partnerships in Korea contributed to the existing water governance by covering new fields of water management. In the Jeonju case, whereas central and regional governments managed traditional water provision and conservation, the urban partnership dealt with the restoration of the urban river more for leisure and aesthetic purposes than for consumptive use. In a similar vein, the 'saving urban river' campaigns and the other major programmes run by the partnerships in Busan and Incheon were quite independent from the existing water governance, due to the greater power and resources metropolitan cities enjoyed after devolution and the new participatory role given to the major River Basin committees.

There was an informal platform to link the newly emerged co-governance institutions with the existing water governance system. The three urban partnerships are related to the federation of river-related organisations, the Korea Network for River and Watershed (KNRW), which organises an annual nation-wide conference, the River Day. Busan and Jeonju hosted the River Day Conference in 2004 and 2006 respectively. The Incheon

partnership and its precursors, the Local office for LA21 of Incheon and the Busan, Jeonju, Paldang, Gyeongnam water partnerships have participated in the competitions and frequently received awards. In particular, Incheon was selected as one of Champion cities in the 5th World Water Forum by the Istanbul Water Consensus in 2009(The 6th World Water Forum 2012). Given that the MoE, the MoCT and four major River Management Committees were the primary funders of the River Day events, there was a working relationship between the partnerships and influential central government players, although this operated indirectly. This informal relationship of urban water partnerships with outside institutions was well established, whereas formal relationships with the water institutions relatively not fully formed.

Apart from the state's funding for a rehabilitation project, a lack of connection with existing water governance was evident. The simple organisation of the Jeonju partnership that mobilised local politics to the benefit of the project could not afford to reach beyond the scope of the projects (Interview #J1)(SJ, Cho 1999). Behind the success of the Jeonju rehabilitation projects, issues mainly related to long-term water management such as water quantity control remained unaddressed. This latent problem was also evident in the metropolitan partnerships in Incheon and Busan.

As for the outcomes, the lack of interconnection with formal water governance can be problematic in terms of co-governance outcomes in a hierarchical society like Korea. The Jeonju partnership was strongly united internally but poorly connected relationships with outside organisations: there was only indirect liaison with the basin authority and central agencies, and no connection with any community groups at sub-city scale. This liaison remained on an ad-hoc basis, and individualistic nature. In terms of missing links with existing governance, the lack of a legal requirement to establish an integrated watershed plan for urban rivers, such as the Jeonju and Sam Rivers was the key challenge for the partnership in terms of securing instream flow. To establish linkage between water institutions at different levels of governance required governance structure for integrated management. However, within Korea's state-driven governance system, required governance structures were not provided by either the voluntary and or informal attempts to network.

Developing linkage with formal water governance for water partnerships incurred external costs beyond the scope of partnership operation. In particular, the networked relationships of Incheon and Busan metropolitan water partnerships with other water institutions varied according to specific water issues and the partnership structures. For example, Incheon was relatively passive in terms of external dialogue due to the pressure of meeting the deadlines of the rehabilitation projects. Additionally, in

contrast to Busan, Incheon had been free from water conflicts among riparian municipalities such as Seoul and Gyeonggi Province (Interview #11). Conversely, the Busan partnership tried to maintain good relationships with outside institutions because of the rise of water pollution and quantity issues at the large river basin level. The difference between Incheon and Busan is linked to the partnership structure as well. The Busan partnership had relatively loose and horizontal 'roundtable' style cooperation among multiple actors both within and outside the metropolitan area, while Incheon maintained the self-contained ones with a multi-tiered formal structure. Young partnerships found it costly to build liaison with water management organisations, unless the costs of independence were too high to maintain, as in the case of Busan. Thus, locally shaped social basins of three urban partnerships yielded positive and negative outcomes. For example, their self-governance succeeded in leading local river rehabilitation projects. However, once the projects ended, how these project-focused organisations and their self-governance would survive remains unanswered.

Regional partnerships in Daecheong, Paldang and Gyeongnam

Unlike the urban water partnerships that experienced the expansion of existing social basins as explained above, the three regional partnerships contributed to the 'thickening' of the current governance by becoming a complementary tool. The key activities of regional partnerships remained

within the boundaries of conventional water management. Furthermore, these new institutions filled the functional gaps through various activities and their key achievements included 'participatory programmes involving various basin-wide participants' in Daecheong, 'negotiation platform for new regulation' in Paldang and 'information exchange and education' in Gyeongnam.

In the cases of the Daecheong and Paldang partnership, their networking with outside organisations remained minimal. Instead, they emphasised networking within the partnerships. This meant 'thickening' rather than 'expanding' governance (Himmelman 1994). For example, the Daecheong partnership pursued internal unity while it showed a passive and indifferent attitude to interactions with outside organisations (Interview #D5). Despite the government stipulation about regular reporting to the MoE⁵⁷, few such communications were actually made because the reporting was not mandatory (Interview #D4). In fact, interactions with outside groups or actors beyond the basin scope occurred only through business trips. Active participation in water-related conferences was rare, and the Daecheong case had been little discussed in comparison with other urban

⁵⁷ The 37th article of the partnership specifies direct and regular reports to the Minister of Environment about the programme and budget planning as well as a statement of accounts. See Paldang Water Partnership. (2008). "Paldang water partnership's homepage." Retrieved Dec 12, 2006, from <http://www.paldang.or.kr>. The insiders within the partnership, including Lee (n.a.), interpret this as an alternative, complementary channel to stakeholders' voices to the MoE, which has rarely been possible through existing water governance.

water partnerships.

Similarly, the Gyeongnam partnership benefited from the close relationships with the Basin committee, but it experienced a limited agreement and direction of partnership programmes. The Gyeongnam partnership chose to develop its further organisational unit to conduct the environmental management only with NGOs members (Interview #K2), hence, the social basin of the Gyeongnam was changed from the thin and wide coverage of national, local and government, NGOs and private firms to more locally driven water management at the cost of excluded public actors. The regional water partnerships that benefited from the support of the River Basin committees remained complementary tool, which shaped the pre-fixed formal structure of the partnerships. This led to the limited outcomes of partnerships.

Conclusion

To address the second research question concerning the outcomes of the water partnerships, this chapter presented comparative case studies on six water partnerships in Korea. The water partnerships have produced some positively perceived outcomes based on the two categorised criteria assessment about partnership process and socio-economic aspects. Most of partnerships struggled to yield positive outcomes especially in environmental enhancement, which were anticipated because all of them

were at the early stage of organisation

The outcomes were by no means the same across the partnerships. Overall, the Jeonju and Daecheong partnerships were found to have achieved the most positive outcomes, supported by the analysis of the attitude survey, interviews and documents. Among three categories of outcomes, the process-related outcomes were the most positively perceived, followed by the socio-economic and environmental outcomes in order. The small difference of the outcomes between the urban and regional partnerships indicates that the division of subgroups based on the management topics and scale of management were not significant in the outcomes as much as in the emergence of partnerships.

The six relevant analytical elements of the classical IAD framework showed the independent, locally embedded operation of the six partnerships, which could partly explain the outcomes analysed above. The first and second analytical elements, the set of participants and their positions, explained why some partnerships with lack of power balance among members suffered the persistent conflicts. These analytical elements were linked with poorer achievement of outcomes in the Paldang, Busan and the Gyeongnam partnerships. The range of information available was also determined by the power relations within partnerships. These costs and benefits related to the internal conflicts affected the partnership operations.

However, the allowable actions could not explain why Jeonju urban partnership and Daecheong regional partnership were successful in spite of their different range of activities performed at different spatial scale.

In addition to the action arena analysis, the first additional element from the modified framework, that is, the co-governance discourse was only used and reinterpreted in the Daecheong partnership. The co-governance discourse adopted in this partnership was inspired by the spirit of regional unity based on administrative and cultural boundaries. It was the key addressing water resource issues on a large scale for a sizeable partnership. In Paldang and Gyeongnam, there was a lack of consensus building on the co-governance discourse, which meant that the partnerships have not developed beyond the initial level of information sharing.

The modified framework highlighted the issue of linkage between the new co-governance institutions and the existing water governance. For example, although the Jeonju partnership benefited from the legacy of collaboration, the commitment of participants and the clear boundary of operation, the separation of the Jeonju case from the existing governance may entail costs. Switching to a maintenance committee after the completion of project delivery, this small-scale case confirms the high costs of co-governance institution in a state-driven society. Unlike the Jeonju case, the metropolitan partnerships and the Daecheong partnerships secured the link with the

existing governance, invested extra effort in a broader array of participation programmes, and furthermore, created a more formal sustainable structure to fit the Korean context. Given the on-going nature of their activities, this embedded development of co-governance may produce positive collective action outcomes; they appear not to be trapped by large group size but can utilise and benefit from the broader representation. The relatively positively perceived outcomes of these partnerships verify the potential strategy of larger co-governance institutions by taking advantage of economies of scale in partnership operations (Poteete and Ostrom 2004).

In terms of change in social basins, two subgroups showed different evolution. First, the urban partnerships added a new field of water governance that is river ecosystem conservation, to the existing water governance. The environmental outcomes were directly linked to the existing water governance in all three urban cases, which meant that the outcomes resulted from a combination of the partnerships' programmes and the actions of established water governance institutions. Because of the voluntary emergence of co-governance institutions in the urban cases, the urban partnerships' connection with formal water institutions hardly occurred automatically. Even though the partnerships outcomes were directly affected by the existing water governance, urban water partnerships preferred less expensive relationships with informal organisations. Therefore, the expanded social basins in three cities were

only partly connected to one another and may result in the problem of segmented management. In the future, this result calls for further efforts at integrated management.

The social basins of the regional water partnerships under the strong influence of national water governance remained largely unchanged after the operation of partnerships. Their key activities and major agenda of regional partnerships have been shaped around conventional water management fields, e.g. water provision, pollution control and related regulation tools. This confirms the path dependent development of co-governance institutions following state-driven reforms. The shaping of social basins in three regions was in contrast to that of the city cases where network was expanded to encompass the new field, river rehabilitation, beyond the conventional water governance. In other words, apart from the Daecheong partnership, the regional water partnerships played a complementary role to the existing water governance. Judging from the success in the Daecheong case, the future of regional water partnerships needs to be secured through the development of locally adjusted norms of co-governance and addressing the chronic reluctance of public organisations to embrace co-governance.

CHAPTER 8 CONCLUSION

Introduction

This study has been focusing on investigating the water partnerships recently developed within state-driven, multi-layered water governance in Korea (Republic of Korea, or known as South Korea). At the beginning of the thesis, two questions were proposed: how and why certain water partnerships in Korea emerged; how and why they created certain outcomes. The key hypothesis proposed was that, in contrast to the common but simplified understandings, co-governance institutions were more likely to be created and operated by not only the collective efforts of local actors, but also with the combined effects of the exogenous factors on national and global scale. This study used six water partnership cases in Korean institutional settings to prove this claim.

To verify this claim, this study first discussed the literature on current water management issues, water partnerships and institutional analysis. Subsequently, the author introduced extra analytical elements to an institutional analysis and development (IAD) framework. Those were 1) water reform discourses, 2) nesting the reform discourses at the national and local levels of governance and 3) the change of social basins before and after the creation of water partnerships. Before applying a modified IAD framework to six partnership cases, a Mahoney's periodization analysis was

conducted in Chapter 5 to identify the first and second extra analytical elements about “how the global water reform discourses (1) were nested by the national and local actors in Korea (2) before the creation of water partnerships”. This analysis found that there had been three water institutional changes at national and local levels in Korea in the 1990s.

Subsequently, in Chapters 6 and 7, comparative case studies were conducted to analyse the creation and outcomes, respectively, of the six water partnerships depending on this modified IAD framework. To assess the outcomes and to compare them, an attitudinal survey complemented the main qualitative methodology. The results of the proposed modification of institutional analysis are presented into two sub-groups of cases, which were coupled by the water management functions and scales: the urban and regional partnerships. Two comparative case studies in Chapters 6 and 7 ended with the analysis of changes in social basins. This analytical element of a modified IAD framework captured the functional and structural changes that had occurred within multi-level water governance since the operation of six water partnerships in Korea (until 2007).

This final chapter is devoted to a discussion about how the findings of this thesis answer the two research questions. In the first section, the two research questions raised in Chapter 1 are revisited to remind why and how the questions were theoretically and empirically justified. A discussion of

the research findings from Chapters 5 to 7 will be rearranged to answer the two research questions, and then, will be placed into the detail by the empirical, theoretical and policy-related implications. In the next section, the theoretical and empirical contributions of this study are to be discussed. After a proposal of the limitations of this thesis, the chapter ends with recommendations for water studies and future research.

8.1 Research questions revisited

Two research questions proposed in Chapter 1 represent two-fold stages of 'the development of water partnerships' and 'their outcomes'.

- 1) How have co-governance institutions for water management emerged in Korea?
- 2) How and why have certain water partnerships produced certain outcomes?

The theoretical and empirical review of the previous studies supported the first research question. The first research question of this research was raised because the current partnership studies and water schools were inconclusive on the formation of co-governance institutions despite increasing diversity in the forms and practices of water partnerships. Furthermore, a few studies that focused on the partnerships as individual organisation hardly address why and how various experiences of co-governance institutions occurred in specific contexts such as Korea.

From a theoretical perspective, *Ostrom's IAD framework* was selected and modified to depict the emergence of water partnerships into the multi-layered water governance system. The conventional framework before my modification contained the rather static elements of actors, resource conditions and features of related socio-political contexts often at a small scale. Being an advocate of self-governance, the literature about the IAD framework has mainly focused on reviving the virtues of traditional, pre-existing community institutions at the community level. Investigating the introduction of a totally new institution in state-centred water governance, the focus of this study, required a modification to the framework.

Where there has been abundant work done in the US and developing countries from an empirical perspective, co-governance institutions in the contexts of the NICs in East Asia remain unexplored. Regarding this first research question, it is argued in this thesis that multiple path dependent developments of new institutions at the national and local scale occurred before the creation of water partnerships. To disclose how a partnership was shaped and developed within a context has become a critical but less explored topic, in which this study was based. Thus, this study attempted to modify this framework by adding exogenous variables such as reform discourses, national policy and previous capacity building. These analytical elements were found to influence the emergence of the water partnerships

in a centralised society, Korea.

The second research question was formulated to advance the understanding of partnership studies in two ways. First, the current studies on partnership outcomes limited their scope of research to the establishment based on organisations' objectives. This relatively narrow scope of research needed to be expanded to a more general and comprehensive assessment criteria. In reality, partnerships comprising of a broad range of stakeholders are under the influence of complicated institutional settings. Particularly, a multi-layered structure of management institutions have become commonly found in the water management sector, given the growing concerns with Integrated Water Resource Management (IWRM), expressed by academics and practitioners worldwide (Falkenmark, Gottschalk et al. 2004; Mizanur Rahaman, Varis et al. 2004; Conca 2006). Thus, the application of a useful tool such as an IAD framework was advocated in Chapter 3 in order to investigate not only organisational performances of water partnerships but also linkages of partnerships within water governance.

A modified IAD framework, proposed in Chapter 3, attempted to enhance understanding on the development of water partnerships by connecting the outcomes with organisational development as well as multi-layered water governance. The outcomes of water partnerships explored by the

partnership studies literature focused on organisational performance. These studies have neglected in-depth institutional analysis. In contrast, an IAD framework provides a useful analytical tool to link the outcomes of partnerships with their locally embedded development.

Second, there has been a lack of agreement concerning the relationships between co-governance institutions and substantive outcomes. The current understanding on partnership outcomes ranges from positive assessments (Agranoff and McGuire 2003; Sabatier, Focht et al. 2005; Head 2007) to scepticism concerned with whether partnerships can produce positive substantive outcomes (Freeman 1997; Kenney 2000; Cooke and Kothari 2001; Rydin 2006). Because previous partnership studies have focused on organisational performance, they have hardly captured the dynamic consequences of co-governance institutions. There is a need, therefore, to advance methodology on the assessment of partnership outcomes and to conduct comparative case studies. This study employed a multi-criteria assessment to examine partnership outcomes, which included not only environmental gains but also process-related and socio-economic perspectives.

In short, the two research questions proposed in Chapter 1 were justified both theoretically and empirically. They supported the use of a modified IAD framework and its application to six water partnerships in Korea.

8.2 Discussion of the Findings

This section presents a review of the findings from Chapters 5 to 7 in accordance to the research questions on the development of the water partnerships and their outcomes in Korea.

8.2.1 The emergence of water partnerships in Korea

Empirical findings

According to the comparative case study conducted in Chapter 6, the six water partnerships in Korea emerged through the combination of the local actors' initiatives and the political support from national and local capacity building experiences. This result confirms Mahoney's periodization analysis adopted and proposed as an additional element for the IAD framework Chapter 5. The uniqueness of Korean cases that this study found was that there was no direct intervention of outside organisations, stipulating the formation of partnerships in comparison with the cases found in developing countries and the EU, discussed in Chapters 1 and 2. In terms of a legislative perspective, all six partnerships had been formed and formalisation procedures such as enacting bylaws, or codes of conduct were followed. These processes of partnership development again confirmed the organic creation of water partnerships in Korea. Furthermore, despite no application of a top-down plan, all six partnerships shared common

features in their structures and composition of members.

The empirical findings on the emergence of water partnerships in Korea suggest that local actors with experience of collaborative governance could lead the design of co-governance institutions. The Korean cases proved the growing power of the nongovernmental groups and the contrasting roles of governments in the development of water partnerships. In the case of the regional partnerships, despite the influence of incremental development in national water governance, once created, partnerships tend to be embedded within local conditions during the operation of co-governance activities.

This approach verified that national and local actors in Korea were influenced by global water reform discourses. The notion of co-governance that was salient in these discourses, was found to influence the development of water partnerships in Korea. This means that co-governance ideas about information provision and participation were voluntarily adopted by Korean actors, in contrast to claims that such discourses are *imposed* on developing countries by the Global North (See Chapter 2).

Across the case studies examined in this thesis, only one partnership *internally* developed a strong co-governance identity. In the Daecheong case, partnership members formed the unique norm, 'the unity of the region to

protect the shared Daecheong Lake'. This example showed the possibility of 'scaling-up' co-governance institutions when participants not only mobilised political and economic resources, but also re-interpreted co-governance discourse reflected in their own contexts.

Changes in the social basins after the emergence of water partnerships in Korea revealed that the management topics of water governance have been evolving to cover more complicated and holistic approaches. Having been created to facilitate the river rehabilitation projects in the three cities, rising concerns with the ecological conservation of the river environment were evident in *the urban partnerships*. In these cases, therefore, social basins expanded to include ecological conservation. In comparison, *the regional partnerships* managed water resources by addressing more conventional topics of management. These topics were, namely, pollution control, water supply and sanitation. Hence, the expansion of the social basin, found in the case of urban water partnerships was not found in the regional water partnership. The difference of social basins between the subgroups of water partnerships was mainly due to the features of related water resources. Given that the national government manages shared water sources, the urban actors were left to control the local streams. The regional partnerships also attempted to address pollution and water shortages, but were unsuccessful because there was no linkage to the current water management system. Thus, the case study results confirm the locally

shaped choice of management topics among the range of conventional and newly developed policy tools.

As a result, the formation of co-governance institutions, represented by these six water partnerships, added another layer of governance to the evolving, but stable, state-centred water governance in Korea. Chapter 6 found that the emergence of water partnerships changed the social basins in Korea by covering the fields of water management that had been left unaddressed by governments. The analysis of the urban cases showed that the local actors were allowed and even partly supported by central government to manage a newly emerged focus on local rivers in terms of ecosystem conservation. As a result, the urban partnerships kept a relatively independent position from the existing water governance, apart from the flat-rate financial support from the national government. In contrast, the regional partnerships overlapped with current water management bodies, e.g. water pollution control and/or the supply of safe water to the regions. The regional partnerships developed various strategies, with difficulty, to differentiate themselves from national water policies. It was relatively easy for urban partnerships to set up their functions and identity owing to the new management topic of ecosystem conservation of urban streams, while it was more difficult for regional partnerships to find distinguishable functions in the overlapped social basins within current water management system.

Theoretical implications

The preconditions of the IAD framework, featuring physical conditions, community attributes and the rules-in-use with norms, explained to some extent, how the local partnership actors managed to form the locally adjusted partnerships in Korea. On the one hand, the framework used in Chapter 5 described the locally embedded development of co-governance institutions. This finding was consistent with the criticism against top-down reform ideas by academics, as discussed in section 1.1.3. Despite the similarity found at the subgroups of urban and regional partnerships, the initial structure of partnerships and norms was locally re-interpreted. Hence, the IAD framework proved to be a useful explanatory tool to disclose the complicated development process of co-governance water institutions in Korea.

However, as proposed in the earlier chapters, these water partnerships could not be fully understood only through the lenses of a conventional IAD framework. Among the three pre-conditions of 'physical conditions', 'attributes of communities' and 'rules-in-use', the first one-water problems as physical conditions-was significant only in the creation of the two regional partnerships in Daecheong and Paldang. 'Attributes of community' were important in the establishment of water partnerships in Jeonju and Paldang, where stakeholders came together to try to resolve the local water

conflicts. No other particular factors related to the preconditions were found in the remaining three partnerships in Busan, Incheon and Gyeongnam. The 'rules-in-use' as a precondition could not explain any partnership emergence, despite the long-lasting history of the centralised national state and the proven weakness of local actors in Korea.

Overall, Chapter 6 found that the conventional IAD framework explained partly why and how, these actors in all six cases were motivated to organise co-governance institutions. The theoretical presumption of the IAD framework, that rational self-interest is necessary for successful collective action, was not found in all six Korean cases. Indeed, there was no prior awareness of these actors about costs and benefits. Instead, local actors were found to have political inspiration from co-governance discourse, rather than direct economic interests in either urban rivers or protected water sources. Subsequently, rules-in-use embodying economic incentives and sanctions were not created in any partnership instead there were the cooperative norms of saving 'our water resources' and 'keeping co-governance institutions'. Thus, this study identified that the political motivation of members was critical to forming partnerships, which are neglected in the conventional IAD framework.

Furthermore, the application of the classical IAD framework to the six cases raised the question about the scale of management. Beyond the political

motivation of partnership emergence, the community-focused framework could not explain the emergence of partnerships at the larger scale of management. The metropolitan cases and regional partnerships contradicted the literature in relation to Olson's work on collective action (Olson 1965) and the IAD framework. These findings support academic literature (Agrawal 2000; Poteete and Ostrom 2004) that claims that a larger scale of management leads to a better organisation of collaborative water governance. Thus, these findings agree the discussion of the institutional and water partnership literature in Chapters 2 and 3, which, consequently, confirmed the need for development of a modified IAD framework.

A comparative case study conducted in Chapter 6 found that a modified IAD framework with extra analytical elements, filled those gaps of the previous literature. The modification of the IAD framework that comprised three additional elements explained how local actors were able to adopt co-governance discourse and create the water partnerships in a highly centralised society. As shown in the Mahoney's periodization analysis, the national and local actors accepted and implemented the co-governance idea promoted by international organisations. Subsequently, the local actors, who previously took part in the participatory governance in relation to the local water resources, were active in the creation of urban partnerships. The legacy of recent participatory water reform was also apparent in the regional cases in comparison with the urban ones. Apart from the Paldang

partnership that was initiated by the Ministry of Environment, involving of the higher capacity of the local NGOs was found to be critical in the creation of the other five partnerships.

Policy implications

Given the nature of multi-layered water governance, the voluntary emergence of water partnerships paradoxically highlights the roles of the existing governments to support local actors. This links to the findings of the comparative case studies on the regional water partnerships where the main concerns of co-governance institutions overlapped with national policy on pollution control and water supply. An integrated approach to orchestrate the coordination of co-governance institutions and governmental bodies is needed for effective governance. Co-governance institutions within a centralised society like Korea need even more to formalise and professionalise their activities, e.g. introducing the support of permanent staff or establishing a bylaw. The ways in which national and regional governments can create the conditions to nurture and support water partnerships need to be investigated.

Other policy implications for developing water partnerships are drawn from the case studies as follows:

- To develop co-governance institutions without the negative impacts of top-down planning, outside organisations such as central government

and/or international organisations should start from the capacity building of local organisations.

- even if there are some leading actors within partnerships with more resources available, the balance of power among participants is critical to prevent internal conflict, and consequently, to minimise transaction costs. The Korean cases suggest that the initial procedure for creating partnership needs to be carefully designed. For example, members within co-governance institutions should agree rules or the codes of conduct that explain responsibilities and possible sanctions.

8.2.2 The outcomes of water partnerships in Korea

Empirical findings

The results of the attitude survey show that the water partnerships in Korea produced varied outcomes even within a relatively short time of operation. Positive process-related and socio-economic outcomes were produced. The procedural outcomes of the regional water partnerships were found to be positive, while the results for the socio-economic and environmental outcomes were much more varied. Relatively lower perceived achievement in environmental outcomes was found through the attitude survey results. These results reflected both sides of the debate between the sceptics and advocates about whether and how collaborative governance produces positive environmental outcomes. By adopting the multi-criteria assessment

method, this study managed to capture the complicated nature of partnership outcomes. Thus, the outcomes confirmed the rationale for multi-criteria assessment, in place of more simplistic performance evaluation focus on organisational goals found in partnership literature (see the discussion in Chapter 2).

The overall varied outcomes indicated that the outcomes of co-governance institutions tended to be contextual. First, the scale of water resources did not match with the partnership outcomes. The smallest in Jeonju and the largest one in Daecheong were perceived as the most successful ones. Given that the Jeonju partnership among the urban cases, and the Daecheong partnership among the regional cases achieved the highest overall outcomes, the scale of management and the key water issues hardly determined the outcomes. Second, the average achievement of two subgroups indicated that the urban water partnerships were assessed as being more effective, particularly in terms of process-oriented and socio-economic perspectives. It can be concluded that partnerships of this type can be successful within clear but limited boundaries of activities, which avoid contentious issues.

Theoretical implications

In comparison with its explanatory power on the emergence of water partnerships in Korea, the analytical elements of the IAD framework

provided more understanding on partnership operations and their outcomes. In particular, the IAD framework provided an excellent tool to disclose internal politics of the partnerships and relate these to the outcomes of the partnerships. The examination of the seven analytical elements found that the six partnerships were locally embedded. As argued in the IAD framework literature, the composition of participants (the set and positions) and allowable actions were relevant factors to shape partnership outcomes. Again, the Jeonju case fits most with the claims of the IAD framework, that small and homogenous communities are better for collective action.

However, the case study results supported the rationale for developing a modified IAD framework, because of the positive outcomes achieved by some of the cases at the larger scale and their relation with political motivation. This was confirmed in the case of the Daecheong partnership, and the two metropolitan partnerships in Busan and Incheon. In other words, the IAD framework, based on claims that transaction costs and the absence of sanctions preclude the successful development of large-scale collective action, was not confirmed by the positive assessment results of the metropolitan partnerships and a regional partnership in Daecheong. Furthermore, the case study conducted in Chapter 7 showed that the IAD framework does not cover wider water governance structures in relation to the assessed outcomes.

With the six water partnership cases, a modified IAD framework, developed for this study in Chapter 3, disclosed a complicated picture about the relationship among the newly emerged water partnerships with existing water governance and surrounding institutional arrangements at multiple scales of management. The application of the first additional theoretical element, discourse, improves the explanation of the Daecheong case. The co-governance discourse inspired by the spirit of regional unity based on administrative and cultural boundaries, adopted in this partnership, was key to the emergence of a regional partnership addressing water resource issues on a large scale. In contrast, when there was a lack of consensus building on the co-governance discourse, as in the Paldang and Gyeongnam cases, the partnerships did not develop beyond the initial stage of information sharing.

The application of a modified IAD framework explained the gaps found in the explanation of the conventional IAD framework regarding partnership outcomes. A modified framework highlighted the issue of linkage between the new co-governance institutions and the existing water governance. Unlike the Jeonju case, the metropolitan partnerships and the Daecheong partnerships secured the link with the existing national water management system, investing extra effort in a broader array of participation programmes, and furthermore, creating a more formal

sustainable structure to fit the Korean context. Given the ongoing nature of their activities, this embedded development of co-governance was more likely to produce positive collective action outcomes; they appear not to be trapped by large group size but can utilise and benefit from the broader representation of members. The relatively positive remarks on the outcomes of the metropolitan and Paldang partnerships verify the potential strategy of larger co-governance institutions by taking advantage of economies of scale in partnership operations (Poteete and Ostrom 2004).

Furthermore, a notion of social basins reconfirmed the findings through the modified IAD framework. What the changes of social basins captured was the marriage of a conventional water management topic – pollution control – and a new institution – partnership – which has been locally confined. It was apparent that the social basins of the two subgroups evolved differently. First, the urban partnerships added a new field of water governance, river ecosystem conservation, to the existing water governance. As a result, the environmental outcomes were found to be poorer than other categories, which were directly linked to the existing water governance. The case study found the worrying sign of cost-cautious tactics that the urban partnerships preferred less expensive informal relationships with the current water management systems. Yet, the ecologically expanded social basins in the three cities were only partly connected to one another and may result in the problem of segmented

management. In the future, this would call for further efforts at integrated water resource management. Second, the social basins of the regional water partnerships under the strong influence of national water governance remained largely unchanged after the emergence of the partnerships. Their key activities and major agenda of the regional partnerships confirmed the incremental development of co-governance institutions following the state-led reforms.

Policy implications

The empirical and theoretical findings of this research suggest a list of recommendations to achieve better outcomes in water partnerships.

- Given the difficulty of achieving improved environmental outcomes during the short term, partnerships need to plan their goals and programmes and have in mind the lagged long-term effects of physical environmental change.
- To manage the potential conflicts and disagreements within a partnership, one needs to set up sanctions as well as codes of conduct.
- Given that the linkage between partnerships and the existing water governance was not automatically established in the Korean cases, extra efforts are needed to integrate this new type of institution with formal water organisations.

8.2.3 Reflections on using the modified IAD framework

In retrospect, there were gaps between the expected functions and actual achievements of the modified IAD framework on which this study depended. Three additional elements were added in order to complement the conventional IAD framework: international water reform discourses, local institutional development prior to the partnership emergence and changes of social basins. To assist future studies, a few points about what worked and did not work in my case studies are listed here.

-First, the two elements on water discourses and historical institutional development at national and local levels (by using Mahoney's periodization) explained how stakeholders at the multi-layered water governance structure interacted through ideas, incremental changes, and stable institutions in more detail. Those two elements added value to the descriptive concept of 'nested social enterprises' proposed in the conventional IAD framework.

-Second, however, it was hard to achieve the original analytical objective of using the notion of a social basin. This concept was adopted in this thesis because there was no dimension of 'space' or 'scope of water governance' in the IAD framework. Incipiently, 'social basins' were expected to capture the changed structure of multi-layered governance of water resources after the emergence of water partnerships. The social basins used in the case studies showed how different water agencies clashed and/or shared the scope of responsibilities (e.g. councils, city/town, regional governments).

The analysis of the Jeonju case was interesting as there were clashes among the geographic boundaries of water management by the partnership and other institutions. However, this notion was still too imprecise to pick up how water partnerships at a larger scale interacted with the existing water governance, as shown in the analysis of the remaining cases.

-Third, to cover the emergence of water institutions and their outcomes in single study was ambitious. Chapters 6 and 7 provided analyses about the formation of water partnerships and their outcomes. On the one hand, this attempt to cover the development processes of water partnerships provided a rich understanding of newly formed water partnerships in Korea. In-depth findings on the lives of the six water partnerships were one of the achievements this thesis brought to the literature. However, on the other hand, as shown in the separate analyses in two chapters, it was difficult to link partnership emergence and outcome across the six cases.

-Fourth, as discussed in Chapter 2, the conventional IAD framework has rarely been used to examine new institutions. Despite this omission, the IAD framework was selected for this study on the grounds that the complicated processes of water partnership development in Korea could usefully be examined by this framework. However, covering the whole processes of partnership development is methodologically challenging. For future studies in this area, it may be more feasible to conduct in-depth case analysis focusing on either the formation of an institution or its operation and outcomes.

8.3 Research contributions

This study was the first to investigate and yield supportive evidence for the development of co-governance institutions in Korea with a modified IAD framework. The emergence of water partnerships into centralised society such as Korea, served as a useful case study for the examination of co-governance institutions in NIC contexts. Of course, there are differences between NICs' political systems, but they all tend to have hierarchical structures of governance.

The voluntary emergence of water partnerships in a centralised society required new perspective on water partnership studies. This research has produced a rich and complex account of current dynamics in water co-governance through the water partnerships in Korea. Unlike the partnership literature, the case studies confirmed that co-governance institutions could be voluntarily organised by local actors without top-down planning and even become effective within a system of highly centralised water governance. The important role of local capacity as a condition for co-governance building was noted at various stages. The comparative case demonstrated that the development of water partnerships was more likely possible when exogenous factors allowed space for the involvement of local actors. Applying a multi-criteria assessment, this study unveiled a mixture of outcomes as the results of the various water

partnerships. This study partly confirms the proposed hypothesis, 'co-governance institutions were more likely to be created and operated by not only the collective efforts of local actors, but also with the combined effects of the exogenous factors on a national and global scale'.

In addition to the empirical findings, this thesis has also expanded the scope of research in partnership and water governance literature. This research has widened the focus found in previous studies on partnership performance to the relationships with institutional surroundings in the development of water partnerships. Current partnership studies mainly remain focused on single organisations. In contrast, this research, through using a modified IAD framework, paid attention to multilevel water governance from global to national and local scales. Encompassing this multi-layered water governance in the case studies, this study critically examined what the co-governance institutions achieved and explained the roles of national and regional governments in designing and fostering co-governance institutions.

8.4 Thesis limitations and further works

Despite its theoretical and empirical contributions, this thesis has limitations. One limitation of this thesis is the scope of research. Because there had been few studies on Korean water partnerships, the scope of this

research was restricted to official partnership organisations⁵⁸ for a limited period of operation by 2006. The research was done, less than ten years after the water partnerships had been created, which prevents an analysis of the long-term consequences of partnership development. Also, large N-case studies are necessary to capture the more dynamic and diverse nature of partnerships. In particular, the assessment of partnership outcomes would have been more representative with large N cases. Therefore, a statistical analysis of more comprehensive data covering both permanent and ad-hoc features of co-governance institutions would extend the results of this research.

There is much room for development in the applied methodology for this study. The qualitative comparative case study adopted for this research provided the big picture of partnership development but had limitations in measuring partnership outcomes. Partnership outcomes were measured through the indirect method of a simplified attitude survey. In the future, a study utilising a quantitative methodology will be necessary to advance the literature on the outcomes of co-governance. In particular, - large-N study will be desirable to draw conclusions that are more general on partnership outcomes.

⁵⁸However, there have been various informal forms of co-governance institutions such as regular roundtable meetings among local governments and NGOs (see River Network 2004).

The collection of data had some limitations. First, because of internal conflicts in some partnerships, the access to partnership members was limited in the data collection procedure. With limited time and resources, this study used alternative ways of collecting data through emails and telephone conversations instead. Second, given the diverse memberships and activities often found in water partnerships, a more extended period of data collection would be appropriate in the future. Further studies may include repetitive observations of partnership meetings and multiple interviews with the same interviewee over a longer period. To maintain the quality of comparative case studies, future research should plan enough time and resources by including possible conflicts and other obstacles for data collection.

Despite what is often claimed about the design of co-governance for water resource management in theoretical and policy discussion, voluntarily formed water partnerships in practice have brought some solutions and costs to Korean water governance at the same time. A modified IAD framework explained these complicated achievements of water partnerships following their unique development. The case study found this new form of water institutions was created and maintained by stakeholders, who were mostly inspired by co-governance discourses to try to reform the current water governance. To the questions of whether and how these partnerships work for better water governance in Korea, the

outcomes of six water partnerships are hardly comprehensive at national level, but still provide important findings on co-governance institutiBibliography

- (1992). The Dublin statement and report on the conference. International Conference on Water and Environment, Dublin, Ireland.
- Ackerman, J. (2004). "Co-Governance for Accountability: Beyond "Exit" and "Voice"." World Development **32**(3): 447-463.
- Adeel, Z. and N. Nakamoto (2003). The future of environmental governance in East Asia. East Asian experience in environmental governance : response in a rapidly changing region. Z. Adeel. Tokyo, United Nations University Press: 217-232.
- Agranoff, R. and M. McGuire (2003). Collaborative public management: new strategies for local governments. Washington, D.C., Georgetown University Press.
- Agrawal, A. (2000). Small Is Beautiful, but Is Larger Better? Forest-Management Institutions in the Kumaon Himalaya, India People and forests : communities, institutions, and governance. C. C. Gibson, M. A. McKean and E. Ostrom. Cambridge, Mass., MIT Press: 57-86.
- Agrawal, A. (2001). "The Regulatory Community: Decentralization and the Environment in the Van Panchayats (Forest Councils) of Kumaon, India." Mountain Research and Development **21**(3): 208-211.
- Agrawal, A. and C. Gibson, C. (1999). "Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation." World Development **27**(4): 629-649.
- Amy, D. J. (1987). The politics of environmental mediation. New York, Columbia University Press.
- Armstrong, C. K. (2002). Introduction: civil society in contemporary Korea. Korean society : civil society, democracy, and the state. C. K. Armstrong. London ; New York, Routledge: 1-10.
- Armstrong, C. K. (2002). Korean society : civil society, democracy, and the state. London ; New York, Routledge.
- Armstrong, C. K. (2007). Korean society : civil society, democracy and the state. London ; New York, Routledge.
- Arnstein, S. R. (1969). "A Ladder Of Citizen Participation." Journal of the American Institute of Planners **35**(4): 216 - 224.
- Ashman, D. (2001). "Strengthening North-South Partnerships for Sustainable Development." Nonprofit and Voluntary Sector Quarterly **30**(1): 74-98.
- Associate Press in Daegu (1994). Call for civilian monitoring system: Special report on the pollution in the Nakdong River. The Hankyoreh. Seoul, January 13, 1994.
- Asthana, S., S. Richardson, et al. (2002). "Partnership Working in Public

- Policy Provision: A Framework for Evaluation." Social Policy & Admin **36**(7): 780-795.
- Baldwin, A. D., J. De Luce, et al. (1994). Beyond preservation : restoring and inventing landscapes. Minneapolis, University of Minnesota Press.
- Baruch, Y. and N. Ramalho (2006). "Communalities and Distinctions in the Measurement of Organizational Performance and Effectiveness Across For-Profit and Nonprofit Sectors." Nonprofit and Voluntary Sector Quarterly **35**(1): 39-65.
- Beierle, T. C. (2002). "The Quality of Stakeholder-Based Decisions." Risk Analysis **22**(4): 739-749.
- Béné, C. and A. E. Neiland (2006). From Participation to Governance: A critical review of the concepts of governance, co-management and participation, and their implementation in small-scale inland fisheries in developing countries. A review prepared for The Challenge Program on Water and Food. Penang, Malaysia, WorldFish Center and CGIAR.
- Berman, S. (1998). "Path Dependency and Political Action: Reexamining Responses to the Depression." Comparative Politics **30**(4): 379-400.
- Bernard, H. R. (2006). Research methods in anthropology qualitative and quantitative approaches. Lanham, MD, AltaMira Press.
- Berry, K. A. and E. Mollard, Eds. (2010). Social participation in water governance and management : critical and global perspectives. London, Earthscan.
- Bickerstaff, K. and G. Walker (2005). "Shared visions, unholy alliances: Power, governance and deliberative processes in local transport planning." Urban Studies **42**(12): 2123 - 2144.
- Blomquist, W., T. Heikkila, et al. (2004). "Building the Agenda for Institutional Research in Water Resource Management." Journal of the American Water Resources Association **40**(4): 925-936.
- Blomquist, W. and E. Schlager (2005). "Political Pitfalls of Integrated Watershed Management." Society & Natural Resources **18**(2): 101 - 117.
- Blomquist, W. A., A. Dinar, et al. (2005). Comparison of institutional arrangements for river basin management in eight basins. Washington, D.C., World Bank, Agriculture and Rural Development Dept.
- Blyth, M. (2002). Institutions and ideas. Theory and methods in political science. D. Marsh and G. Stoker. Basingstoke, Palgrave Macmillan 2002: xv, 368.
- Bogdanor, V. and British Academy., Eds. (2005). Joined-up government. British Academy occasional paper. Oxford, Oxford University Press for the British Academy.
- Bonn Freshwater Conference. (2001). "Bonn Freshwater Conference." Retrieved January 23, 2006, from <http://www.water-2001.de/>.
- Brandes, U., P. Kenis, et al. (1999). "Explorations Into the Visualization of Policy Networks." Journal of Theoretical Politics **11**, no. 1: 75-106 (132

- pages) Additional Info Sage Publications; 19990101.
- Brannen, J. (2005). MIXED METHODS RESEARCH: A discussion paper. NCRM Methods Review Papers, ESRC National Centre for Research Methods.
- Bressers, H. and S. Kuks (2004). Integrated governance and water basin management : conditions for regime change and sustainability. Dordrecht ; London, Kluwer Academic.
- Bressers, H. and W. A. Rosenbaum (2003). Achieving sustainable development : the challenge of governance across social scales. Westport, Conn., Praeger.
- Brinkerhoff, D. W. (1999). "Exploring State--Civil Society Collaboration: Policy Partnerships in Developing Countries." Nonprofit and Voluntary Sector Quarterly **28**(suppl_1): 59-86.
- Brinkerhoff, D. W. and J. Brinkerhoff (2002). "Governance reforms and failed states: challenges and implications." International Review of Administrative Sciences **68**(4): 511-531.
- Brinkerhoff, J. (2002a). "Assessing and improving partnership relationships and outcomes: A proposed framework." Evaluation and Program Planning. **25**: 215-231.
- Brinkerhoff, J. M. (2002b). "Government-nonprofit partnership: a defining framework." Public Administration and Development **22**(1): 19 - 30.
- Brown, K., S. Gyde, et al. (2003). "Government-Community Partnerships: Rhetoric or Reality?" The Journal of Contemporary Issues in Business and Government **9**(2): 51-62.
- Bryman, A. (2004). Social research methods. Oxford, Oxford University Press.
- Budds, J. and G. McGranahan (2003). "Are the debates on water privatization missing the point? Experiences from Africa, Asia and Latin America." Environment and Urbanization **15**(2): 87-114.
- Busan Development Institute (2006). Current conditions of urban streams and future management policy in Busan (in Korean). Busan, Busan metropolitan city, Busan Development Institute.
- Busan Metropolitan City (2005). Busan Administration White Paper.
- Busan office for LA21 and Gwangju office for LA21 (2003). Workshop report. Co-workshop of LA21 by Busan and Gwangju, Busan.
- Busan water partnership (2006). Current conditions of Rivers and rehabilitation cases in Busan (in Korean). Busan, Busan Hacheon Saligi Undong Bonbu.
- Busan Water Partnership (Busan Hacheon Sal-li-gi Simin Undong Bonbu). "Busan water partnership's homepage." Retrieved Dec 12, 2006, from <http://www.busanriver.or.kr/>.
- Business-Academic partnership at Seongshin Women's University. (2006). "The OECD membership of Korea and Globalisation policy (Seghewha)." Retrieved December 12 2007, from National Archives and Records Services of Korea, <http://contents.archives.go.kr/next/content/listSubjectDescription>.

[do?id=002924](#).

- Caplan, K. and D. Jones (2002). "Measuring the effectiveness of multi-sector approaches to service provision." Water Science And Technology - Water Supply- 2(4): 189-196
- Caponera, D. A. (1992). Principles of water law and administration : national and international.
- Carney, D. and J. Farrington (1998). Natural resource management and institutional change. New York, Routledge.
- Carter, J. and J. Howe (2006). "Stakeholder participation and the water framework directive: The case of the Ribble Pilot." Local Environment 11: 217-231.
- Castells, M. (2000). End of millennium. Malden, MA, Blackwell Publishers.
- Castro, J. E. (2007). "Water governance in the twentieth-first century." Ambiente & sociedade 10: 97-118.
- Center for the Economy and the Environment. (2000). "Governance in Watersheds." Learning from Innovations In Environmental Protection: Commissioned Research Papers, from http://www.napawash.org/pc_economy_environment/learning_texts.html.
- Cha, S.-C. (2006). "Challenges to Civil Society Movement and the Strategy for Member-oriented Activities." Civil Society Organizations Network in Korea, Retrieved July 12, 2008, from <http://www.civilnet.net/30390>
- Chang, H.-J. (1993). "The political economy of industrial policy in Korea." Camb. J. Econ. 17(2): 131-157.
- Chang, H.-J. (2007). Institutional change and economic development. New York, NY ; London, United Nations University Press.
- Chang, H.-J. and P. Evans (2005). The Role of Institutions in Economic Change. Reimagining growth : towards a renewal of development theory. S. d. Paula and G. Dymiski. London, Zed: 99-140.
- Cho, H.-Y. (2000). "Democratic Transition and Changes in Korean NGOs." Korea Journal 40(3): 275~304.
- Cho, M.-R. (2003). "Contending the Renaturalization of Cheonggyecheon in Seoul (in Korean)." ECO by The Korean Association for Environmental Sociology 4: 130 ~ 165
- Cho, M.-R. (2004). "Emergence and Evolution of Environmental Discourses in South Korea." Korea Journal 44(3): 138~164.
- Cho, S.-J. (1999). Jeonju city: to co-manage large projects with the cooperation between the city and nongovernmental sector. Seoul Sinmun. Seoul, Seoul Sinmun.
- Choi, D.-J. and H. Park (2001). "Analysis of water privatization scenarios in Korea with multi-criteria decision-making techniques." Journal of Water Supply Research and Technology AQUA. 50(6): 335-352.
- Choi, S.-H. (2005). River revived: Jeonju River in Jeonju (Hacheon Doesalanada: Jeonju Jeonjucheon). Jugan Hankook (Korean Weekly). Seoul, Hankook Ilbo. 2079: 28.

- Choi, S.-H. (2007). Conflict over the development of the Nakdong River Basin. Naeil Sinmun. Seoul, Naeil Sinmun.
- Chung, D. (2004). Comparison of Watershed management of South Korea and U.S.A.: the Paldang Reservoir and the New York City Watershed. Syracuse, State University of New York, College of Environmental Science and Forestry. **PhD**.
- Chung, J.-Y. and R. J. R. Kirkby (2001). The political economy of development and environment in Korea. London, New York, Routledge.
- Clarke, R. (2003). "Water crisis?" OECD Observer(236): 8-10.
- Clarke, S. J., L. Bruce-Burgess, et al. (2003). "Linking form and function: towards an eco-hydromorphic approach to sustainable river restoration." Aquatic Conservation: Marine and Freshwater Ecosystems **13**(5): 439-450.
- Cleaver, F. and T. Franks (2005). How institutions elude design: river basin management and sustainable livelihoods. BCID Research Paper No.12. Bradford, the Bradford Centre for International Development.
- Committee on Restoration of Aquatic Ecosystems: Science, T. a. P. P. and C. National Research (1992). Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy, The National Academies Press.
- Conca, K. (2006). Governing water : contentious transnational politics and global institution building. Cambridge, Mass., MIT Press.
- Conley, A. and M. A. Moote (2003). "Evaluating Collaborative Natural Resource Management." Society and Natural Resources **16**(5): 371 - 386.
- Connick, S. and J. E. Innes (2003). "Outcomes of Collaborative Water Policy Making: Applying Complexity Thinking to Evaluation." Journal of Environmental Planning and Management **46**(2): 177-197(121).
- Cooke, B. and U. Kothari (2001). Participation, the new tyranny? London, Zed.
- Cummins, R. A. and E. Gullone (2000). Why we should not use 5-point Likert scales: The case for subjective quality of life measurement. . Second International Conference on Quality of Life in Cities Singapore, National University of Singapore.
- Daecheong Water Partnership (2004). The Reports of the 2nd Annual General Assembly. The Annual General Assembly of Daecheong Water Partnership. D. W. Partnership. Yuseong, Korea, Daecheong Water Partnership.
- Daecheong Water Partnership (2005). The Reports of the 3rd Annual General Assembly. The Annual General Assembly of Daecheong Water Partnership. D. W. Partnership. Yuseong, Korea, Daecheong Water Partnership.
- Daecheong Water Partnership (Daecheong-ho Bojeon Undong Bonbu). "Daecheong water partnership's homepage." Retrieved Dec 12, 2006, from <http://www.daecheong.or.kr/>.
- Davies, A. (2002). "Power, politics and networks: shaping partnerships for

- sustainable communities." Area **34**(2): 190-203.
- Davis, J. (2004). "Corruption in Public Service Delivery: Experience from South Asia's Water and Sanitation Sector." World Development **32**(1): 53-71.
- de Waal, L. C., A. R. G. Large, et al., Eds. (1998). Rehabilitation of rivers: Principles and Implementation. Landscape Ecology series. Chichester, John Wiley & Sons.
- Diamond, L. J. and T.-c. o. Sin (2000). Institutional reform and democratic consolidation in Korea. Stanford, Calif., Hoover Institution Press, Stanford University.
- Dinar, A. (2000). The political economy of water pricing reforms. Washington, D.C., published for the World Bank [by] Oxford University Press.
- Dinar, A. and World Bank. (2005). Decentralization of river basin management : a global analysis. Washington, D.C., World Bank.
- Ebenhöh, E. (2007). Designing agent based models of water management regimes using the IAD framework. The Challenge of Self-Governance in Complex, Globalizing Economies. E. Ostrom and A. Schlüter. Freiburg, Institute of Forestry Economics: 81-98.
- Eden, S. and S. Tunstall (2006). "Ecological versus social restoration? How urban river restoration challenges but also fails to challenge the science - policy nexus in the United Kingdom." Environment and Planning C: Government and Policy **24**(5): 661 - 680.
- Editor's comment (1994). This is not only for Nakdong. Sekey Ilbo. Seoul, Jan 15, 1994.
- Evans, P. (1996a). "Introduction: Development strategies across the public-private divide." World Development **24**(6): IN1.
- Evans, P. (1996b). "Government action, social capital and development: Reviewing the evidence on synergy." World Development **24**(6): 1119-1132.
- Evans, P. (2004). "Development as Institutional Change: The Pitfalls of Monocropping and the Potentials of Deliberation." Studies in Comparative International Development **38**(4): 30-52.
- Eversole, R. and J. Martin (2005). Participation and governance in regional development : global trends in an Australian context. Aldershot ; Burlington, VT, Ashgate.
- Falkenmark, M., L. Gottschalk, et al. (2004). Towards integrated catchment management: increasing the dialogue between scientists, policy-makers and stakeholders. International Journal of Water Resources Development, Carfax Publishing Company. **20**: 297-309.
- Faulkner, H., A. Green, et al. (2001). "Residents' perceptions of water quality improvements following remediation work in the Pymme's Brook catchment, north London, UK." Journal of Environmental Management **62**(3): 239-254.
- Feindt, P. H. and A. Oels (2005). "Does discourse matter? Discourse analysis in environmental policy making." Journal of Environmental Policy &

- Planning 7(3): 161-173.
- Flinders, M. (2005). "The Politics of Public-Private Partnerships." Br J Politics & Int Relations 7(2): 215-239.
- Flyvbjerg, B. (2006). "Five Misunderstandings About Case-Study Research." Qualitative Inquiry 12(2): 219-245.
- Folke, C., S. R. Carpenter, et al. (2010). "Resilience thinking: integrating resilience, adaptability and transformability." Ecology and Society 15(4).
- Forsyth, T. (2005). "Building deliberative public-private partnerships for waste management in Asia." Geoforum 36(4): 429-439.
- Fox, J. (1996). "How does civil society thicken? the political construction of social capital in rural Mexico." World Development 24(6): 1089-1103.
- Frances, C. (1999). "Paradoxes of participation: questioning participatory approaches to development." Journal of International Development 11(4): 597-612.
- Franks, T. and F. Cleaver (2007). "Water governance and poverty." Progress in Development Studies 7(4): 291-306.
- Freeman, J. (1997). "Collaborative Governance in the Administrative State." UCLA Law Review 45: 1-98.
- Galaz, V. (2005). Power in the Commons: The Politics of Water Management Institutions in Chile and Sweden. Department of Political Science. Göteborg, Göteborgs universitet: Statsvetenskapliga institutionen.
- George, A. L. and A. Bennett (2005). Case studies and theory development in the social sciences. Cambridge, Mass., MIT Press.
- Gerlak, A. K. and T. Heikkila (2007). "Collaboration and Institutional Endurance in U.S. Water Policy." PS: Political Science and Politics January: 55-60.
- Gibson, C. C., M. A. McKean, et al. (2000). People and forests : communities, institutions, and governance. Cambridge, Mass., MIT Press.
- Global Water Partnership. (2001). "The Global Water Partnership ToolBox for Integrated Water Resourc Management."
- Global Water Partnership (2003). Effective Water Governance - Learning from the Dialogues. Stockholm, Sweden.
- Goodin, R. E. and H. D. Klingemann (1996). A new handbook of political science. Oxford, Oxford University Press.
- Griffin, C. B. (1999). "Watershed councils: an emerging form of public participation in natural resource management." Journal of the American Water Resources Association 35(3): 505-518.
- Gu, J.-I. (1996). "Local Agenda 21 and Habitat II (in Korean) " City and Poverty (Dosi-wa Bingon) 22: 55-77.
- Gyeongnam Water Expo and Forum organisation committee. "Gyeongnam Water Expo and Forum " Retrieved April 1, 2009, from <http://weexpo.org/>.
- Hajer, M. and W. Versteeg (2005). "A decade of discourse analysis of environmental politics: Achievements, challenges, perspectives."

- Journal of Environmental Policy & Planning 7(3): 175-184.
- Hajer, M. A. (1995). The politics of environmental discourse : ecological modernization and the policy process. Oxford, Clarendon Press.
- Hammersley, M. (1996). The relationship between qualitative and quantitative research: paradigm loyalty versus methodological eclecticism. . Handbook of qualitative research methods for psychology and the social sciences. J. T. E. Richardson and British Psychological Society. Leicester, BPS Books: 159 - 174.
- Han, M. (2000). "Rain Harvest Measures as an Alternative source for water supply (in Korean)." Journal of Water and Wastewater 14(3): 207-210.
- Han, S.-J. (1998). "The Korean Path to Modernization and Risk Society." Korea Journal 38(1): 5~27.
- Harper, D., C. Smith, et al. (1995). The ecological basis for the management of the natural river environment. The Ecological Basis for River Management. D. Harper and A. Ferguson. Chichester, John Wiley: 219-238.
- Hartley, J. (2004). Case study research. Essential Guide to Qualitative Methods in Organizational Research. C. Casell and G. Symon. London, Thousand Oaks, New Delhi, Sage Publications: 323-333.
- Havard College Library. (2010). "Romanisation, Digital Resources for Korean Studies." October 21, 2010. Retrieved October 26, 2010, from <http://hcl.harvard.edu/research/guides/korean/#romanization>.
- Head, B. and N. Ryan (2004). Can Co-governance Work? Regional Natural Resource Management in Queensland, Australia. The Eighth International Research Symposium on Public Management (IRSPM VIII), Budapest.
- Head, B. W. (2007). "Community Engagement: Participation on Whose Terms?" Australian Journal of Political Science 42(3): 441 - 454.
- Heikkila, T. and A. K. Gerlak (2005). "The Formation of Large-scale Collaborative Resource Management Institutions: Clarifying the Roles of Stakeholders, Science, and Institutions." Policy Studies Journal 33(4): 583-612.
- Hilden, M. (2000). "The Role of Integrating Concepts in Watershed Rehabilitation." Ecosyst Health 6(1): 39-50.
- Himmelman, A. T. (1994). Communities Working Collaboratively For a Change. . Resolving conflict: Strategies for local government M. Herrman. Washington, DC, International City/County Management Association.: 27-47.
- Hodgson, G. (1998). "The approach of institutional economics." Journal of economic literature 36(1): 166-192.
- Hofwegen, P. J. M. v. and F. G. W. Jaspers (1999). Analytical Framework for Integrated Water Resources Management - Guidelines for Assessment of Institutional Frameworks. Rotterdam, Brookfield., Balkema Publishers.
- Hooper, B. P. (2005). Integrated river basin governance : learning from international experience. Carbondale, Ill., IWA Publishing.

- Huitema, D. and S. Meijerink (2009). Transitions in water management: positioning this book. Water Policy Entrepreneurs. D. Huitema and S. Meijerink. Cheltenham, UK: Northampton, MA, USA, Edward Elgar: IWA Publishing: 3-22.
- Hwang, H.-G. (2004). Interview: Chairperson of Busan Hacheon Saligi Undong Bonbu, Professor Seung-hwan Lee Kookje News. Busan, Kookje Sinmun
- Im, H. (1994). Makeshift way to recover the Nakdong Pollution. Kukmin Ilbo. Seoul, Jan 20, 1994.
- Imperial, M., T., (1999). "Institutional Analysis and Ecosystem-Based Management: The Institutional Analysis and Development Framework." Environmental Management **24**(4): 449-465.
- Imperial, M. T. and T. Koontz (2007). Evolution of Collaborative Organizations for Watershed Governance: Structural Properties, Life-Cycles, and Factors Contributing to the Longevity of Watershed Partnerships. the 29th Annual Association for Public Policy Analysis and Management (APPAM) Research Conference. , Washington, DC, Association for Public Policy Analysis and Management (APPAM).
- Incheon water partnership and Incheon Metropolitan City (2005). Performance Report. Incheon, Incheon Hacheon Saligi Chujindan
- Incheon water partnership and Incheon Regional Environmental Technology Development Centre (2004). Assessment of Saving River Campaigns in Incheon from Oct 1997 to May 2004, Incheon Hacheon Saligi Chujindan (the Incheon Save the Rivers Promotion Committee).
- Incheon Water Partnership (Incheon Hacheon Sal-li-gi Chujindan). "Incheon water partnership's homepage." Retrieved Dec 12, 2006, from <http://www.icriver.or.kr/>.
- Innes, J. E. and D. E. Booher (1999). "Consensus Building and Complex Adaptive Systems: A Framework for Evaluating Collaborative Planning." Journal of the American Planning Association **65**(4): 412.
- Inoguchi, T. (2002). Broadening the Basis of Social Capital in Japan. Democracies in Flux: The Evolution of Social Capital in Contemporary Society. R. Putnam. Oxford, Oxford University Press: 359-392.
- International Monetary Fund (2012). Official exchange rate (LCU per US\$, period average), International Financial Statistics. 1997-2001., The World Bank Group.
- Jacob, T. (2001). "Path-Dependent Danish Welfare Reforms: The Contribution of the New Institutionalisms to Understanding Evolutionary Change." Scandinavian Political Studies **24**(4): 277-309.
- Jaspers, F. G. W. (2003). "Institutional arrangements for integrated river basinmanagement." Water Policy **5**: 77-90.
- Jeollabuk-do government (Jeollabuk-do cheong). "Jeollabuk-do government's homepage." Retrieved April 1, 2008, from <http://www.provin.jeonbuk.kr/>.

- Jeonbuk KFEM (Korean Federation of Environmental Movement) (1999). Drawbacks of River Pak Plan and appeal for improvement. Jeonju.
- Jeonju city government (Jeonju-si cheong). "Jeonju city government's homepage." Retrieved April 1, 2008, from <http://www.jeonju.go.kr/>.
- Jeonju office for LA21 (2000). Launch of Jeonju office for LA21. Pureun Ongoeul. Jeonju, Jeonju office for LA21,. 1.
- Jeonju partnership (2000). The creation of the Jeonju partnership. internal document collected in 2005. Jeonju.
- Johnson, C. A. (1982). MITI and the Japanese Miracle, Stanford University Press.
- Jönsson, B. L. (2004). Stakeholder participation as a tool for sustainable development in the Em River Basin. International Journal of Water Resources Development, Carfax Publishing Company. 20: 345-352.
- Kang, B.-K. and Ministry of Environment (2007). Presentation on Plan for Ecological Rivers in 10 years (2006-2015). E. conservation. Kwacheon, Ministry of Environment.
- Kang, H.-k. (2007). Urban Waterway Project Behind Lee's Victory. The Korea Times. Seoul.
- Kemper, K. E., A. Dinar, et al., Eds. (2005). Institutional and policy analysis on river basin management decentralization - the principles of managing water resources at the lowest appropriate level-when and why does it (not) work in practice? Washington, D.C., The World Bank.
- Kenney, D. S. (2000). Arguing About Consensus: Examining the Case Against Western Watershed Initiatives and Other Collaborative Groups Active in Natural Resources Management. Boulder, CO, Natural Resources Law Center, University of Colorado School of Law.
- Kenney, D. S. and W. B. Lord (1999). Analysis of Institutional Innovation in the Natural Resources and Environmental Realm: The Emergence of Alternative Problem-Solving Strategies in the American West. . Boulder, CO, Natural Resources Law Center, University of Colorado School of Law.
- Kenney, D. S., S. T. McAllister, et al. (2000). The new watershed source book: A directory and review of watershed initiatives in the western United States, Natural Resources Law Centre, University of Colorado School of Law, Boulder.
- Kim, B.-J. (2007). Country paper: Republic of Korea,. Local Government in Asia and the Pacific: A Comparative Study. UNESCAP. Electronic book, UNESCAP,.
- Kim, C.-S. (2000). A study on the factors influencing environmental policy implementation - focusing on the water quality improvement policies of the Han River and the Naktong River Basins -. Department of Public Administration. Seoul, Seoul National University.

- Kim, C.-S. (2005). Conditions for cooperation of bureaucracy and civil society in the local autonomy era - focusing on river restoration of Oncheoncheon in Busan metropolitan city -. 2005 Spring conference of KAPA, Busan, KAPA.
- Kim, D.-C. and K.-H. Han (1994). Polluted Nakdong River, National Politics Under Pressure DongAh Ilbo. Seoul, January 14, 1994.
- Kim, G.-G. (2005). "Questioning 10-year-Local Agenda 21 movement (in Korean)" City and Poverty (Dosi-wa Bingon) 75: 17-31.
- Kim, I.-S. (2002). "Devolution of Central Government's Functions to Sub-National Units in South Korea: Progresses and Prospects." The Korea Local Administration Review (Hankook Jibang Haengjeong Yeongu) 16(2): 83-102.
- Kim, J.-K. (2002). Water pollution in the Nakdong River and the Issues of the Special Acts for Water Management. Busan Development Forum. Busan, Busan Development Institute.
- Kim, J. (2008). The key issues in the Bill of Water Act. Water Journal.
- Kim, K.-d. (2008). Social Change in Korea: A bird's-eye view. Social Change in Korea. K.-d. Kim and The Korean Herald. Seoul, Jimoondang: 26-33.
- Kim, K. U., J. K. Koh, et al. (2007). The dynamics of water quality policy change in South Korea. CAIWA 2007, International Conference on Adaptive & Integrated Water Management, Basel, Switzerland, NeWater, Institute of Environmental Systems Research, University of Osnabrueck.
- Kim, M.-S. (2003). Water for Life: Saving Water Movements in Korea, Eco Justice.
- Kim, W. B., W.-s. Choi, et al. (2001). "[Debate] Discussion: Asian Values." Korea Journal 41(2): 282~291.
- Kim, Y.-K. (2007). Cheonggyecheon project: Mere token for presidency election? The Ohmynews. Seoul, from http://www.ohmynews.com/NWS_Web/view/at_pg.aspx?CNTN_CD=A0000428069.
- Knight, J. and I. Sened (1995). Explaining social institutions. Ann Arbor, University of Michigan Press.
- Koehler, B. and T. Koontz (2008). "Citizen Participation in Collaborative Watershed Partnerships." Environmental Management 41(2): 143-154.
- Koh, J.-K. (1995). A study on environmental policy making process in Korea: focusing on tap-water contamination episodes and policy change(in Korean). Environmental Planning, Graduate School of Environmental Studies. Seoul, Seoul National University.
- Koh, J. K., K. Kim, et al. (2005). The gap between theory and practice of consensus building in South Korea: the case of the Hantan river dam World Water Week 2005, the 15th Stockholm Water Symposium, Stockholm, Sweden, Stockholm International Water Institute.
- Koo, H. (1993). Strong State and Contentious Society. State and society in contemporary Korea. H. Koo and J. C. o. K. Studies. Ithaca, Cornell

- University Press: 231-249.
- Kooiman, J. (1993). Modern governance : new government-society interactions. London, Sage.
- Kooiman, J. (2000). Societal Governance. Debating governance: authority, steering, and democracy. J. Pierre. Oxford, Oxford University Press: 138-164.
- Kooiman, J. (2003). Governing as governance. London, SAGE.
- Koontz, T. M. (2005). "We Finished the Plan, So Now What? Impacts of Collaborative Stakeholder Participation on Land Use Policy." Policy Studies Journal **33**(3): 459-481.
- Korea Statistical Information Office (2005). 2005 census.
- Korean Council for Local Agenda 21 (2005a). Sustainable Development and Local Agenda 21 (in Korean), KCLA21.
- Korean Council for Local Agenda 21 (2005b). Walk to Partnership: Local Agenda 21 Practices in Korea, KCLA21
- Ku, D.-W. (2004). "The Korean Environmental Movement: Green Politics through Social Movement." Korea Journal **44**(3): 185~219.
- Kwon, T.-J. (2006). Han kuk eui Sae ki Ddu eo num gi(in Korean), Century-skipping industrialisation and Democratisation of Korea. Seoul, Nanam Publishing Co.
- Laerhoven, H. v., H. J. v. d. Zaag-Loonen, et al. (2004). "A comparison of Likert scale and visual analogue scales as response options in children's questionnaires." Acta Paediatrica **93**: 830-835.
- Lane, M. B. and G. McDonald (2005). "Community-based Environmental Planning: Operational Dilemmas, Planning Principles and Possible Remedies." Journal of Environmental Planning and Management **48**(5): 709 - 731.
- Lane, M. B., G. T. McDonald, et al. (2004). "Decentralisation and Environmental Management in Australia: a Comment on the Prescriptions of The Wentworth Group." Australian Geographical Studies **42**(1): 103-115.
- Lanz, K. and S. Scheuer (2001). EEB Handbook on EU Water Policy under the Water Framework Directive. J. H. (EEB), European Environmental Bureau
- Lawrence, K. (2000). "Empowered or constrained? The policy process and environmental politics in the Blackdown Hills." European Environment **10**(3): 140-151.
- Leach, W. D. (2002). "Surveying Diverse Stakeholder Groups." Society & Natural Resources **15**(7): 641 - 649.
- Leach, W. D. and N. W. Pelkey (2001). " Making Watershed Partnerships Work: A Review of The Empirical Literature." Journal of Water Resources Planning and Management. **November/December**: 378-385.
- Leach, W. D., N. W. Pelkey, et al. (2002). "Stakeholder Partnerships as Collaborative Policymaking: Evaluation Criteria Applied to Watershed Management in California and Washington." Journal of

Policy Analysis and Management **21**(4): 645-670.

- Lee, B.-K. (2006). Institutional measurement for restoration of water ecosystem. Seoul, Korea Environment Institute.
- Lee, D. H., C. W. Kim, et al. (2006). Introduction of planning of a large-scale, multi-functional river experiment station in Korea. the 4th Korea-Japan Joint Seminar, Seoul, Korean Institute of Construction Technology.
- Lee, J.-K. (2003). Activities of networked campaigns for saving rivers in Busan. Co-workshop of LA21 by Busan and Gwangju, Busan.
- Lee, M.-H. (2003). Modernisation and Water management in South Korea (in Korean). Seminar series of Academy of Democratic Society and Policy, Seoul, MinSaYeon (Academy of Democratic Society and Policy), Sangji University.
- Lee, S.-H. (2003). Critiques over Korean modern system of water management (Hankookkeui Keundaejeok Mulkwanri Chegye Bipan, in Korean). Seoul, MinSaYeon.
- Lemos, M. C. and A. Agrawal (2006). "Environmental Governance." Annual Review of Environment and Resources **31**(1): 297-325.
- Liang, C. and C. Yue (2010). 8. Social Participation in the Irrigation Sector in Yunnan, China: Roles of the State, User Associations, and Communities. Social participation in water governance and management : critical and global perspectives. K. A. Berry and E. Mollard. London, Earthscan: 163-182.
- Lijphart, A. (1975). "The Comparable-Cases Strategy in Comparative Research." Comparative Political Studies **8**(2): 158.
- Lim, P. W. (2001). The Evolution of Korea's Development Paradigm: Old Legacies and Emerging Trends in the Post-Crisis Era. Research Paper series no 21. A. D. Bank, Asian Development Bank: 42 pages
- Livingston, M. L. (2005). "Evaluating changes in water institutions: methodological issues at the micro and meso levels." Water Policy **7**(1): 21-34
- Llamas, M. R., L. Martínez-Cortina, et al. (2009). Water ethics. Boca Raton [Fla.] ; London, CRC Press: xxvi, 353 p.
- Local Autonomy Research Institute. (2005). "Interview Si-Yong, Choi, on Local Council for Sustainable Development in Jeonju city." Retrieved January 07, 2007 from <http://grassroot.or.kr/>.
- Lowndes, V. and C. Skelcher (1998). "The Dynamics of Multi-organizational Partnerships: an Analysis of Changing Modes of Governance." Public Administration **76**(2): 313-333.
- Lubell, M. (2004a). "Collaborative Watershed Management: A View from the Grassroots." The Policy Studies Journal **32**(3): 341-361.
- Lubell, M. (2004b). "Collaborative Environmental Institutions: All Talk and No Action?" Journal of Policy Analysis and Management **23**(3): 549-573.
- Lubell, M., P. Sabatier, et al. (2005). 9. Conclusions and Recommendations. Swimming upstream : collaborative approaches to watershed

- management. P. Sabatier, W. Focht, M. Lubellet al. Cambridge, Mass., MIT Press: 261-295.
- Lubell, M., M. Schneider, et al. (2002). "Watershed Partnerships and the Emergence of Collective Action Institutions." American Journal of Political Science **46**(1): 148-163.
- Lundqvist, L. (2004). "Integrating Swedish water resource management: a multi-level governance trilemma." Local Environment **9**(5): 413-424.
- Mahoney, J. (2000). "Path dependence in historical sociology." Theory and Society **29**(4): 507-548.
- Manor, J. (1998). Civil Society And Governance - A Concept Paper. U. o. S. Institute of Development Studies.
- May, T. (2001). Social research : issues, methods and process. Buckingham, Open University Press.
- McCay, B. J. (2002). Emergence of Institutions for the Commons: Contexts, Situations, and Events The drama of the commons. E. Ostrom, Committee on the Human Dimensions of Global Change and et.al. Washington, DC, National Academy Press: 361-402.
- Meijerink, S. and D. Huitema (2009). Water transitions, policy entrepreneurs and change strategies: lessons learned. Water Policy Entrepreneurs. D. Huitema and S. Meijerink. Cheltenham, UK: Northampton, MA, USA, Edward Elgar: IWA Publishing: 371-391.
- Ministry of Construction and Transportation (2001). The Rivers in Korea (Hacheon Illam).
- Ministry of Construction and Transportation. (2005). "Fach Sheet on Water Usage." 2005, from <http://www.moct.go.kr>.
- Ministry of Environment. (2013). "Environmental GIS service " Retrieved January 28, 2007, from <http://egis.go.kr>.
- Ministry of Environment. (1992). "the 4th Northeast Asian Conference on Environmental Cooperation " Retrieved January 23, 2005.
- Ministry of Environment. (1997). "Guide for Creating Local Agenda 21." 2006, from http://library.me.go.kr/DLiWeb25/comp/search/Detail.aspx?srv=4&m_var=64&cid=4574.
- Ministry of Environment. (2002a). "Comprehensive Measures for Water Quality Improvement of Four Major Rivers." 2002, from <http://www.me.go.kr/>.
- Ministry of Environment (2002b). Environmental White Paper, Ministry of Environment, Republic of Korea.
- Ministry of Environment (2003). Environmental White Paper, Ministry of Environment, Republic of Korea.
- Ministry of Environment (2004a). Environmental White Paper, Ministry of Environment, Republic of Korea.
- Ministry of Environment (2004b). Water Policies & Innovative Practices Republic of Korea (ROK). the 8th Special Session of the UNEP Governing Council/Global Ministerial Environment Forum, Jeju, Republic of Korea, Ministry of Environment.

- Ministry of Environment (2006). Water Environment Strategic Management Plan, Ministry of Environment.
- Ministry of Environment. (2009). "History of the environmental laws." December 2009, from http://eng.me.go.kr/content.do?method=moveContent&menuCode=law_law.
- Ministry of Environment and National Institute of Environmental Research. (2010). "Water Environment Information System." Retrieved January 28, 2008, from <http://water.nier.go.kr/weis/>.
- Ministry of Land Transport and Maritime Affairs (2008). Water Management Information System (WAMIS).
- Mizanur Rahaman, M., O. Varis, et al. (2004). EU Water Framework Directive vs. Integrated Water Resources Management: The Seven Mismatches. *International Journal of Water Resources Development*, Carfax Publishing Company. **20**: 565-575.
- Mody, J. and World Bank (2004). Achieving accountability through decentralization : lessons for integrated river basin management. Washington, D.C., World Bank.
- Möllenkamp, S., M. Lamers, et al. (2008). Institutional elements for adaptive water management regimes. Comparing two regional water management regimes in the Rhine basin. Adaptive and Integrated Water Management: 147-166.
- Mollinga, P. P. (2001). "Water and politics: levels, rational choice and South Indian canal irrigation." *Futures* **33**(8-9): 733-752.
- Moon, T. H. (2004). "Environmental Policy and Green Government in Korea." *Korea Journal* **44**(3): 220~251.
- Moore, S. A. and S. F. Rockloff (2006). "Organizing Regionally for Natural Resource Management in Australia: Reflections on Agency and Government." *Journal of Environmental Policy & Planning* **8**(3): 259-277.
- Morse, S. and N. McNamara (2006). "Analysing institutional partnerships in development: a contract between equals or a loaded process?" *Progress in Development Studies* **6**(4): 321-336.
- Moseley, C. (1999). New ideas, old institutions: Environment, community, and state in the Pacific Northwest. . *Department of Political Science*. New haven, Connecticut, Yale University, . **PhD**.
- Mosse, D. and M. Sivan (2003). The rule of water : statecraft, ecology and collective action in South India. New Delhi Oxford ; New York, Oxford University Press.
- Mullen, M. W. and B. E. Allison (1999). "Stakeholder involvement and social capital: Keys to watershed management success in Alabama." *Journal of the American Water Resources Association* **35**(3): 655-662.
- Murray, V. (2000). Evaluating the impact of public-private partnerships. Public private partnerships : theory and practice in international perspective. S. P. Osborne. London ; New York, Routledge: 277-292.
- National Archives of Korea. (2006). "the Comprehensive Measure for Clean

- Water Provision (CMCWP)." January 2008, from <http://contents.archives.go.kr/next/content/listSubjectDescription.do?id=003912>.
- National Archives of Korea. (2007). "Conservation and management of water environment." January 2008, from <http://contents.archives.go.kr/next/content/listSubjectDescription.do?id=007325>.
- Newman, C. L. (2000). "Comparative Study of NGO/Government Partnerships." The International Journal of Not-for-Profit Law 2(3): 24.
- North, D. C. (1990). Institutions, institutional change and economic performance. Cambridge, Cambridge University Press.
- North, D. C. (1995). Five propositions about institutional change. Explaining social institutions. J. Knight and I. Sened. Ann Arbor, University of Michigan Press.
- O'Neill, K. M. (2005). "Can Watershed Management Unite Town and Country?" Society & Natural Resources 18(3): 241 - 253.
- Oh, S.-K. (2003). Introduction of the River Network. LA21 Workshop: Water Management, Incheon, Korean Council for Local Agenda 21.
- Okun, D. A. (1991). "A Water and Sanitation Strategy for the Developing World " Environment ENVITAR 33(8): 16-20, 38-43.
- Olson, M. (1965). The logic of collective action : public goods and the theory of groups, Harvard U.P.; Oxford U.P.
- Olsson, P., C. Folke, et al. (2004). "Adaptive Comanagement for Building Resilience in Social-Ecological Systems." Environmental Management 34(1): 75-90.
- Organisation Committee for Gyeongnam Water Forum (2004). The Proceedings of 2004 Gyeongnam Water Forum. 2004 Gyeongnam Water Forum. Bugok, Korea.
- Organisation Committee for Gyeongnam Water Forum (2005). The Proceedings of 2005 Gyeongnam Water Forum. 2005 Gyeongnam Water Forum. Changnyeong, Korea.
- Organisation for Economic Co-operation and Development. (2006). OECD environmental performance reviews : Korea. Paris, Organisation for Economic Co-operation and Development.
- Ostrom, E. (1990). Governing the commons : the evolution of institutions for collective action. Cambridge, Cambridge University Press.
- Ostrom, E. (1998). "A behavioral approach to the rational choice theory of collective action." Am. Polit. Sci. Rev. 92: 1.
- Ostrom, E. (2005a). 30. Doing Institutional Analysis: Digging Deeper than Markets and Hierarchies. Handbook of new institutional economics. C. Ménard, M. M. Shirley and MyiLibrary. Dordrecht ; [Great Britain], Springer: 819-848.
- Ostrom, E. (2005b). Understanding institutional diversity. Princeton, NJ, Princeton University Press.
- Ostrom, E. (2007). 2. Institutional Rational Choice: An Assessment of the

- Institutional Analysis and Development Framework. Theories of the policy process. P. A. Sabatier. Boulder, Colo., Westview Press: 21-64.
- Ostrom, E., J. Burger, et al. (1999). "Revisiting the Commons: Local Lessons, Global Challenges." Science **284**(5412): 278-282.
- Ostrom, E., R. Gardner, et al., Eds. (1994). Rules, Games, and Common-Pool Resources. Ann Arbor, University of Michigan Press.
- Ostrom, E. and V. Ostrom (2004). "The Quest for Meaning in Public Choice." American Journal of Economics and Sociology **63**(1): 105-147.
- Paldang Water Partnership. (2008). "Paldang water partnership's homepage." Retrieved Dec 12, 2006, from <http://www.paldang.or.kr>.
- Papadopoulos, Y. (2003). "Cooperative forms of governance: Problems of democratic accountability in complex environments." European Journal of Political Research **42**(4): 473-501.
- Park, B.-J. (2004). A survey of visitors to Jeonju River. Maintenance of Jeonju River and Urban stream conservation for Ecocity Jeonju. J. o. f. L. Subcommittee of Ecological rehabilitation of city. Jeonju, Jeonju office for LA21.
- Park, D.-M. (2000). How to promote LA21. International Symposium Of Local Authorities, Busan, Korea (Republic of).
- Park, J.-H. (2005). Vision of the Daecheong Partnership: the NGOs Action Plan for improving the water quality of the Daecheong Lake Report of the Daecheong Local Agenda 21. T. D. w. partnership.
- Park, K.-N. (2004). Cheonggyecheon project: was it not restoration but development? DongAh Ilbo. Seoul, from <http://www.donga.com/fbin/output?f=ccs&n=200403050238&main=1>.
- Park, S.-H. (1999). Interview of the mayoral candidates of the Honam region Kyunghyang News. Seoul.
- Peters, B. G., J. Pierre, et al. (2005). "The Politics of Path Dependency: Political Conflict in Historical Institutionalism." The Journal of Politics **67**(4): 1275-1300.
- Pierce, J. C. and H. R. Doerksen (1976). Water politics and public involvement. Ann Arbor,.
- Pierre, J. (2000). Debating governance: authority, steering, and democracy. Oxford, Oxford University Press.
- Pierson, P. (2000). "Not Just What, but When: Timing and Sequence in Political Processes." Studies in American Political Development **14**(01): 72-92.
- Plummer, J. and T. Slaymaker (2007). Rethinking governance in water services. Overseas Development Institute. London, Overseas Development Institute,.
- Plummer, R. and D. Armitage (2007). "A resilience-based framework for evaluating adaptive co-management: Linking ecology, economics and society in a complex world." Ecological Economics **61**(1): 62-74.
- Postel, S. L. and B. Richter (2003). Rivers for Life - managing water for

- people and nature -. Washington, Covelo, London, Island Press.
- Poteete, A. R., M. Janssen, et al. (2010). Working together : collective action, the commons, and multiple methods in practice. Princeton, NJ, Princeton University Press.
- Poteete, A. R. and E. Ostrom (2004). "Heterogeneity, Group Size and Collective Action: The Role of Institutions in Forest Management." Development and Change **35**(3): 435-461.
- Presidential Committee on Government Innovation and Decentralization (2004). Special Report on the Reform of Public Service Delivery. Seoul.
- Pretty, J. (2003). "Social Capital and the Collective Management of Resources." Science **302**(5652): 1912-1914.
- Pretty, J. and H. Ward (2001). "Social Capital and the Environment." World Development **29**(2): 209-227.
- Prime Minister's Office (PMO) (2000). Task group for Water quality improvement, 2000. Water Management White Paper (MulKwanRi BaekSeo). Kwacheon, PMO.
- Prime Minister's Office (PMO) (2002). Water Management White Paper (MulKwanRi BaekSeo). Kwacheon, OPM.
- Provan, K. G. and H. B. Milward (1995). "A Preliminary Theory of Interorganizational Network Effectiveness: A Comparative Study of Four Community Mental Health Systems." Administrative Science Quarterly **40**(1): 1-33.
- Prud'homme, R. (1995). "The Dangers Of Decentralization." World Bank Res Obs **10**(2): 201-220.
- Reed, M. G. (1995). "Cooperative Management of Environmental Resources - a Case-Study from Northern Ontario, Canada." Economic Geography **71**(2): 132-149.
- Rees, J. (1992). "Markets--the panacea for environmental regulation?" Geoforum **23**(3): 383-394.
- Rees, J. A. (1998). Regulation and Private Participation in the Water and Sanitation Sector. Stockholm, Global Water Partnership/Swedish International Development Cooperation Agency.
- Rhodes, R. A. W. (1997). Understanding governance : policy networks, governance, reflexivity and accountability. Buckingham, Open University Press.
- River Information Centre and Ministry of Land,Transport and Maritime Affairs. (2010). "River Management GIS (RIMGIS)." Retrieved January 28, 2008, from <http://www.river.go.kr>
- River Network (2004). The 3rd River Day report. B. H. S. p. River Network preparation committee, Eco-justice,. Busan.
- River Researches Group. "Eco Friendly River Guide." 2007, from <http://www.river.re.kr>.
- Rogers, P. and A. W. Hall (2003). Effective Water Governance. Stockholm, Sweden, Global Water Partnership/Swedish International Development Cooperation Agency.

- Ryan, R. L. (1998). "Local perceptions and values for a midwestern river corridor." Landscape and Urban Planning **42**(2-4): 225-237.
- Rydin, Y. (2003). Conflict, consensus, and rationality in environmental planning : an institutional discourse approach. Oxford ; New York, Oxford University Press.
- Rydin, Y. (2006). 12. Conclusion. Networks and institutions in natural resource management. Y. Rydin and E. Falleth. Cheltenham, UK ; Northampton, MA, USA, E. Elgar Pub.: 201-216.
- Rydin, Y. and E. Falleth (2006). Networks and institutions in natural resource management. Cheltenham, UK ; Northampton, MA, USA, E. Elgar Pub.
- Ryu, J.-H. (2004). "Naturalizing Landscapes and the Politics of Hybridity: Gwanghwamun to Cheonggyecheon " Korea Journal **44**(3): 8-34.
- Sabatier, P., W. Focht, et al. (2005). 1. Collaborative Approaches to Watershed Management. Swimming upstream : collaborative approaches to watershed management. P. Sabatier, W. Focht, M. Lubellet al. Cambridge, Mass., MIT Press: 3-21.
- Sabatier, P., W. Focht, et al., Eds. (2005). Swimming upstream : collaborative approaches to watershed management. American and comparative environmental policy. Cambridge, Mass., MIT Press.
- Saleth, R. M. and A. Dinar (1999). Evaluating water institutions and water sector performance. Washington, DC, World Bank.
- Saleth, R. M., A. Dinar, et al. (2004). The institutional economics of water : a cross-country analysis of institutions and performance. Cheltenham ; Northampton, MA, Edward Elgar.
- Sarker, A. and T. Itoh (2001). "Design principles in long-enduring institutions of Japanese irrigation common-pool resources." Agricultural Water Management **48**(2): 89-102.
- Schneider, M., J. Scholz, et al. (2003). "Building Consensual Institutions: Networks and the National Estuary Program." Am J Political Science **47**(1): 143-158.
- Scholz, J. T. and B. Stiftel, Eds. (2005). Adaptive governance and water conflict : new institutions for collaborative planning. Washington, D.C., Resources for the Future.
- Seo, J.-G. (1996). "Habitat II and the roles of NGOs (in Korean) " City and Poverty (Dosi-wa Bingon) **23**: 99-107.
- Seong, K.-R. (2000). Chapter 5 Delayed decentralisation and incomplete democratic consolidation. Institutional reform and democratic consolidation in Korea. L. J. Diamond and T.-c. o. Sin. Stanford, Calif., Hoover Institution Press, Stanford University: 127-148.
- Seppala, O. T., J. J. Hukka, et al. (2001). "Public-Private Partnerships in Water and Sewerage Services: Privatization for Profit or Improvement of Service and Performance?" Public Works Management Policy **6**(1): 42-58.
- Sheridan, B. and G. Wehrfritz (2008). The New Green Leaders. Newsweek.
- Shim, S.-B. and H.-S. Lee (1996). Korean experience and challenges in water

- resource planning and management. Towards effective water policy in the Asian and Pacific region, Vol.2, Country papers. W. L. Arriens and A. D. Bank. [Manila], Asian Development Bank: 237-249.
- Sklarew, D. M. (2005). Promoting public participation in international waters management: An agenda for peer-to-peer learning. Enhancing participation and governance in water resources management : conventional approaches and information technology. L. Jansky and J. I. Uitto. New York, United Nations University Press: 98-119.
- Society team (2008). Cover story: Nationwide copycats of Cheonggye-cheon. Newsmaker (Weekly Kyunghyang). 759.
- Special team (1991). Fight for safe water in the Youngnam region (Busan, Gyeongnam, Daegu and Gyeongbuk). DongAh Ilbo. Seoul.
- Stake, R. E. (1995). The art of case study research. Thousand Oaks, Sage Publications.
- The 6th World Water Forum. (2012). "List of Champion Cities: Istanbul Water Concensus 2009." Retrieved April 30, 2012, from <http://www.worldwaterforum6.org/en/commissions/political/local-and-regional-authorities-political-process/list-of-champion-cities/?id=222>.
- The National Institute of the Korean Language. (2000, October 2010). "Romanization of Korean." 2010, from <http://www.korean.go.kr/eng/roman/roman.jsp>.
- Tikhonov, V. (2007). Militarism and anti-militarism in contemporary South Korea, SOAS Korea Studies Seminar
- Torgler, B. and M. A. Garcia-Valiñas (2006). Participation In Environmental Organisations: Political Interest and State Capacity, The Centre for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia.
- Tortajada, C. (2001). Institutions for Integrated River Basin Management in Latin America. International Journal of Water Resources Development, Carfax Publishing Company. 17: 289-301.
- Trachtenberg, Z. and W. Focht (2005). 3. Legitimacy and Watershed Collaborations: The Role of Public Participation. Swimming upstream : collaborative approaches to watershed management. P. Sabatier, W. Focht, M. Lubellet al. Cambridge, Mass., MIT Press: 53-82.
- True, J. L., B. D. Jones, et al. (2007). 6. Punctuated-Equilibrium Theory: Explaining Stability and Change in Public Policymaking. Theories of the policy process. P. A. Sabatier. Boulder, Colo., Westview Press: 155-187.
- UN Commission on Sustainable Development. (2011, 2009). "Partnerships for Sustainable Development - CSD Partnerships Database." Retrieved Mar 1, 2011, from <http://webapps01.un.org/dsd/partnerships/public/statisticsResults.do>.

- UN/DESA. (2002, September 2002). "Key Outcomes of the Summit, World Summit on Sustainable Development." Retrieved Jan 15, 2006, from http://www.un.org/jsummit/html/documents/summit_docs.html.
- UN/DSD. (1993). "Agenda 21." Retrieved January, 2009, from http://www.un.org/esa/dsd/agenda21/res_agenda21_00.shtml.
- UN/DSD (2003). CSD-11 Decision on Partnerships. UN Department of Economic and Social Affairs – Division for Sustainable Development.
- UNDP (2006) "Water: a crisis of governance."
- UNEP International Environmental Technology Centre. (2002). Proceedings of the International Symposium on Building Partnerships between Citizens and Local Governments for Sustainable Lake Management : 8-9 November 2001, Kusatsu City, Shiga Prefecture, Japan. Osaka/Shiga, Japan, UNEP International Environmental Technology Centre.
- UNESCO and the UN World Water Assessment Programme (2006). The 2nd World Water Development Report: Water, a shared responsibility. the forth World Water Forum in Mexico City, Mexico, UN Educational, Scientific and Cultural Organization (UNESCO); Berghahn Books.
- Uphoff, N. (1993). "Grassroots organizations and NGOs in rural development: Opportunities with diminishing states and expanding markets." World Development **21**(4): 607-622.
- Vidal, J. (2006). Heart and soul of the city. The Guardian, from <http://www.guardian.co.uk/environment/2006/nov/01/society.travelsenvironmentalimpact>.
- Volker, L. d. (2004). "Towards sustainable water resources management: A case study from Saxony-Anhalt, Germany." Management of Environmental Quality: An International Journal **15**(1): 17-24.
- Waley, P. (2005). "Ruining and Restoring Rivers: The State and Civil Society in Japan." Pacific Affairs **78**(2): 195-215.
- Walker, B. H., L. H. Gunderson, et al. (2006) " A handful of heuristics and some propositions for understanding resilience in social-ecological systems." Ecology and Society **11**, [online].
- Weizsäcker, E. U. v., O. R. Young, et al. (2005). Limits to privatization : how to avoid too much of a good thing : a report to the Club of Rome. London ; Sterling, VA, Earthscan.
- Wengraf, T. (2001). Qualitative research interviewing : semi-structured, biographical and narrative methods. Thousand Oaks, Calif., London, SAGE.
- Williamson, O. E. (1994). The Institutions and Governance of Economic Development and Reform. the Annual World Bank Conference on Development Economics, Washington, D.C., World Bank.
- Winpenny, J. T. (1994). Managing water as an economic resource. London ; New York, Routledge.
- Wondolleck, J. M. and S. L. Yaffee (2000). Making collaboration work : lessons from innovation in natural resource management.

- Washington, D.C., Island Press.
- Woo-Cumings, M. (1999). The developmental state. Ithaca, N.Y. ; London, Cornell University Press.
- Woo, H. and S. Kim (2000). "Review of foreign river restoration guidelines and prospect of South Korean applications." Korean Society of Civil Engineers Journal **20**(7): 563-566
- Wood, L. A. and R. O. Kroger (2000). Doing discourse analysis : methods for studying action in talk and text. Thousand Oaks, Calif., London, Sage.
- Woolley, J. T. and M. V. McGinnis (1999). "The Politics of Watershed Policymaking." Policy Studies Journal **27**(3): 578-594.
- World Water Assessment Programme (2009). The United Nations World Water Development Report 3: Water in a Changing World. Paris, London, UNESCO Publishing, Earthscan, .
- World Water Council (2006). Session FT 1.15 Is water alive ? Indigeneous understandings of water The 4th World Water Forum, Mexico City, Mexico.
- World Water Forum (1997). Marrakesh Declaration. The first World Water Forum, Marrakesh, Morocco.
- WWF (2001). Elements of Good Practice in Integrated River Basin Management - A Practical Resource for implementing the EU Water Framework Directive -. Practical Resource, Key issues, lessons learned and 'good practice' examples from the WWF/EC 'Water Seminar Series' 2000/2001. WWF. Brussels, Belgium, World Wide Fund For Nature (formerly World Wildlife Fund).
- Yang, U.-J. (2004). To save the Nakdong River and Water Resource of Gyeongnam. 2004 Gyeongnam Water Forum, Bugok, Korea.
- Yin, R. K. (1994). Case study research : design and methods. London, Sage Publications.
- Yin, R. K. (2003). Case study research : design and methods. Thousand Oaks, California, Sage Publications.
- Yoon, B.-S. L. (2001). Democratization and Gender politics in South Korea. Gender, globalization, and democratization. R. M. Kelly, Jane H. Bayes, Mary E. Hawkesworth and Brigitte Young. Lanham, MD, Rowman & Littlefield Publishers: 171-194.
- Young, O. R., L. A. King, et al., Eds. (2008). Institutions and environmental change : principal findings, applications, and research frontiers. Cambridge, MA, MIT Press.
- Yu, M.-J. (2005). "The achievement and problems of 10 years of Local Agenda 21 movement (in Korean) " City and Poverty (Dosi-wa Bignon) **75**: 1-16.

Appendix I: The design and the results of the attitude survey on the urban water partnerships' outcomes

Table A1-1 Attitude questionnaire form

Questions	1	2	3	4	5
Q: To what extent are you satisfied with the partnership outcomes?					
Q: To what degree, would you agree with the achievement on the each element of your partnership outcomes shown below?					
Improved ecological conditions Improved water quantity Improved water quality Mutual understandings Learning and change beyond the original group: - Expansion of the partnership - More application in other fields Changes in attitudes, behaviours, institutions & practices: Citizen awareness Cultural and professional gaps among members High transactional costs Trust building (capacity for) conflict management					

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree.

Table A1-2 Respondents with affiliated member information in urban partnerships

Background of members	Jeonju		Busan		Incheon	
	Committee	Survey	Committee	Survey	Committee	Survey
Central government						
River basin authority						
Local government	6	5	3	1	2	6
Local councillors	2	-	3	-		
Public research and education			2	2		
Public Owned Corporation	-		-			
City-based NGOs	6	1	5	3	2	1
Residential group	-		8	5	1	2
Private research and education	-	1	8	2	4	
Private organisation			1			
PCLA21	-	1	1	1		1
Water partnership	*2		*2		1	1
Sub-total (Response rate, %)	14	8 (57%)	31	14 (45%)	16	11 (69%)

Table A1-3 Scoring on Satisfaction with each partnership in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	0	1	5	2
(percentage)	-	.0%	12.5%	62.5%	25.0%
Busan	-	2	7	3	2
(percentage)	-	14.3%	50.0%	21.4%	14.3%
Incheon	-	1	3	6	1
(percentage)	-	9.1%	27.3%	54.5%	9.1%
Sub total	-	3	11	14	5
(percentage)	-	9.1%	33.3%	42.4%	15.2%

Table A1-4 Scoring on Mutual understanding in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	0	1	6	1
(percentage)	-	.0%	12.5%	75.0%	12.5%
Busan	-	2	3	8	1
(percentage)	-	14.3%	21.4%	57.1%	7.1%
Incheon	-	1	3	7	0
(percentage)	-	9.1%	27.3%	63.6%	.0%
Sub total	-	3	7	21	2
(percentage)	-	9.1%	21.2%	63.6%	6.1%

Table A1-5 Scoring on Expansion of the partnership in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	-	0	3	5
(percentage)	-	-	.0%	37.5%	62.5%
Busan	-	-	0	3	11
(percentage)	-	-	.0%	21.4%	78.6%
Incheon	-	-	3	2	6
(percentage)	-	-	27.3%	18.2%	54.5%
Sub total	-	-	3	8	22
(percentage)	-	-	9.1%	24.2%	66.7%

Table A1-6 Scoring on More application of partnership in other fields in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	0	0	4	4
(percentage)	-	.0%	.0%	50.0%	50.0%
Busan	-	0	1	6	7
(percentage)	-	.0%	7.1%	42.9%	50.0%
Incheon	-	1	1	3	6
(percentage)	-	9.1%	9.1%	27.3%	54.5%
Sub total	-	1	2	13	17
(percentage)	-	3.0%	6.1%	39.4%	51.5%

Table A1-7 Scoring on Citizen Awareness in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	0	0	7	1
(percentage)	-	.0%	.0%	87.5%	12.5%
Busan	-	1	2	9	2
(percentage)	-	7.1%	14.3%	64.3%	14.3%
Incheon	-	0	4	5	2
(percentage)	-	.0%	36.4%	45.5%	18.2%
Sub total	-	1	6	21	5
(percentage)	-	3.0%	18.2%	63.6%	15.2%

**Table A1-8 Scoring on Cultural & professional gaps among members in the Likert scale:
urban water partnerships**

	1	2	3	4	5
Jeonju	0	2	2	2	2
(percentage)	.0%	25.0%	25.0%	25.0%	25.0%
Busan	2	6	3	3	0
(percentage)	14.3%	42.9%	21.4%	21.4%	.0%
Incheon	0	5	4	2	0
(percentage)	.0%	45.5%	36.4%	18.2%	.0%
Sub total	2	13	9	7	2
(percentage)	6.1%	39.4%	27.3%	21.2%	6.1%

Table A1-9 Scoring on Transactional costs in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	1	3	0	2	2
(percentage)	12.5%	37.5%	.0%	25.0%	25.0%
Busan	0	6	3	3	1
(percentage)	.0%	46.2%	23.1%	23.1%	7.7%
Incheon	0	2	2	5	2
(percentage)	.0%	18.2%	18.2%	45.5%	18.2%
Sub total	1	11	5	10	5
(percentage)	3.1%	34.4%	15.6%	31.3%	15.6%

**Table A1-10 Scoring on Ecosystem improvement in the Likert scale: urban water
partnerships**

	1	2	3	4	5
Jeonju	-	0	0	6	2
(percentage)	-	.0%	.0%	75.0%	25.0%
Busan	-	3	8	2	1
(percentage)	-	21.4%	57.1%	14.3%	7.1%
Incheon	-	2	2	1	0
(percentage)	-	40.0%	40.0%	20.0%	.0%
Sub total	-	5	10	9	3
(percentage)	-	18.5%	37.0%	33.3%	11.1%

Table A1-11 Scoring on Water quantity improvement in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	2	4	2	0
(percentage)	-	25.0%	50.0%	25.0%	.0%
Busan	-	4	6	3	1
(percentage)	-	28.6%	42.9%	21.4%	7.1%
Incheon	-	2	1	2	0
(percentage)	-	40.0%	20.0%	40.0%	.0%
Sub total	-	8	11	7	1
(percentage)	-	29.6%	40.7%	25.9%	3.7%

Table A1-12 Scoring on Water quality improvement in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	0	0	5	3
(percentage)	-	.0%	.0%	62.5%	37.5%
Busan	-	3	6	4	1
(percentage)	-	21.4%	42.9%	28.6%	7.1%
Incheon	-	2	2	1	0
(percentage)	-	40.0%	40.0%	20.0%	.0%
Sub total	-	5	8	10	4
(percentage)	-	18.5%	29.6%	37.0%	14.8%

Table A1-13 Scoring on Trust building in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	-	0	4	4
(percentage)	-	-	.0%	50.0%	50.0%
Busan	-	-	4	8	2
(percentage)	-	-	28.6%	57.1%	14.3%
Incheon	-	-	2	9	0
(percentage)	-	-	18.2%	81.8%	.0%
Sub total	-	-	6	21	6
(percentage)	-	-	18.2%	63.6%	18.2%

Table A1-14 Scoring on Conflict management in the Likert scale: urban water partnerships

	1	2	3	4	5
Jeonju	-	0	1	6	1
(percentage)	-	.0%	12.5%	75.0%	12.5%
Busan	-	2	7	4	1
(percentage)	-	14.3%	50.0%	28.6%	7.1%
Incheon	-	1	3	6	1
(percentage)	-	9.1%	27.3%	54.5%	9.1%
Sub total	-	3	11	16	3
(percentage)	-	9.1%	33.3%	48.5%	9.1%

Appendix II: The activities of the urban partnerships

Table A2-1 the Maintenance agenda after the completion of restoration project

- To boost up citizen movement on river rehabilitation: Organising Love Jeonju River Group and web pages operation, Encourage participation of NGOs to river ma
- Regular monitoring on water quality and ecosystem in the Rivers
- Marketing the character of natural monument fish, Shiri, found in the River
- Creating nature learning facilities
- Promotion to accommodate Annual River Day event and other academic conferences
- Building Task Force Team to lead more integrated Jeonju River management plan

Source: Interview #J2, 2005

Table A2-2 Partnership activities on education and monitoring in Jeonju

- Publication of the partnership's achievement organisationally and personally by several members
- web page running and regular monitoring the River conducted by the CA21 (NGO) and the Regional Research Centre at the Jeonbuk Nat'l Univ.;
- Regular monitoring and education programme led by the Jeonju PCLA21 and Water watch movement made of selected 10 NGOs supported by the city government, utilising the 5 million KRW per year from the Geum River basin fund since 2004
- Information exchange with other RBOs at the nationwide River Day host in 2006.

Source: Interviews with partnership members (Interview #J1 and J2); the minutes and documents, 2005

Table A2-3 Details of negotiation results in the Jeonju River Restoration project

	Existed plan	Agreed plan
Title	Jeonju River Park Plan	Jeonju River Restoration Project
How to secure the instream flow	Supply by pumping the downstream water with the upstream water	Supply by the upstream water
How to treat the branch, Guwha-cheon	Reverse contact oxidisation treatment	Separated rainfall and sewage collection system
Land use in the waterfront	Waterfront leisure park and piers	To minimise land use in the waterfront and more focused on ecosystem rehabilitation
How to build the rubber beam in the Hanbeok	Additional rubber beam(1.5m) to the existing one(1.5m)	Additional rubber beam(0.8m) to the existing one(1.5m)

Source: Jeonju PCLA21 (2000), 'the main achievement of Jeonju PCLA21', Pureun Ongoeul 21, Vol. 1, Sept. 2000, p.8.

Table A2-4 Financial support of local authorities for metropolitan partnerships

- Busan Met City provided 30 million KRW to fund the partnership for saving river campaigns, and assisting the maintenance and administration of the partnership itself in the first year, 2003. The budget has increased to more than two times up to 80 million in 2004 partly because the partnership hosted the nationwide conference about river saving research and campaigns, the River Forum.
- In the case of Incheon, as a bylaw-supported organisation, the partnership's activities are fully funded by city government. The bylaw stipulates the city government's support for partnership expense should be eligible as city government's grant provision standards (The 2nd paragraph of the Clause 18). In 2005, the annual budget reached 90 million KRW, which was divided by administrative costs of 60 million and programme costs of 30 million KRW.

Source: Environmental Policy Division, Busan, 2003; the general assembly report, Busan water partnership 2005; the Gulpocheon Network web pages, <http://gulpo.net/> and; Performance Report of the Incheon water partnership, 2005.

Table A2-5 Chronology of Jeonju River partnership

Time	Events
Jul. '98	City hall announced the draft of 'Jeonju River Park Plan'
Dec. '98 ~ Oct. '99	Public consultation: two Audits & a citizen survey conducted
Apr. '00	Construction began
May ~ Aug. '00	Debates between Mayor and NGOs with local academics led to a stop in the construction
Aug. '00	GO-NGO cooperative commission (Jeonju River partnership) organised : six civilian, two city council MPs ⁵⁹ , six public officers
'00~'01	Partnership hosted 50 meetings with citizens
Jan. '03	Restoration project completed
Apr. '04	City hall, with 5 million KRW granted by Geum River Basin Fund & Environmental Conservation Fund, started 'Water Watch' programme with 10 local NGOs

⁵⁹ The governments in Korea are formed under presidential system The local councils in Korea are independent from the local governments because the central and local governments in Korea are formed as in contrast to the parliamentary system in the U.K.

Table A2-6 Chronology of Busan and Incheon water partnerships

Busan	Time	Incheon
<ul style="list-style-type: none"> - Feb. The Alliance of Local NGOs for rehabilitating Rivers (Busan River Alliance, BRA) established - Sept/Dec. Co-Workshops between BRA & City officials produced 10 agreements on the city Rivers 	2002	
<ul style="list-style-type: none"> - Jan, BRA, published a participatory research project (2002), 'Status of Busan Rivers', funded by LA21 - Mar, Pre-committee to create the partnership - May, the partnership created 	2003	<ul style="list-style-type: none"> - Mar, Mayor ordered plan on how to improve Incheon Rivers after joining the event at the Seung-ggi River“ - Apr, a city council MP proposed organising a taskforce team about the Seung-ggi River - May, Mayor announced the master plan for Incheon Rivers - Jul, Pre-committee formed to create the partnership - Sept, partnership created
Rehabilitation projects underway	2006 present	Rehabilitation projects underway

Appendix III: The results of the attitude survey on the regional water partnerships' outcomes

Table A3-1 Respondents with affiliated member information in regional water partnerships

Background of members	Daecheong		Paldang		Gyeongnam	
	Committee	Survey	Committee	Survey	Committee	Survey
Central government	-	-	1	4	-	
River basin authority	1	-	2	1	1	1
Local government	13	4	8	8	1	1
Local councillors	-	-	-		1	-
Public research and education	-	-	-		1	1
Public Owned Corporation	3	2	-		1	1
City-based NGOs	7	6	-		3	2
Residential group	-	-	8	2		
Private research and education	3	2	-		6	3
Private organisation	-	-	-			
PCLA21	-	-	-		1	
Partnership staffs	5	3	2	1	*1	1
Sub-total (Response rate, %)	32	17 (53%)	21	16 (76%)	15	11 (63%)

Table A3-2 Scoring on Satisfaction with each partnership in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	2	1	5	6	3
(percentage)	11.8%	5.9%	29.4%	35.3%	17.6%
Paldang	0	4	7	5	0
(percentage)	.0%	25.0%	43.8%	31.3%	.0%
Gyeongnam	0	1	1	9	0
(percentage)	.0%	9.1%	9.1%	81.8%	.0%
Sub total	2	6	13	20	3
(percentage)	4.5%	13.6%	29.5%	45.5%	6.8%

Table A3-3 Scoring on Mutual understanding in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	-	1	5	11	0
(percentage)	-	5.9%	29.4%	64.7%	.0%
Paldang	-	1	3	10	2
(percentage)	-	6.3%	18.8%	62.5%	12.5%
Gyeongnam	-	1	5	4	1
(percentage)	-	9.1%	45.5%	36.4%	9.1%
Sub total	-	3	13	25	3
(percentage)	-	6.8%	29.5%	56.8%	6.8%

Table A3-4 Scoring on Expansion of the partnership in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	-	0	0	10	7
(percentage)	-	.0%	.0%	58.8%	41.2%
Paldang	-	1	0	4	11
(percentage)	-	6.3%	.0%	25.0%	68.8%
Gyeongnam	-	0	1	2	8
(percentage)	-	.0%	9.1%	18.2%	72.7%
Sub total	-	1	1	16	26
(percentage)	-	2.3%	2.3%	36.4%	59.1%

**Table A3-5 Scoring on More application of partnership in other fields in the Likert scale:
regional water partnerships**

	1	2	3	4	5
Daecheong	-	0	2	8	7
(percentage)	-	.0%	11.8%	47.1%	41.2%
Paldang	-	2	3	7	4
(percentage)	-	12.5%	18.8%	43.8%	25.0%
Gyeongnam	-	0	0	4	7
(percentage)	-	.0%	.0%	36.4%	63.6%
Sub total	-	2	5	19	18
(percentage)	-	4.5%	11.4%	43.2%	40.9%

Table A3-6 Scoring on Citizen Awareness in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	-	0	5	10	2
(percentage)	-	.0%	29.4%	58.8%	11.8%
Paldang	-	2	3	10	1
(percentage)	-	12.5%	18.8%	62.5%	6.3%
Gyeongnam	-	0	2	7	2
(percentage)	-	.0%	18.2%	63.6%	18.2%
Sub total	-	2	10	27	5
(percentage)	-	4.5%	22.7%	61.4%	11.4%

**Table A3-7 Scoring on Cultural & professional gaps among members in the Likert scale:
regional water partnerships**

	1	2	3	4	5
Daecheong	3	9	4	1	-
(percentage)	17.6%	52.9%	23.5%	5.9%	-
Paldang	4	9	2	1	-
(percentage)	25.0%	56.3%	12.5%	6.3%	-
Gyeongnam	2	5	3	1	-
(percentage)	18.2%	45.5%	27.3%	9.1%	-
Sub total	9	23	9	3	-
(percentage)	20.5%	52.3%	20.5%	6.8%	-

Table A3-8 Scoring on Transactional costs in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	1	11	3	1	1
(percentage)	5.9%	64.7%	17.6%	5.9%	5.9%
Paldang	0	2	3	10	1
(percentage)	.0%	12.5%	18.8%	62.5%	6.3%
Gyeongnam	2	4	3	2	0
(percentage)	18.2%	36.4%	27.3%	18.2%	.0%
Sub total	3	17	9	13	2
(percentage)	6.8%	38.6%	20.5%	29.5%	4.5%

Table A3-9 Scoring on Ecosystem improvement in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	-	2	6	8	1
(percentage)	-	11.8%	35.3%	47.1%	5.9%
Paldang	-	2	9	5	0
(percentage)	-	12.5%	56.3%	31.3%	.0%
Gyeongnam	-	3	5	3	0
(percentage)	-	27.3%	45.5%	27.3%	.0%
Sub total	-	7	20	16	1
(percentage)	-	15.9%	45.5%	36.4%	2.3%

Table A3-10 Scoring on Water quantity improvement in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	2	3	6	4	2
(percentage)	11.8%	17.6%	35.3%	23.5%	11.8%
Paldang	1	5	7	3	0
(percentage)	6.3%	31.3%	43.8%	18.8%	.0%
Gyeongnam	0	4	7	0	0
(percentage)	.0%	36.4%	63.6%	.0%	.0%
Sub total	3	12	20	7	2
(percentage)	6.8%	27.3%	45.5%	15.9%	4.5%

Table A3-11 Scoring on Water quality improvement in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	-	2	6	7	2
(percentage)	-	11.8%	35.3%	41.2%	11.8%
Paldang	-	2	8	6	0
(percentage)	-	12.5%	50.0%	37.5%	.0%
Gyeongnam	-	3	4	4	0
(percentage)	-	27.3%	36.4%	36.4%	.0%
Sub total	-	7	18	17	2
(percentage)	-	15.9%	40.9%	38.6%	4.5%

Table A3-12 Scoring on Trust building in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	-	0	3	9	5
(percentage)	-	.0%	17.6%	52.9%	29.4%
Paldang	-	3	5	8	0
(percentage)	-	18.8%	31.3%	50.0%	.0%
Gyeongnam	-	0	2	8	1
(percentage)	-	.0%	18.2%	72.7%	9.1%
Sub total	-	3	10	25	6
(percentage)	-	6.8%	22.7%	56.8%	13.6%

Table A3-13 Scoring on Conflict management in the Likert scale: regional water partnerships

	1	2	3	4	5
Daecheong	1	4	4	8	0
(percentage)	5.9%	23.5%	23.5%	47.1%	.0%
Paldang	1	5	6	3	1
(percentage)	6.3%	31.3%	37.5%	18.8%	6.3%
Gyeongnam	0	2	6	3	0
(percentage)	.0%	18.2%	54.5%	27.3%	.0%
Sub total	2	11	16	14	1
(percentage)	4.5%	25.0%	36.4%	31.8%	2.3%

Table A3-14 Process-related outcomes in the Likert scale (median)

	Mutual understanding	Expansion	More application	Citizen awareness	Gaps	Cost
Jeonju	4.00	5.00	4.50	4.00	3.50	3.00
Busan	4.00	5.00	4.50	4.00	2.00	3.00
Incheon	4.00	5.00	5.00	4.00	3.00	4.00
Urban	4.00	5.00	5.00	4.00	3.00	3.00
Daecheong	4.00	4.00	4.00	4.00	2.00	3.00
Paldang	4.00	5.00	4.00	4.00	2.00	4.00
Gyeongnam	3.00	5.00	5.00	4.00	2.00	2.00
Regional	4.00	5.00	4.00	4.00	2.00	3.00

Table A3-15 Environmental outcomes in the Likert scale (median)

Assessment Criteria	Ecology	Water quantity	Water quality
Jeonju	4.00	4.00	3.00
Busan	3.00	3.00	3.00
Incheon	3.00	3.00	3.00
Urban	3.00	4.00	3.00
Daecheong	4.00	3.00	4.00
Paldang	3.00	3.00	3.00
Gyeongnam	3.00	3.00	3.00
Regional	3.00	3.00	3.00

Table A3-16 Socio-economic outcomes in the Likert scale (median)

Assessment Criteria	Trust building	Conflict resolution
Jeonju	4.50	4.00
Busan	4.00	3.00
Incheon	4.00	4.00
Urban	4.00	4.00
Daecheong	4.00	3.00
Paldang	3.50	3.00
Gyeongnam	4.00	3.00
Regional	4.00	3.00

Appendix IV: The activities of the regional partnerships

Table A4-1 The composition of the Paldang partnership

<p>- The first layer with representative function comprises 6 co-heads: Vice minister of the Environment, Vice governor of Gyeonggi Province, 1 representative of county mayors, 1 representative of local council chairpersons, 2 representative of local residents, which meets once or twice a year (Interview #P3).</p> <p>- The second layer is the Working group that actually operates the partnership. It is composed of 20 members: the MoE manager of water policy section, the manager of watershed planning section & the manager of local co-operation section at the Han River Basin Environmental Office, water supply and sanitation section manager at the Gyeonggi Province, managers at 7 counties, chief executive officer & policy supervisor at the Council and 7 resident representatives. Along with the working group, permanent office hires four full time staff: chief executive officer & policy supervisor, two research fellows and one administrative assistant (council service worker). In addition, an, ad-hoc taskforce team is organisable if appropriate.</p>

Table A4-2 Annual Key Programmes endorsed through the General Assembly

Year	Programmes
2002	Branches' activities stressing on Save Water campaigns & participatory water quality monitoring programmes Grant allocation to member organisations through application procedure.
2003	Branches' activities stressing the Interchange programme & Save Water campaign Policy subcommittee: monitoring and solution for water quality improvement, writing Local Agenda 21 for Daecheong Lake Research & Investigation subcommittee: water quality research, ecosystem education programme
2004	Pilot projects of river restoration Local Agenda 21 for Daecheong Lake Interchange between Cities and Villages in the Lake Basin (led by Daejeon-Chungnam Green Korea)
2005*	Capacity building and enhancing amenity of communities in the upstream villages Monitoring water quality improvement in the Lake Interchange between Cities and Villages in the Lake Basin

*: Programmes were just planned then at the time of data collection in 2005.

Source: Reports for Annual General Assembly in 2003, 2004, 2005, respectively.

Table A4-3 Selected key programmes and themes in the 1st and 2nd GWFs

Events	Key programmes
The 1 st GWF held in 2004	<p>Keynote speech: Nakdong River and Water in Gyeongnam</p> <p>Theme1: Water demand & supply:</p> <ul style="list-style-type: none"> - Foreign Cases in Demand Management - Long-term Water Demand in Nakdong Basin <p>Theme 2: Wastewater and Sewage Treatment</p> <ul style="list-style-type: none"> - Small-scaled sewage treatment in rural areas <p>Theme 3: Drinking water provision</p> <ul style="list-style-type: none"> - how to solve water loss <p>Theme 4: Integrated Coastal Management and water quality conservation</p> <ul style="list-style-type: none"> - Eutrophication of upper level in the sediment of South Sea
The 2 nd GWF held in 2005	<p>Keynote speech: Is Water enough in Gyeongnam?</p> <p>Theme1: Water policy</p> <ul style="list-style-type: none"> - How to do IRBM? - The impacts of Air pollution drops to water quality <p>Theme 2: How to build Eco Cities with sustainable Water Usage</p> <ul style="list-style-type: none"> - Nonpoint source management in cities <p>Theme 3 & 4: Water Service: tap water and sewage</p> <ul style="list-style-type: none"> - Design and operation of purification facilities to meet treatment standard <p>Theme 5: Coast</p> <p>Theme 6: Rivers</p> <ul style="list-style-type: none"> - Nature-typed river clean-up projects in Gyeongnam

Source: Organisation Committee for Gyeongnam Water Forum (2004; 2005)

Appendix V: Summary of the twelve valued-scaled questions in the survey of 77 water partnership members

Water partnerships outcomes	1	2	3	4	5	Sum (M)	Mean	SD
Improved ecological condition	-	12	30	25	4	71 (6)	3.3	0.818
Improved water quality	-	12	26	27	6	71 (6)	3.38	0.868
Improved water quantity	3	20	31	14	3	71 (6)	2.92	0.906
Mutual understanding	-	6	20	46	5	77	3.65	0.721
Expansion of partnership	-	1	4	24	48	77	4.55	0.66
More application of partnership in other fields	-	3	7	32	35	77	4.29	0.792
Changes in attitudes, behaviours, institutions & practices: Citizen awareness	-	3	16	48	10	77	3.84	0.689
Cultural/professional gap	11	36	18	10	2	77	2.43	0.979
High transactional cost	4	28	14	23	7	76 (1)	3.01	1.125
Trust building	-	3	16	46	12	77	3.87	0.714
Conflict management	2	14	27	30	4	77	3.26	0.909

Strongly disagree =1, Disagree =2, Neutral =3, Agree =4, Strongly Agree =5; M: Missing data and; SD: Standard Deviation

Appendix VI: the list of abbreviations used in the thesis

KOWACO Korean Water Corporation, recently changed to K-Water in 2008

MOE Ministry of Environment

MOCT Ministry of Construction and Transportation, recently changed to

Ministry of Land Transport and Maritime Affairs (MoLAMA) in 2009

PMO Prime Minister's Office

PCSD Presidential Committee for Sustainable Development (~2008),
replaced by Presidential Committee for Green Growth since 2009

KFEM Korean federation of Environmental Movement

CEEJ Citizens' Coalition for Economic Justice

GWF Gyeongnam Water Forum

KNRW Korean Network for River and Watersheds

SOE Socially owned enterprise

NGO Non-governmental organisation

IAD framework Institutional analysis and development framework

LA21 Local Agenda 21