GOVERNANCE AND COOPERATION IN ENVIRONMENTAL PROJECT DELIVERY: A CASE STUDY OF TAI'AN

By

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SUMMARY

In China, collaborative measures have been chosen and adopted to support the implementation process for many environmental policies and projects. This adoption provides a possibility to study the operation of these governance measures in the context of China.

This research targets key factors affecting the collaborative and cooperative process in environmental project delivery. By connecting implementation and networking theories, it builds a framework to identify the roles, attitudes and behaviour of the actors involved, the divergent resources and conditions and the intertwined human relationships, in the process of the intergovernmental collaboration, and cooperation between governmental and non-governmental sectors. The policy implementation models show basic implementation process and governance theories provide key governance arrangements and elements for the framework. However, there are serious gaps founded in the literature review, i.e., the limitation of the typical focus in the policy implementation and environmental governance areas, the contextual inapplicability, overly general impact factors and challenges in governance practice. To fill these gaps, this research targets the collaborative and cooperative process in environmental project delivery and focuses on small cities of China. The research findings, therefore, make a contextual-based contribution to the literature and be of assistance on environmental governance in the less experienced small cities.

This study selected Tai'an as a case study area because of the importance of environmental resources in the city where there were two typical ongoing environmental projects, the Sponge City project and the Mount Tai Regional Landscape Forest Farmland Lake Grass Ecological Protection and Restoration Project (Mount Tai Project), which were selected for the research. In the pilot study stage, the 'ambition-action gaps' in Tai'an's collaborative and cooperative environmental project delivery were noticed by the researcher. Therefore, in order to explore why and how overarching intervening factors produce these gaps and the significance and problems associated with collaboration and cooperation processes at the local level, with regard to environmental project delivery in China's small cities, this study puts forward five research questions as follows.

Research Question 1:

What forms of governance measures have been used in environmental project delivery at the local level in China?

Research Question 2:

For what exogenous reasons do local governments in China's small cities start to collaborate and cooperate in the environmental project delivery process and why, and how do key actors conventionalise collaboration and cooperation under such governance arrangements?

Research Question 3:

Why do some key actors hold different perspectives towards collaboration and cooperation,

and how do these perspectives shape their behaviour with regard to joint environmental project delivery?

Research Question 4:

Why and how do intervening factors create or prevent the 'ambition-action gap', after governance tools are employed in environmental project delivery process of small cities?

Research Question 5:

To what extent do guanxi influence environmental governance in small cities?

To address the research questions, a multi-method qualitative research agenda with a case study design as its core was adopted as the research methodology. The pilot interview in the case study for the Sponge City project justified the relevance of the research questions and examined the feasibility of the research methodology. The follow-up case studies for the Sponge City project and the Mount Tai project generated in-depth data about the collaborative and cooperative project delivery processes. In detail, the data was collected by reviewing relevant policies and local documents, organising four initial and twenty-seven in-depth interviews, and participating in two three-month observations. For each case, the qualitative data was analysed longitudinally, followed by a thematic review across the two cases.

The research contributes to the academic areas through proposing the analytical framework combining implementation and governance theories, refining the influential factors and scale of environmental governance, providing the top-down and contextual approach and establishing the

complex and dynamic nature of governance networks. It also contributes to the environmental governance practices primarily by identifying the problems unique to small cities. Moreover, from policy making perspective, this research recommends a long-term mandatory mechanism and an expert accountability system for expert participation, and also advises future policy-makers to hear more from the local governments of small cities.

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CHAPTER 1

INTRODUCTION

1.1 Background

China has experienced a critical period of need to address prominent ecological and environmental issues and to meet citizens' ever growing demands for a more liveable environment. At the same time, policy delivery in China, especially environmental policy delivery, has been a challenging issue because environmental problems become increasingly pluralistic, multidimensional and dynamic. In this sense, collaborative governance and other cooperative governance instruments have been increasingly linked with the environmental policy implementation process since the beginning of 21th century (Koontz, 2004).

Implementation failure of environmental projects is not uncommon and multiple governance models have been adopted to avoid such failure around the world. Empirical evidence has suggested that collaborative models of governance were used to successfully deal with environmental issues in Western countries (Scott, 2015). In China, policy and project delivery processes are typically top-down, while collaborative and cooperative measures have also been chosen and adopted to support the implementation process for many environmental policies and projects. This adoption provides a possibility to study the operation of these governance measures in the context of China.

However, there is still no agreement between scholars and politicians regarding the rationale for linking collaboration and cooperation with effective responses to environmental issues (Provan and Milward, 2001). At this point, the implementation process is more worth studying than the

result, because the process determines the effectiveness of these governance methods. However, most studies have concentrated on the results of these projects and productivity of the models instead of the process. This research, on the other hand, targets the collaborative and cooperative process in environmental project delivery. By connecting implementation and networking theories, it builds a framework, to identify the roles, attitudes and behaviour of the actors involved, the divergent resources and conditions and the intertwined human relationships, in the process of the intergovernmental collaboration and cooperation between governmental and non-governmental sectors.

This research focuses on small cities of China and the research findings can therefore make a more contextual-based contribution to the literature and be of assistance on environmental governance in the less experienced small cities. Most governance networks occur at city level but literature on such networks is poorly developed (Su et.al., 2014). In part this is due to the complexity of such networks. In China, 90% of the government officials and 85% of the fiscal expenditure in China are at the local level (Li, 2007), suggesting the importance of city level in urban governance. In project delivery, local governments interact directly with both the private sector and the public, and the interests of the private sector and the public are also determined, guaranteed, and improved by the local governments (Saich, 2011). This is why even though policy and project implementation in China still follows a top-down model, the higher-tier central government can hardly control the whole system and the success of central policies needs good implementation at the local level (Zhang, 2008). Besides, as Benson and Jordon (2013) suggest, there is still lack of evidence as to what extent these relevant explanations of governance can 'travel' from their original home – namely the USA – to other jurisdictions, especially in small cites and with respect to resource management, to China. Take governance in China as an example: governance methods' contribution to and relevance for China are uncertain although they have been introduced in the practice of environmental projects in China (Newig et al., 2018). While intergovernmental collaboration and public-private cooperation in regions and large cities in China have been practiced for some time, those measures have not been researched in depth in

small cities. Therefore, this research tries to explain how policy implementation and governance theories can promote cooperation and collaborative effort in the context of China, and how this cooperation and collaboration might then influence environmental policies and project delivery in small cities.

This study selected Tai'an as a case study area because of the importance of environmental resources in that city where there were two typical ongoing environmental projects, the Sponge City project and the Mount Tai Regional Landscape Forest Farmland Lake Grass Ecological Protection and Restoration Project (Mount Tai Project), which were selected for the research. This research focused on two aspects, the intergovernmental collaborative governance and the cooperation between local government and non-governmental stakeholders in the small city of Tai'an. Both governance measures were led by Tai'an local government and adopted to deliver environmental projects. As Tai'an is one of the most famous tourist cities in China, located as it is along the main tributaries of the Yellow River, its ecological environment and natural resources, such as mountains, rivers, forests, fields and lakes, are of great importance for the development of the city and its surrounding areas. Tai'an is also an important participant and pioneer in the practice of 'ecotourism' and the 'new type of urbanisation' in China. To undertake these strategies, the Tai'an government transformed the Ecotourism City Strategy from 'Mountain-Based' to 'Mountain- and River-Based', by planning a new development zone covering Mount Culai and the Dawen River. At the time of the study in 2019, the local government was still expanding the development zone to cover all the districts and counties with valuable natural resources in Tai'an. Both the Sponge City project and the Mount Tai project were implemented under this context (Tai'an Housing and Urban-Rural Construction Bureau, Jinan Municipal Engineering Design and Research Institute, 2017).

1.2 Research Aim, Questions and Contributions

1.2.1 Research Aims

This research is designed to explore the process of environmental project delivery at the local level in China in terms of governance and cooperation among stakeholders, including Public-Private Cooperation, or PPC). It does not focus on the outcomes of the projects, or evaluate other approaches to achieving the project goals in-depth, except where relevant.

By adopting an established analytical framework for two environmental projects in the Tai'an case, this research generates insightful explanations regarding the roles, ideas and behaviours of stakeholders in an institutional environmental governance setting from case-based evidence. It aims to explore why and how overarching intervening factors affected environmental project delivery, and the significance and problems associated with collaboration and cooperation processes at the local level, with regard to environmental policy delivery in China's small cities. Specifically, this research analyses the particularity of the 'small city' and exposes the complicated and different roles and impacts of '*guanxi*' in environmental governance of small cities of China. (In this context, *guanxi* refers to the informal relationships in China and connections which facilitate success in such an endeavour.)

The findings are transferable into policy and project delivery practices. Thus, this research can help both policymakers at the central level and practitioners at the local level, particularly in small cities of China, to successfully develop and operate collaborative and cooperative arrangements to support environmental project delivery.

1.2.2 Research Questions

Some local governments in China have adopted collaborative governance and PPP to deal with

the increasingly important environmental problems in the course of China's new industrialisation process. In this process, the Chinese government has become increasingly ambitious in environmental protection and resource management. In order to achieve this ambition, it is essential that the environmental governance should be more systematic and comprehensive, taking into account stakeholders' attitudes, attributes and ambiguities, as well as environmental externalities and resource constraints. This has also led to the increasing complexity of the environmental governance mechanism and an increasing number of stakeholders (distributed in all levels of government and various government and non-governmental departments).

However, the idea of 'ambition-action gaps' attracted the focus of the researcher in China's environmental governance process. These gaps appeared in many aspects of the joint environmental project delivery process. For example, the division of administration has resulted in the conflicts between different stakeholders in solving the environmental and resource problems, and the cost of environmental resource governance was difficult to define. The effectiveness of environmental governance varied from place to place, and many unsatisfactory efforts at implementation of environmental policies appeared.

Therefore, in view of the gaps in environmental governance in China, and in order to identify the relevance of collaborative governance approaches to China's environmental project delivery, this study put forward five research questions, in the form of five research objectives. These questions were designed to explore the mechanism, role and impact of collaboration and cooperation in the process of environmental policy implementation.

Objective One: to review theories and debates on policy implementation and governance, and then explore the connections between the two discourses in terms of collaboration and cooperation, in order to build an analytical framework indicating the research gaps, while also providing support for further analysis.

Meeting this objective requires a broad literature review, first of policy implementation theories, as a way to provide a foundation for building the framework, and then to describe the applicable theories of governance to make the framework more analytical and critical. This is achieved by conducting a critical review on the related literature in *Chapter 2*.

The existing literature provides a reasonable rationale for implementation and governance and gives insights into collaboration and cooperation in the context of environmental governance. However, there are limitations affecting explanations of the process of environmental project delivery at the local level. By combining the key findings in existing policy implementation and environmental governance research, useful intervening factors associated with environmental project delivery process were distilled and comprised an integrated analytical framework for this research, filling particular gaps in the literature and shedding light on future possible avenues of research.

Objective Two: to review current political, economic and societal situations in a small city, and to establish the typology, mechanism and function of those governance measures used to facilitate collaboration and cooperation in environmental project delivery of the small city.

Research Question 1:

> *What forms of governance measures have been used in environmental project delivery at the local level in China and why?*

The existing literature covers various forms of environmental governance and is faced with different institutional dynamics and coordination issues. China has embraced the collaborative governance models derived from these experiences and pursued various public-private cooperative channels in environmental governance for several years (Jing, 2015). Consequently, to date, some specific governance arrangements, in relation to collaboration and cooperation, have been adopted to support the implementation of environmental policies and projects in small cities, such as the collaborative office and public-private partnerships. Despite this, existing studies

direct limited attention towards forms of environmental governance, or the mechanisms adopted by the small cities and the rationale behind that adoption, and also overlook the changing and adaptive characteristics of these forms and mechanisms. In this regard, to address the first research question, *Chapter 4* displays and conducts a longitudinal analysis of the political, social and institutional contexts of both cases, to identify the specific governance arrangements adopted as part of environmental project delivery.

Objective Three: to identify the triggers of collaboration and cooperation in the environmental project delivery process.

Research Question 2:

> *For what exogenous reasons do local governments in China's small cities start to collaborate and cooperate in the environmental project delivery process, and how do key actors conventionalise collaboration and cooperation under such governance arrangements?*

Research Question 3:

> *Why do some key actors hold different perspectives towards collaboration and cooperation, and how do these perspectives shape their behaviour with regard to joint environmental project delivery?*

According to the analytical framework, starting conditions, acting on the periphery of the implementation process, initially trigger the collective activities. Diverse actors are involved in these collaborative and cooperative activities, and their roles, characteristics and divergent perspectives of participation can also influence the initiation and processing of collaborative and cooperative environmental project delivery to different extents. Thus, *Chapter 4* analyses the contextual data and illustrates the involved intergovernmental and non-governmental stakeholders and their behaviours, as a way to answer the above two questions.

Objective Four: to explore the reasons and rationales behind the 'ambition-action gaps' in the process of environmental project delivery in China's small cities.

Research Question 4:

Why and how do intervening factors create or prevent the 'ambition-action gap', after governance tools are employed in the environmental project delivery process of small cities?

Aside from the external reasons, various factors influence the process of environmental project delivery, creating or preventing the 'ambition-action gaps'. The analytical framework has distilled crucial intervening factors associated with environmental project delivery according to the relevant literature. In contrast, little site-specific evidence has been generated concerning how these factors affect the networks between stakeholders, especially the long-term collaboration and cooperation within the environmental project process at the local level. *Chapter 5* delineates influential intergovernmental factors, including the roles, characteristics and behaviours of governmental actors, preconditions, changing power, resources, institutional setting, and the influence of these factors; and *Chapter 6* concentrates on non-governmental players and the influence of their resources input. The two chapters address the fourth research question.

Objective Five: to synthesise the key findings and diagnose the existing and potential 'ambition-action gaps' affecting China's environmental governance at the local level from the perspectives of collaboration and cooperation, and to provide valuable insights for small cities intending to enhance collaboration and cooperation in response to environmental crises.

Research Question 5:

To what extent do guanxi influence environmental governance in small cities?

Chapter 7 explores the 'ambition-action gaps' and discusses two key findings regarding power and resources, as well as the influence of *guanxi* in small cities. In this way, the fifth question is addressed and valuable insights are generated for small cities.

Based on cooperative and collaborative practices in Tai'an, as exemplified by two case studies, this research ascertains the advantages and disadvantages of current governance mechanisms, in

terms of promoting collaboration and cooperation in China's small cities, and its findings and contributions are presented in Chapter 8, with a view of future studies related to governance in the environmental field.

1.2.3 Contributions of the Research

To address the research questions, step by step, a multi-method qualitative research agenda with a case study design as its core was adopted as the research methodology. Collaborative and cooperative methods have been used as innovative approaches by Tai'an local government since around 2014, and the two case studies were conducted successively from 2016 to 2019, so acquired relevant data.

The pilot interview in the case study for the Sponge City project justified the relevance of the research questions and examined the feasibility of the research methodology. The follow-up case studies for the Sponge City project and the Mount Tai project generated in-depth data about the collaborative and cooperative project delivery processes. In detail, the data was collected by reviewing relevant policies and local documents, organising four initial and twenty-seven in-depth interviews, and participating in two three-month observations. For each case, the qualitative data was analysed longitudinally, followed by a thematic review across the two cases.

The outcomes of this research have made contributions to knowledge and practice regarding collaborative and cooperative environmental project delivery processes in small cities. They can be summarised as follows:

- The theoretical analytical framework for this research distinguishes governance process from the results and impacts of project delivery. It provides a better approach to coping with the 'collaborative process challenges' by highlighting the dynamic characters and refining various influential factors in a broader but specific context. Although several

frameworks acknowledged the complex and dynamic nature of collaboration, this research explicitly builds vibrant nature into the governance process and construction of networks.

- Current political trends and academic research increasingly attempts to achieve more sustainable and effective environmental governance through collaborative and cooperative measures. However, the empirical findings and conceptual studies from different academic fields are still ambiguous or unilateral about the content of this process (Newig and Fritsch, 2009; Evans, 2012). Especially, PPC has challenged the notions of the 'public sector' and the 'private sector', creating a 'blurring' boundary between them (Gunningham, 2009; Farrand and Carrapico, 2013). This research extends relevant governance theories to include the myriad of collaborations initiated by the public, private, and academic sectors and then further refines the concept of environmental governance into smaller parts of intergovernmental collaboration, and cooperation between local governments and more kinds of non-governmental actors. Via examining the architecture of these governance initiatives, the role of the actors, power relations resources, trust building and the importance of previous networks as well as the influence of informal networks, this study clarifies the boundary between public and private and 'the relationships between new and old governance' (Bodin, 2017), avoiding the 'blurring'.

- The research also situates the environmental governance in the broader context within which it interacts, as environmental governance process is influenced by surrounding conditions and initiated by specific drivers. The empirical analysis of this research thus suggests the significance of a top-down and contextual approach within networking research. By specifying the components of the environmental project delivery process in small cities, this research suggests some very specific causal linkages in the analytical framework. In line with the outcome of the research, it is the argument of the researcher that the high level of information flow, and the financial and other support from non-

governmental stakeholders are easier to occur under a top-down setting. The purposive top-down approach had a positive effect on the enhancement and creation of networks, but under certain circumstances poor institutional design might actually destroy reciprocal networks. A more contextual approach has been found to understand the ways of networking under this approach. In this regard, *guanxi* has been used to pull together all the threads of collaborative and cooperative project delivery.

- From a practical point of view, this research explored the particularities of small cities and the special difficulties in the implementation of large-scale environmental projects in small cities. The universality of those difficulties makes research findings applicable to more small cities. Therefore, the findings of this study can be applied to guide the implementation of environmental projects in small cities, and help the government and other participants in small cities to avoid potential problems.

- Furthermore, from policy making perspective, this research recommends that the realisation of expert participation in environmental project delivery should rely on a long-term mandatory mechanism for expert participation to decide on major issues, as well as an expert accountability system. It also advises future policy-makers to hear more from the local governments of small cities.

1.3 The Layout of the Thesis

The thesis unfolds in five stages. The first stage (Chapter 1) provides an overview of the whole picture and the overall aim of the research, and states the research questions. The second stage (Chapter 2) details the concepts, theories and influential factors related to implementation and governance, and builds an analytical framework for the research. The third stage (Chapter 3) highlights the research design and strategies. The fourth stage (Chapters 4-6) analyses the empirical data longitudinally and thematically. Finally (Chapters 7-8), the thesis concludes with

a discussion and suggestions for further research.

Accordingly, the thesis layout is as follows:

'Chapter 2. From Literature Review to Analytical Framework' includes three parts: '2.2 Policy and Project Implementation' explores the concepts and important models in implementation studies. The factors identified from these models build the structure of the analytical framework, indicating the basic implementation process. '2.3 Governance Theories in Response to Environmental Challenges' concerns the governance theories and the essential themes in environmental governance studies and introduces the concept of public-private cooperation, and its primary model 'Public-Private Partnership (PPP)'. This section distils key governance arrangements and establishes the main elements of the research framework. '2.4 The Analytical Frameworks for this Research' identifies research gaps and syntheses the structure and elements into an analytical framework.

'Chapter 3. Research Design and Methodology' justifies the adoption of an explanatory multi-method qualitative research methodology and the selection of the cases and research methods.

'Chapter 4. Within-case Analysis of Two Cases in Tai'an: Context and Policy Review' provides a longitudinal analysis of the starting conditions and processes of Sponge City project, Mount Tai project and their corresponding PPP projects. According to the analytical framework, this chapter introduces the starting conditions of the two projects including the basic geographical, financial and political conditions of Tai'an, the project objectives, the actors involved in the two projects, the strategic institutional framework to support local networking and the initial power and resources status. It provides a contextual and policy framework for the thematic analysis of the two cases in the next chapter.

Chapter 5 and **Chapter 6** are thematic analysis chapters, managing the analytical framework established in Chapter 2 and coupled with themes generated from Chapter 4:

'Chapter 5. Intergovernmental Collaboration in Environmental Project Implementation' discusses how the main factors i.e. power and resources, and institutional settings influenced the robustness of intergovernmental collaborative environmental project delivery. Specifically, this chapter establishes how shifts in power and imbalanced resources portrayed strong and weak governmental actors, and how these power and resources affected the institutional framework and networking process (between the governmental departments involved and their networking); and how previous and current institutional settings related to the commitment and communication of governmental actors. In this way, the production and causal stories of the 'ambition-action gap' in intergovernmental collaboration of environmental project delivery are elaborated.

'Chapter 6. Cooperation between Governmental and Non-governmental Sectors in Environmental Project Implementation: Resources Interdependence' discusses networking between governmental and non-governmental sectors (consultants, scholars and private investors). This chapter first differentiates the types of knowledge and the corresponding knowledge providers. It then analyses the reasons, approaches, forms and depth of consultants and scholars' participation, and discusses how these elements influenced knowledge resource input through governance arrangements. It also concentrates on key aspects of the private sectors' participation, from the institutional and strategic issues to the networking between the public and private sectors. In this way, the researcher tries to identify whether the scope for PPP partnerships in small cities in China has been expanded to include PPC.

The findings from the above two chapters confirms the significance of power relations and resources interdependency from both governmental and nongovernmental perspectives, and further explores the extremely close relations between the two factors. It also exposes that *guanxi* is closely associated all other intervening factors in the implementation process but its effects vary depending on different actors and relationships.

'Chapter 7. Discussion: The Impact of Resources Condition and the Role of *Guanxi* in Small Cities' Environmental Governance' discusses how the findings answer the questions and why

they are essential to the collaborative and cooperative environmental project delivery process in China's small cities. Before answering the research question, it first clarifies what the 'ambition-action gaps' are. Based on the findings in Chapter 5 and Chapter 6, it discusses the impact of resource interdependence associated with power relations, as well as the role of guanxi in environmental governance of small cities. Through the discussion, the particularity of the 'small city' is exposed.

'Chapter 8. Conclusion' concludes the discussion on research questions, summarises the findings throughout the research, discusses the limitations and contributions of the research and provides recommendations for future studies of the situation in small cities.

This chapter mainly summarises the research contributions in both academic and practical areas. The research contributes to the academic areas through proposing the analytical framework combining implementation and governance theories, refining the influential factors and scale of environmental governance, providing the top-down and contextual approach and establishing the complex and dynamic nature of governance networks. It also contributes to the environmental governance practices primarily by identifying the problems unique to small cities.

CHAPTER 2

FROM LITERATURE REVIEW TO ANALYTICAL FRAMEWORK

2.1 Introduction

Evidence that has accumulated in diverse regions all over the world has suggested that ecological and social systems behave in nonlinear and dynamic ways that cannot be predictable or controllable (Folke et al., 2002). Accordingly, taking social and political factors into account is currently an ambition, when solving environmental problems, of scholars studying ecological economics, political science, environmental management/governance, resilience research, and sustainability science (Adger, 2000; Fiksel, 2006; Folke et al., 2002; Fraser et al., 2003; Gottlieb, 2002; Hoffman and Bansal, 2012; Kamieniecki et al., 1997; Tompkins and Adger, 2004; Wu, 2006; Young et al., 2006). However, despite the large number of academic fields in response to such changes and challenges, there is a worldwide deficit in problematic environmental policies and project delivery. By analysing the evidence collected from various cases, the Millennium Ecosystem Assessment (MA, 2001) concluded that, even if related policies and projects are transformed substantially, the target to address the changeover of the ecological degradation seems not to happen (Cáceres et al., 2005).

An initial question should be highlighted here: why are there gaps between ambitions and actions? In other words, for what reasons are these theories still unable to respond to the problems and failures in environmental project delivery effectively. This literature review is conducted to gain insights into the related theories within the question being asked. Specifically, it concentrates on the theories and approaches used in the environmental project delivery process at the local level in China, i.e. environmental governance, collaborative governance and PPP, and the influential

factors affecting the mechanism of these approaches, i.e. power, resources, interpersonal relationships, the leadership and trust of members.

In order to address the impact of governance tools on the policies and projects, it is essential to understand the policy/project delivery process. This chapter firstly provides a basic and overall understanding of the policy and project delivery processes, and particularly the key elements and the mainstream processes that are involved in China's environmental project delivery. This provides a foundation for exploring the governance and cooperation in environmental project delivery.

This chapter then moves to the key concept of the research - 'collaborative governance' - discussing its definition, its evolution, and how it is used in environmental strategies. By reviewing the relevant literature, the purpose of this section is to identify which governance theories have proved to be effective in coping with complicated environmental issues and to identify their main characteristics, factors, and mechanisms relevant to this research.

There appears to be a gap in the integration of these key theories and environmental policy and project delivery. This gap might be the reason why each of these theories, individually, is unable to respond to environmental issues effectively. By the end of the literature review, key influential factors in some effective governance theories are identified. In order to analyse these factors in the environmental policy and project delivery process, a framework is built to guide appropriate methods of data collection and to guide the data analysis (Yin, 2009). This framework is used in data analysis and the interpretation and organisation of the research findings (Bryman, 2012). This can allow a more comprehensive framework to be developed that may help improve the performance of environmental project delivery, filling the 'ambition-action gap' raised in the initial question in this chapter.

2.2 Policy and Project Implementation

A review of literature on the implementation process is the foundation of the research framework, because the environmental project implementation process is where governance models are developed and function. Research on policy implementation builds the essential link between political and economic analyses of policy implementation and the institutional analysis of public management (Hjern and Hull, 1987), and links 'complexity of joint action' with decision-making (mainly the failures) in policy implementation (Pressman and Wildavsky, 1973).

Like that of other countries around the world, while policy-makers in China have established a great progress in environmental policy-making (Khan and Chang, 2018), policy implementation has become a weak part. Environmental policy often suffers from an 'implementation deficit' whereby policy intentions on paper cannot be delivered properly 'on the ground' in China. In this sense, most of the research is closely tied with the concerns on policy failure. Since 1950s, many policy analysts have focused on the reasons for frequent failures, and implementation analysts have gradually turned their focuses on attributing the failures to policy implementation instead of policy making (e.g. Sabatier and Mazmanian, 1980; Collins and Earnshaw, 1992).

In this section, the developments and theories in policy implementation research field are reviewed, which includes the origins, the developments and recent debates of policy implementation theory research. The aim is to extract a basic implementation process which includes key elements from existing implementation concepts and theories, providing a foundation to explore its interaction with governance theory and to build the analytical framework in this research.

2.2.1 Defining Implementation

After 50 years debating implementation concepts and theories, analysts have come to one

common ground: that implementation is too complicated to be explained by a single theory or a single theoretical framework (Winter, 2011). Such complexity has generated various definitions of policy implementation. For a better understanding of policy implementation, a conceptual clarification is crucial.

One of the most prevalent definition, based on American experience, was suggested by Mazmanian and Sabatier in 1983:

'Implementation is the carrying out of a basic policy decision, usually incorporated in a statute but which can also take the form of important executive orders or court decisions. Ideally, that decision identifies the problem(s) to be addressed, stipulates the objective(s) to be pursued, and, in a variety of ways, 'structures' the implementation process. The process normally runs through a number of stages beginning with passage of the basic statute, followed by the policy outputs (decisions) of the implementing agencies, the compliance of target groups with those decisions, the actual impacts of agency decisions, and, finally, important revisions (or attempted revisions) in the basic statute.' (Mazmanian and Sabatier, 1983, pp. 20-21)

This comprehensive definition aims to provide a model of policy implementation consisting of the arrangements of all appropriate activities in practice. However, models with multiple variables are difficult to be employed to explain implementation in practice (e.g. deLeon and deLeon, 2002). Then, Ferman (1990) and O'Toole (2000), in a more simplified manner, both imply that:

> Policy implementation refers to the *process* between policy expectations and intended results.

Ferman (1990) and O'Toole (2000)'s definition is adopted in this thesis, as this research starts from policies with clear goals and intends to expose the problems occurring in the process between the expectation and results of the policy. Their definition highlights the process of implementation and clear objectives of policies. Goggin et al. (1990) argues that clear goals should be taken into the process of implementation, as they can make the mandate and direction for implementers clear, resulting in successful implementation. These arguments support the need for clear objectives by policy researchers (Ingram, 1990; Matland, 1995) and changes (Schneider

and Ingram,1993).

2.2.2 Relevant Debates on Basic Components of Implementation Process

Two basic components of the implementation process have been identified from the main assumptions of implementation research, which were important for the selection of key theories and elements of implementation process relevant to this research.

1) Diversity of actors and potential collaboration

The key assumption in the implementation field is that multiple players, including policy makers and operators, can reach consensus when carrying out a policy (Hall and O'Toole, 2000). In this way, implementation 'becomes a battle to determine a correct reading of the mandate and its accurate execution' (deLeon and deLeon, 2001, p. 475). This assumption highlights the existence of more than one actor and the interactions between policy makers and implementors during policy delivery, and implies the necessity of collaboration, which shares the same essence with collaborative governance theory. It suggests a possibility that through collaborative governance arrangements a successful implementation can be realised

2) Changes in institutional settings

'Institution' is a key concept in implementation research. It is usually understood as either an organisational entity or the rules, norms, and strategies adopted by individuals operating within or across organisations (Crawford and Ostrom, 2005). In this research, the researcher adopted the latter sense of institution. The latter understanding sees various individuals as the implementors and multiple organisations as arenas of policies and projects.

The institutional setting can fundamentally influence the implementation process. The International Ecological Engineering Society (IEES, 2006) says that a traditional institutional framework is a series of formal organisational structures, rules and informal norms for service provision, involving an outline of each services institutional responsibilities for various aspects of the issue. Cáceres et al., (2005) list a number of existing measures to improve implementation,

including the institutional framework, legislation, economic responses, social and behavioural responses, technological responses and cognitive responses. The authors point out that the institutional framework can be seen as the starting point of implementation as it can build the platform and medium for all direct and indirect drivers, and can act as the precondition for the successful implementation of intervention tools (policies) (Cáceres et al., 2005).

Institutionalism is built upon the latter understanding of institution. This approach recognises the impact of previously constructed institutions as well as the autonomy of political actors (Steinmoet al.,1992; Weaver and Rockman, 1993; Hall and Taylor, 1996; Immergut, 1998). Its major assumption is that historically enacted institutions (i.e. public policies and formal political institutions) fundamentally trigger and constrain the behaviour of the actors involved in the policy process and trigger policy change (Skocpol, 1992; Steinmoet al., 1992; Orloff, 1993; Weaver and Rockman, 1993; Pierson, 1994; Immergut, 1998; Lecours, 2005), focusing on asymmetrical power relations and the impact of long-term institutional settings in policy process (Hall and Taylor, 1996; Immergut, 1998).

Institutionalism helps the researcher analyse the causal stories when actors faced with the transformation from the old institutional setting to a new one, as in Tai'an case. As Theda Skocpol (1992, p.42) explains, 'this approach views the polity as the primary locus for action, yet understands political activities, whether carried on by politicians or by social groups, as conditioned by institutional configurations of governments and political party systems'.

3) Resource dependence theory (RDT): Recourse

The resource dependence theory (RDT, Pfeffer and Salancik, 1978) claims that all organisations need *resources* to function, leading to interdependence among these organisations and also uncertainty. To decrease the uncertainty, organisations build a balance through alliances, pooling resources and transforming their traditional strategies, which makes organisations further interdependent with each other. In the political area, this theory argues that the delivery of some public services is not purely dependent on government but on resource networks connecting government, private and voluntary sectors (Malatesta and Smith, 2014).

According to the corporate governance theory, the analyses in RDT put little emphasis on the power of formal organisations (i.e. governmental institutions). Nevertheless, for this research, it emphasises the allocation and redistribution of power and resources among organisations and the reasons and importance of cooperation between partners.

4) Regulatory capture and power delegation: Power

Regulatory capture, then, concentrates on both formal organisations and the private sectors. The term of 'regulatory capture' initially relates to a source of agency strength and efficiency (Redford, 1969), highly associated with the *power* flow in collaboration and partnerships. Regulatory capture theory is closely associated with policy failure research and especially with the rent-seeking (opportunism) of private sectors. As a result of the shortfall of the central authorised top-down models in policy failure research, it claims that regulatory agencies, created for the public interest, advance the commercial or political concerns of special interest groups, particularly in the local level where the legitimacy of nationally delegated authorities tends to be less than that in national level (Selznick, 1980; Wilson, 2000). This 'bureaucratic slippage', resulted from the changed relationship between authorities and special interest groups, and can lead to the ambition-action gap in policy delivery (Kaufman, 1960; McConnell, 1970; Freudenburg & Gramling, 1994; Wilson, 2000).

This concept is then adopted by environmental researchers in the regulation of environmental issues, as a means of discussing the interactions between governments and private sectors under the context of decentralisation and power delegation. In natural resource management, authorities have dual mandates of promoting exploitation of the very resources that they are required to protect. The private partner, on the other hand, is a relatively weak power in environmental project delivery, being less likely to gain administrative power and more easily to encounter resources shortages (Culhane, 1981; see also Clarke and McCool, 1985). These critiques are endorsed first by laissez-faire proponents in the economic area as opposed to more power delegation to local environmental and land management agencies (Boyd and Hyde, 1989; Reich, 1962). Neoliberalism studies in the governance area side with the laissez-faire opinion and emphasise the power of free market. Neoliberalists believe that free markets are the most efficient tool in the

allocation of resources and thus the state should delegate its regulatory power to the free market. However, neoliberalism in some cases may overestimate the power of private sectors and overlook the influence of social and political systems. For example, in China, the power of private sectors is often restricted heavily by the political situation (Zhang, 2014).

The main loophole of the theory pointed out by opponents is that regulatory capture fails to reveal more features of the state-capital relationship in macro-structures on the national or international level and is limited to observable power struggles. This is true, but mainly due to the limits of the case study and observation methods that regulatory capture researchers usually adopt. Alternatively, from the aspect of this research, the regulatory capture theory has more merits than its shortages – it reveals conflicts from the asymmetric power distribution. The regulatory capture theory analyses the power and interests of institutions as a whole and values all stages of policy process, especially policy implementation.

For the research in China, as most regulatory capture studies are conducted *at the local level* in a hierarchical context, they can better expose the conflicts on this level in state-led governance mode, which makes it applicable to this research on top-down environmental policy delivery. China's governance is primarily a state-led highly authoritarian mode, in which the national, and local governments strongly interfere in the participatory level of social groups and the market mechanism (Carter and Mol, 2013; Kostka and Nahm, 2017). In the meanwhile, due to the delegation of power, the situation at the local level is much more ambiguous, 'displaying a mixture of authoritarian and liberal features' (Lo, 2015, p. 152). This situation is divergent from that in most Western countries as in those countries the power of the state has been seriously weakened through decentralisation and by many powerful private corporations and NGOs. As result, a huge gap emerges between rhetoric and practice (Saich, 2000): the role of and the relationship among the state, local governments and private sectors differentiate from existing Western governance mechanisms. This leaves a gap for this research to fill.

5) Leadership

'Leadership' refers to 'a formal leader who either influences or transforms members of a group

or organisation — the followers — in order to achieve specified goals' (Huxham and Vangen, 2000, p1160). Leadership theories originate from the field of psychology and stress interpersonal dynamics (Ferkins, Shilbury and O'Boyle, 2017). In Western theories, leadership must firstly show impartiality with respect to the willingness of all stakeholders to be involved (Bryson, Crosby, and Stone 2006; Selin and Chavez 1995), and can then be stimulated by 'consequential incentives' including internal (problems, resource needs, interests, or opportunities) and external (situational or institutional crises, threats, or opportunities) circumstances. These incentives are mostly related to systematic and institutional factors.

In the context of the policy implementation literature (Sabatier and Mazmanian, 1981), leadership is identified as one of the key variables affecting the implementation process. Some studies particularly point out leaders and leadership turnover seriously affecting environmental project delivery in China (Eaton, Sarah, and Kostka, 2012; Grindle, 2017).

2.2.3 Implementation Process and Specific Variables

Studies have concentrated on variation in implementation success by reference to specific variables and conceptual frameworks (Sabatier and Mazmanian, 1980; O'Toole 1986; Sabatier, 1986; Palumbo and Calista, 1990; deLeon and deLeon, 2001).

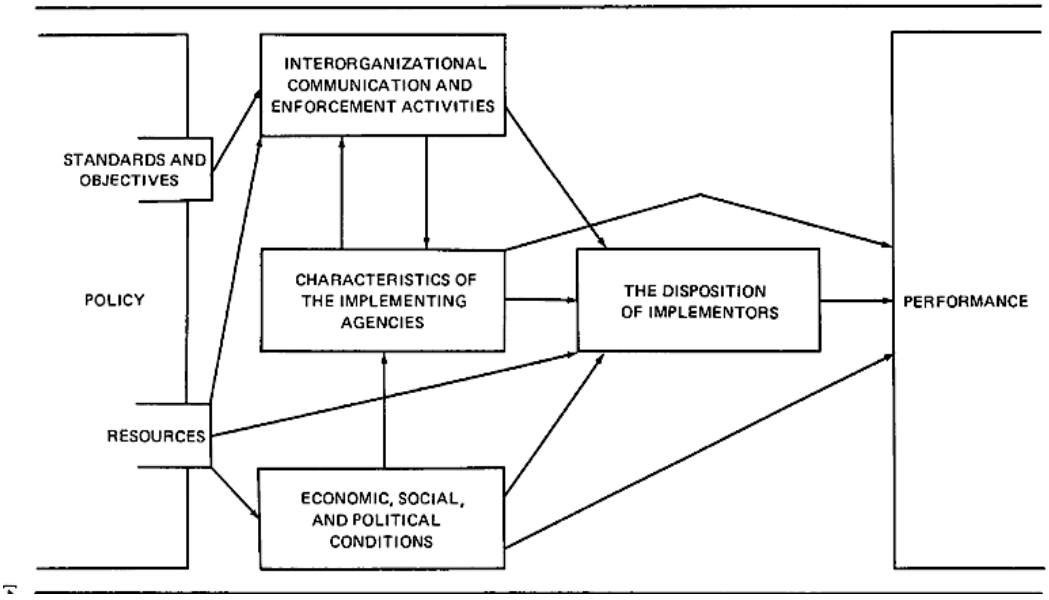
This section reviews relevant implementation frameworks that consider the diversity of actors and changes in institutional settings. In this way, the researcher maps the process of successful implementation with specific variables selected from those frameworks, which is used as the basic frame of the analytical framework in this research.

1) Vanmeter and Vanhoren's framework: Basic Process

Vanmeter and Vanhoren (1975) take from research on intergovernmental relations and combine implementation theories to accomplish the design of their framework. This basic model, simply and clearly, shows 3 posits and 6 variables, starting with policy objectives and emphasising intergovernmental actors. By restructuring these factors, it shapes the relationships of variables

between policy intention and performance and maps the *intergovernmental policy implementation process* (see Figure 2.1). Kaufman (1973) points out Vanmeter and Vanhoren's (1975) work provides a possibility to avoid policy failure in a networking way, including enhancing communications, improving organisations' capacity and ability on dealing with conflicts among policy makers, implementers and other involvers.

Figure 2.1 Vanmeter and Vanhoren's Implementation Framework



Source: Vanmeter and Vanhoren (1975, p.43)

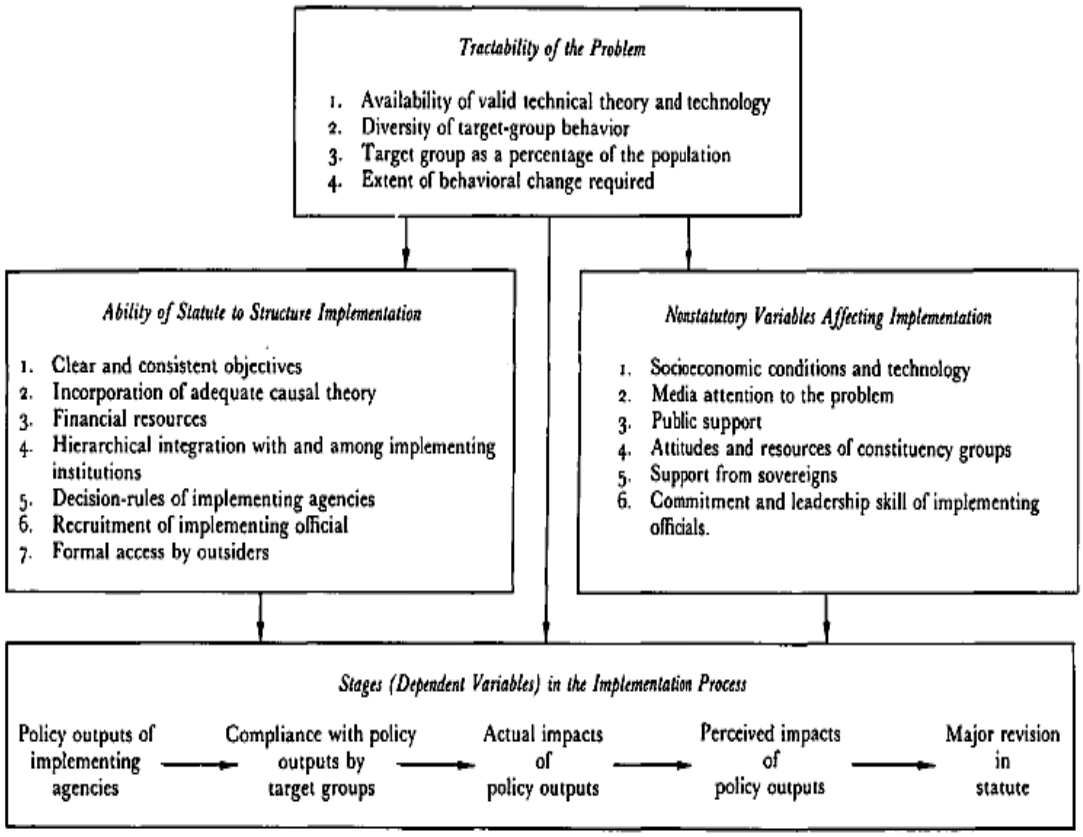
As a result, this basic frame - starting with the analysis of *objectives* and *resources*, locating *actors in the intergovernmental network* and finishing with performance - is adopted as the fundamental layout of the intergovernmental policy implementation map in this research. However, the framework excludes non-governmental factors and such combination of implementation theories generates new problems with numerous variables and complex diagrams of causal relations (Linder and Peters, 1987; Exworthy and Powell, 2004; Sinclair, 2001).

2) Good implementation framework: Institutional aspects

As China's environmental policy implementation is mostly set up in the top-down institutional form, it is essential to build the institutional aspect of the research framework from a top-down angle. Sabatier and Mazmanian (1979; 1980) draw from the top-down implementation research

(Pressman and Wildavsky, 1973; Murphy, 1973; Berman and McLaughlin, 1976; Elmore, 1978) and take the *institutional setting* into their implementation framework from a *top-down perspective*. The model synthesises variables that have been empirically tested and advocated in the implementation area (Goggin, 1984). It proposes six institutional conditions for good implementation: clear aims; adequate causal theory; an appropriate legal and political structuring; committed and skilful implementing officials; and the support of interest groups (see Figure 2.2).

Figure 2.2 Top-down institutional settings in policy process



Source: Skeletal Flow Diagram of the Variables Involved in the Implementation Process (Sabatier and Mazmanian, 1980, p.542)

Most critics of this framework come from the bottom-up angles. It is true that hierarchical control has its limitations, multiple actors are neglected and the strategies used by local bureaucrats and target groups to get around policy made by central government are underestimated (Lipsky, 1971;

Berman, 1978; Elmore, 1978). However, the degree to which street-level bureaucrats[1] and interest groups can influence policy implementation varies from place to place. Additionally, when the framework is adopted in a place where the power of local bureaucrats and the influence of state are relatively strong like that in China, the top-down framework seems more applicable. This framework has rarely been tested systematically in the context of China and its effectiveness and completeness leave a gap be verified by empirical research. This research will fill this gap to some extent.

Another frequent criticism is that a coherent structuring cannot be reached due to the cognitive limitations of and conflicts between actors (Majone and Wildavsky, 1978). Sabatier (1986) defends the strong influence of the institutional settings, based on evidence from a vast number of studies, that ideal structuring 'occurs more frequently than critics realize' and 'proves to be very important' (p.27), while he does not deny the influence of the actors. As a result, institutional setting cannot be used as the only factors and another key aspect, i.e. actors ideas (2.2.2), should be taken into consideration.

3) Strategic aspects

a. Networks: Collaboration and cooperation

To further make up the deficits in the top-down-style policy implementation framework, such as the avoidance of actors' cognitive influence and absence of dynamic model for policy change, Hjern et al. (1978) and Benny Hjern and David O. Porter (1981) develop a coherent networking method concentrating on the diverse ideas and dynamics. This approach sheds light on various governance studies, especially collaborative governance and governance networks theory.

Hjern et al. (1978) begins with identifying the network of actors involved in policy implementation and concentrates on the goals, strategies, activities and contacts of these actors

[1] Governmental officials who interact directly with the public and so represent the frontlines of government policy (Lipsky, 2010).

(Hjern and Porter, 1981; Hull and Hjern, 1982). Their work provides a mechanism starting from the *street level bureaucrats* up to policy makers in *both public and private sectors* (Hjern et al., 1978; Hjern and Porter, 1981; Hjern and Hull, 1985). Sabatier (1986) compares his framework with Hjern et al.'s (1978) as shown in Figure 2.3.

Figure 2.3 Differences between Sabatier and Mazmanian's Framework and Hjern et. Al.'s Framework

	Top-Down (Sabatier & Mazmanian	*Bottom-up (Hjern et al.)*
Initial Focus	(Central) Government decision, e.g., new pollution control law	Local implementation structure (network) involved in a policy area, e.g., pollution control
Identification of major actors in the process	From top down and from govt. out to private sector (although importance attached to causal theory also calls for accurate understanding of target group's incentive structure)	From bottom (govt. and private) up
Evaluative criteria	Focus on extent of attainment of formal objectives (carefully analyzed). May look at other politically significant criteria and unintended consequences, but these are optional.	Much less clear. Basically anything the analyst chooses which is somehow relevant to the policy issue or problem. Certainly does not require any careful analysis of official govt. decision(s).
Overall Focus	How does one steer system to achieve (top) policy-maker's intended policy results?	Strategic interaction among multiple actors in a policy network.

Source: Sabatier (1986, p. 33)

The networking method systematically pays attention to multiple actors and uses an *inter-subjectively reliable methodology*, i.e. case study, to identify the network created by those actors (Sabatier, 1986). In this way, the importance of private sectors and the market forces in official programmes is exposed. Beyond this, the approach concentrates more on goals and strategies of these frontliners rather than policy/project proponents, which can better reveal the strategic interactions over time.

However, Sabatier (1986) states that many bottom-up studies tend to overemphasise the ability of private sectors and the market but ignore the role of central governments. In this sense, they are

likely to fail to guide the practice individually in some cases where central and local governments are still dominant, such as the Tai'an case. Therefore, in those government-dominated cases, the variables related to actors should be integrated into the top-down institutional setting.

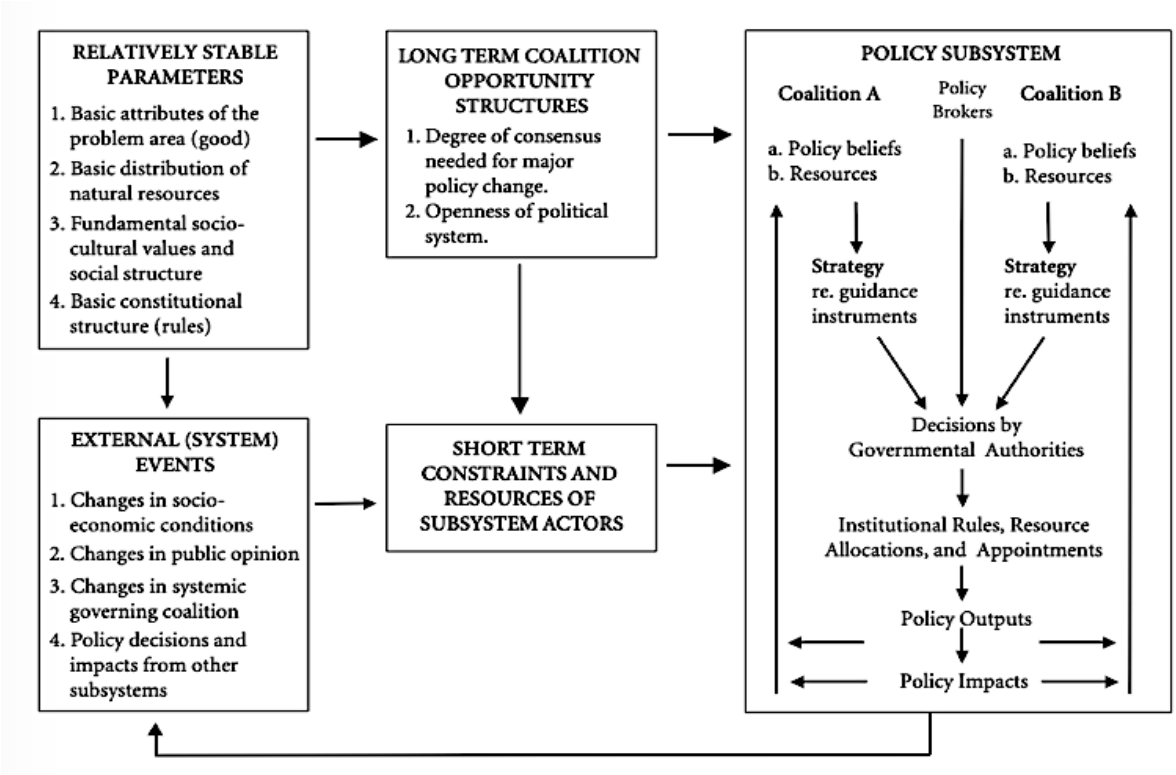
Kiser and Ostrom (1982) particularly point out that Hjern et al.'s work only concentrates on present actors but ignores the *previous participants and institutional settings* in policy networks and their efforts to link to the existing implementation structure.

Another key criticism is that Hjern et al. fail to provide a useful framework to analyse the influencing factors (Sabatier, 1986). As their research depends heavily on perceptions and the behaviour of actors, it lacks an explicit theory and a concrete framework to analyse the factors influencing the actors' networking (Sabatier, 1986).

b. Advocacy Coalition Framework (ACF): Coalition resources, personal interests, belief systems and commitment

Sabatier and Jenkins-Smit (Sabatier, 1986; Sabatier and Jenkins-Smith, 1988; Jenkins-Smith, 1990) developed the Advocacy Coalition Framework (ACF) at the end of 1980s to further solve the 'wicked' problems in policy implementation (Hoppe and Peterse, 1993). This framework has been revised along with the increasing number and diversity of its applications until 21st century (see Figure 2.4).

Figure 2.4 2005 Diagram of Advocacy Coalition Framework



Source: Paul A. Sabatier and Christopher M. Werble (2006, p.189)

ACF points out that the best way to deal with the multiplicity of actors in a subsystem is to aggregate them into the 'advocacy coalitions' (Sabatier and Werble, 2006). This is the core of the ACF, rooting on a policy network literature and stressing the importance of interpersonal relationships. The interpersonal relationship, translated as '*guanxi*' in Chinese society, is of great significance in Chinese politics and societies (Fan, 2002; Luo, 2007), and therefore it should be one of the key elements in the analytical framework of this research.

Furthermore, the update of the ACF framework by Sewell (2005) raises the importance of the *coalition resources* and sets a typology of policy-relevant resources employed by stakeholders to influence public policy. This opinion, in line with the Vanmeter and Vanhoren's Implementation Framework (1975) and Sabatier and Mazmanian's implementation framework (1979; 1980), sees resources as key conditions in policy implementation.

Regardless of the revisions, the ACF has been notably proposed as a 'model of the individual' (Sabatier and Werble, 2006), emphasising the effect of individuals' *belief systems* (Sabatier,1988; Sabatier and Jenkins-Smith, 1993). In the ACF theories, actors' belief systems, through a set of perceptual filters composed of pre-existing beliefs, are hard to change and thus determine their behaviours and interactions in implementation process. However, the rational choice frameworks (March and Olsen, 1996; Scott, 2000) advocate that actors rationally pursue material *interests* to maximise good consequences. The difference between the two types of framework is a typical debate between sociologists and economists. Therefore, both personal interest and a belief system are also taken into consideration in data analysis.

The belief system, created by the individual's original institutional setting, determines whether ordinary officials are committed and cooperative in collaboration, and thus affects policy and project impacts as well as project outputs. Various researchers have suggested that current and previous institutional settings inevitably affect the belief systems of implementing actors (Ostrom, 1986; Gregg et al., 1991; Imperial, 1999; Margerum and Born, 2000), and belief systems establish the officials' commitment to policy and project implementation (Sabatier, 1988).

In a variety of management fields, commitment has been researched and its significance proven: it can result in positive changes in attitudes and behaviours in the cooperation of multiple areas (Angle and Perry, 1981; Balfour and Wechsler, 1996; Steinhaus and Perry, 1996; Vandenabeele, 2009; Dick, 2011), and play as a key precondition of policy delivery (Sabatier and Mazmanian, 1981), leading to greater motivation and better job performance. The three-component model of organisational commitment developed by Meyer and colleagues (Allen and Meyer, 1990; Meyer et al., 1993) has been validated in diverse cultural contexts and industrial backgrounds (Chen and Francesco, 2003) and widely utilised to analyse the commitment level of public sector employees. According to the model, commitment can be differentiated into three psychological types: affective, normative, and continuance commitment.

Affective commitment refers to ‘a strong belief in and acceptance of the organisation’s goals and values; a willingness to exert considerable effort on behalf of the organisation; and a definite desire to maintain organisational membership’ (Porter, Steers, Mowday, and Boulian, 1974, p. 604). Since the 1970s, empirical studies have supported the link between affective commitment and individual job performance (Mowday, Porter and Dubin, 1974; Steers, 1977; Nyhan 1999; Van Maanen, 1975) and involvement (Blau, 1985; Brooke, Russell and Price, 1988), and thus the results of management (Locke, Feren, McCaleb, Straw and Denny, 1980; Luthans, McCaul and Dodd, 1985; Ouchi and Wilkins, 1985; Schein, 1970; Shore and Martin, 1989; Steers, 1975; Park and Rainey, 2007). Furthermore, affective commitment is confirmed to have most influence on organisational consequences, and especially on the interpersonal trust issues (between the employee and the leader) of public employees (Guinot and Chiva, 2019).

Normative commitment is based on obligation and can refer to the feeling that an employee ‘should be loyal to his organisation, should make sacrifices on its behalf, and should not criticise it’ (Wiener and Vardi, 1980, p. 86). Wiener (1982) argues that employees demonstrate their normative commitment solely because ‘they believe it is the right and moral thing to do’ (p. 471). In other words, this type of commitment relates to ‘responsibility’ instead of ‘attachment’ (Park and Rainey, 2007, p. 199). Other studies point out that civil servants, unlike their private sector counterparts, treat their job, i.e. public service, as ‘a calling, a sense of duty, rather than merely a job’ (Perry, 1996).

Continuance commitment refers to the perceived costs to the employee of leaving the organisation, for example, due to the cessation of work relationships and the non-transferability of accumulated job skills (Allen and Meyer, 1990).

4) *Guanxi* in politics: Specific aspect

In China, the formal institutional setting and network can be weakened by the invisible and informal personal and social network, known as *guanxi*(关系) (Zhao and Timothy, 2015). As the

term '*guanxi*' originated from Confucianism, many scholars believe that it is a unique form of social networking in Chinese culture (Gold, et al., 2002). *Guanxi* can be translated literally as 'networking', 'relationship', or 'connection' of individuals and organisations (Yang and Wang, 2011).

Guanxi is the product of historical, political and economic factors (Yang,1994) and has salient implications for shaping collective actions and social practices in China, especially at the local level (Wang, 2013). Based on this view, many core debates on 'modern' local *guanxi* under the context of contemporary China have developed. The first is the importance of *guanxi* may decrease with the transformation of China's development, due to the increasing influence of open market and law (Guthrie, 1998). Other scholars have put forward the opposite view that changes related to the transformation may bring greater uncertainty and may increase the dependence on *Guanxi* (Bian, 2018). The third view is that there would be a new type of *Guanxi* to adapt to the changes in China (Gold et.al., 2002; Chen et.al., 2013).

As this thesis mainly focuses on *guanxi* issues related to governance, the following arguments are mainly derived from the studies of *guanxi* in the fields of political and social studies. Many Western works associate *guanxi* with corruption (e.g. Arias, 1998; Guthrie, 1998). The point of view is too narrow (Du et.al., 2020), because corruption is only one of the possible phenomena or results of *Guanxi*, and the degree of *guanxi*'s influence on corruption varies (Luo, 2007). In fact, the types and influences of *guanxi* are diverse in Chinese politics and society. From the mid-1980s, in-depth research in China generally believes that the influences of *guanxi* are mainly reflected in the personal aspects (in terms of recruitment, promotion and supervisor relations) and the company aspects (in strategy, market entry, and performance) (Huang, 1987; Xie and Mol, 2006; Nolan, 2015). Some research mentioned *guanxi* in various aspects of governance, such as corporate governance (Braendle, Gasser and Noll, 2005), urban governance (Lee and Zhu, 2006) and tourism governance (Zhao and Timothy, 2015), as well as environmental governance (Du et.al., 2020). The ethnographical research methodologies of these studies, e.g. fieldwork (Yang,

1994), cross-sectional surveys and case studies (Huang, 2009; Du et.al., 2020), are believed to be reliable. These studies highlight the diversity of ways (other than corruption) in which relationships can be experienced, conceptualised, and studied.

Beyond existing studies, this research will explore the changing influence of local *guanxi* networks and its functions in the governance system.

2.3 Governance Theories in Response to Environmental Challenges

Policy implementation theories and original governance studies share a mutual aim of solving policy deficit problems. Currently, due to the increasing fragmentation of social and political life and the growing number of 'wicked problems', the conventional strategies purely led by state, market or civil society are not functional separately and their efficiency highly relies on support from other domains of social interactions (Lemos and Agrawal, 2006; Levi-Faur, 2014; Rhodes, 2014; Lynn, 2014). As shown in Section 2.2, all stages of public policy implementation are closely associated to governments' coordination, and actors' collaboration and cooperation (Lobel, 2004; Gash and Ansell, 2007; Peters, 2014). In this regard, the transformative role of the government and the collaboration among actors are at the heart of governmental tools used in implementation process.

In light of the breakthrough in implementation research, diverse hybrid governance strategies, like governance networks strategy (Torfing, 2014), are more frequently adopted to address the 'ambition-action' gap in public/environment policies. The gap is not only due to poor policy design and 'government overload' but also possibly results from the lack of adaptability to change (WSP, 2002). Governance researchers argue that a valid institutional framework including governance mechanism is the preconception of the adaptability to the change (Pierre and Peters, 2000; Lobel, 2014; Torfing, 2014). Therefore, the introduction of governance theories in the analytical framework is expected to amend the deficits in policy implementation research and

build a solid collaborative and cooperative mechanism involving multiple actors and stakeholders.

This section reviews governance approaches applied to deal with contemporary environmental challenges, attempting to distil useful governance factors from relevant mechanisms for the analytical framework of this research.

2.3.1 Defining Governance and Governance Networks

Governance tools specifically for environmental issues are clearly under the umbrella of the general governance concept, so it is crucial to understand the concepts and debates of governance before exploring environmental governance.

The original idea of governance theory is always disputed (Levi-Faur, 2014) and governance is widely used as an analytical tool and frame in politics and social sciences and various other fields. Despite significant studies during the past two decades, the definition of governance remains broad (Newman, 2000; Newman, 2001; Bache, Bartle and Flinders, 2016) and has no single set of references (Daly, 2003). The definitions and concepts of governance all emphasise actors' interaction including cooperation, coordination and collaboration. Overall, governance refers to a 'network' form, primarily associated with *diverse agents* and the locale and *flow of power* (Rhodes, 1997; Stoker, 1998; Rhodes, 2000; Kooiman, 2003; Lemos and Agrawal, 2006; Bache et al., 2014; Bache, Bartle and Flinders, 2016).

Driven from a policy implementation base, researchers, like Sørensen and Torfing (2005) and Peters (2014), see governance as a political theory to solve public policy deficiencies. They put forward the concept of 'governance networks' (Sørensen and Torfing, 2005) and theory of 'governance as networks' (Peters, 2014; Trofing, 2014), and point out that the nature of governance can be concluded as collective actions created by multiple actors, including both traditional players like central and local governments and new involvers like the private sectors

and scholars. With the increasing of these new stakeholders in policies and projects, governance networks are comprised of growing types of interactive forms, such as user boards, quasi-non-governmental agencies, interorganisational networks, public-private partnerships and quasi-markets.

Newman (2001) drawing from all the perspectives concludes that governance can be seen as a '*portmanteau* concept' - a broad array of usage contexts, and lists terms and categories of governance, such as global/international governance, national governance, local governance, corporate governance, inclusive governance, collaborative governance, participatory governance, or governance without government, governance through new public management, governance as a socio-cybernetic system, governance as the new political economy and governance as networks.

On the basis of Newman's (2001) work, David Levi-Faur (2014) classifies the meaning of governance into four domains: governance as a structure, governance as a process, governance as a mechanism and governance as a strategy. 'Governance as the structure' can only act as a foundational indicator to illustrate who and what are involved (Pierre and Peters, 2000; Kooiman, 2003). 'Governance as a process', as a top-down perspective, weighs too much on hierarchy - the steering and coordination role of the state and ignores other actors (Bevir, 2011; Heinrich, 2011). Instead, 'governance as strategy' is a more dynamic and comprehensive concept that is 'governance' instead of 'governing' (Levi-Faur, 2014, p.9), and 'governance as a strategy', as Levi-Faur describes that, can also be called a mechanism, just not as a specific type as the mechanisms he delineates in 'governance as a mechanism' perspective. The two domains both relate to governance-in-action (Barkay, 2009) and institutional designs beyond the formal institutions of governments, reflected the nature of the governance networks theory (Levi-Faur, 2009).

With a concern on the specific collective actions, i.e. cooperation and collaboration and their application in implementation, 'governance networks' (Sørensen and Torfing, 2005) firstly

enables governance as an analytical perspective to interpret the multilateral actions among actors. In China, the focus of governance researchers turns from hierarchy to markets with particularly attention on 'from government to governance' (e.g. Cheng, 2001; Yang and Zhang, 2003), but few research studies address the complexity in modern China (Ye, 2009). Besides, concentrating only on hierarchy or competitive markets is not a good solution to complex problems (Trofing, 2014). Governance networks, otherwise, as 'both supplement and supplant' to these two angles, has its ultimate strengths and merits in these aspects. Beyond this, governance networks theory links a variety of research fields and brings issues 'together into a more coherent whole' (Peters, 2014). This theory, then, can probably better correspond with the requirements of the environmental projects, such as those in Tai'an case. Therefore, although it is weak in 'supplying definitive explanations for problems' (Peters, 2014), governance networks can still more effectively identify problems and issues in policy implementation process through integrating other useful approaches.

Hence, in this research, governance can be defined as:

> The networking mechanism through joint actions to order to increase the capacity in achieving stated policy and project goals.

2.3.2 Environmental Governance

Environmental issues that have attracted the attention around the world date back to the 1950s. Climate change, as the most severe global environmental problem, has developed from a rather scientific topic into a key concept on the global political agenda within less than three decades (Brandes and Brooks, 2006). As social-ecological systems (SESs) act as strongly coupled, complex and evolving integrated relationships that cannot be treated independently (Folke et al., 2002), the natural and social elements coexist and behave in nonlinear, dynamic ways that cannot be predictable and controllable in environmental issues. As a result, research on adaptability of these changes and establishment of sustainable and harmonious SESs has also been continuously

developed and innovated in the various fields including environmental management/governance (Adger, 2000; Fiksel, 2006; Folke et al., 2002; Fraser et al., 2003; Gottlieb, 2002; Hoffman and Bansal, 2012; Kamieniecki et al., 1997; Tompkins and Adger, 2004; Wu, 2006; Young et al., 2006).

Rooting on the public management theories by political scientists (see Sabatier and Mazmanian, 1980; Baumol and Oates, 1988; Schofield, 2001), the development of environmental governance goes from environmental management to environmental governance (Hukkinen, 1998; Bestill and Corell, 2008; Yang and Wu, 2009; Ostrom, 2016; Smith, 2017).

1) Environmental management

Traditional environmental management, based on the idea of 'nature as resource', focuses on the impact of specific environmental techniques, government regulation and division of property rights on environmental issues, in order to facilitate economic growth (Redclift, 1984, 1987).

Environmental management researchers claim that science and technology play a central role in sustainable development (Cash et al., 2003); they mainly discuss concrete management approaches and techniques, like environmental carrying capacity calculation, environmental quality management, environmental risk management and environmental impact assessment. Facing the material challenges, theories and concepts like underprovided public goods, tragedy of the commons (Gordon, 1954; Hardin, 1968), the tragedy of public land (Yang, 2007), the prisoner's dilemma (Axelrod, 2006), the free-rider problem (Pasour, 1981), externalities (spill-over effects), modern management and organisation theory and ecological science have appeared since the 1950s. The focus of environmental management research has turned to the regulation measures of human activities and economic instruments influenced by economy, resources and political activities.

Impelled by the ideas of top-down implementation research, the central authority model, a.k.a. the command-and-control regulation model, was born in 1960s. It believes that the reinforcement

of the control and power of the state is the best way to solve the shortage of public goods, such as natural resources and ecological environment (Weber, 1946). This model, with the core of power and control of the state, has also been adopted in China since the 1970s and has continuously existed in both China and other countries until now (Yang, 2007).

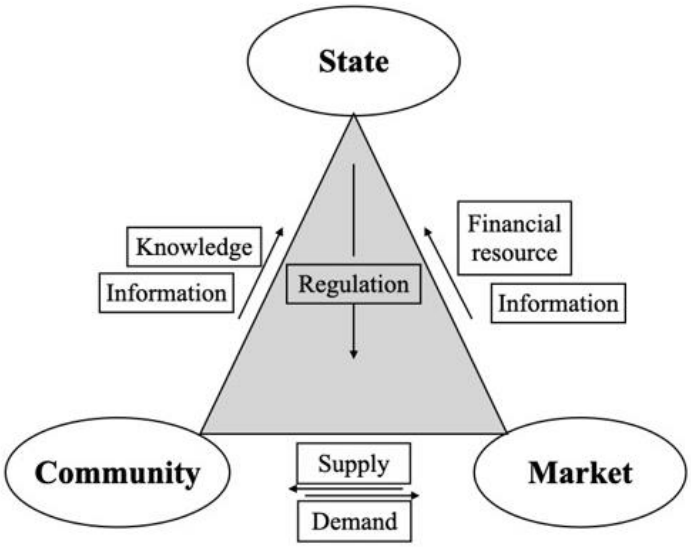
The discussions of the pros and cons of this model as a means of addressing environmental problems have existed for a long period. Proponents claim that, it is an efficient and effective way to deal with ecological crises as states often represent a strong power (Gilley, 2012; Ophuls, 1977; Shearman and Smith, 2007). Critiques of this state-centred and technique-focused model mainly lie in these two aspects. From the technique-focused perspective, the 'state paternalism' highlights the modern technique and thus government environmental managers overlook the peasant ecological knowledge 'in favour of teaching them 'modern' conservation practices' (Kapoor, 2001, p.270). On the other hand, from the aspect of the state-centred feature, there are four main critiques. Firstly, data and information held by states can be either incomplete or inadequate (Yang, 2007). Secondly, the control and regulatory ability and credibility of the governments vary in different countries. In fact, the management ability of governments in China is relatively strong (Economy, 2006), but the credibility of governments and thus the trust in governments varies in different cities of China and needs to be explored individually for the purpose of this research. Thirdly, the complicated process, with a narrow conception of environmental policy, can result in free riding and thus high governmental management cost (Kapoor, 2001). Finally, the concentration of power and the lack of accountability could eventually harm the environment because the system allows the elite to benefit personally (Dryzek, 1987), producing regulatory capture. The evidence of the last two critiques are extremely limited (Winslow, 2005) and highly dependent on the local contexts, which needs further exploration specifically in this research.

In fact, this state-centred feature of this model shows high compatibility in the contemporary context of China. While most western countries have gradually turned the traditional models into community-oriented and market-based models due to state failures (Amalric, 1999; Economy,

2006; Mvondo, 2009), in China, the responses of environment issues are still largely based on a command-and-control and regulation-based approach, namely the authoritarian environmentalism (Mol, 2009; Liu, Zhang and Bi, 2012; Lo, 2015). This is rooted in the long-history of the planned economy and the hierarchical political system of China (Carter and Mol, 2007; Palmer, 1998).

2) Environmental governance

Figure 2.5 key components in the development of environmental governance



Source: Author

Environmental governance goes beyond the command-and-control regulation model, and considers the functions and powers of government, markets and society synchronisation (Kooiman, 2003). Due to the multiple definitions of governance, a variety of interpretations of environmental governance can be found. Generally, environmental governance can be understood as 'the set of regulatory processes, mechanisms and organisations through which political actors influence environmental actions and outcomes' (Lemos and Agrawal, 2006, p.298). In detail, it is

regarded as the set of regulatory processes, mechanisms and organisations through which institutions can affect environmental actions and results (Bromley, 1989, 1993; Knight, 1992; Young, 1994; Adger et al., 2003). In light of the objectives of this research, environmental governance is equalled with interventions contributing to the environmental policy-making and decision-making process, and targeting actors, incentives, knowledge, institutions and changes involved in environmental issues.

Figure 2.5 provides a schematic structure to classify key components in the development of environmental governance, based on three key paradigms, i.e. the market-centrism (Osborne and Gaebler, 1992; Kettl, 1993; Milward, 2002), state-centrism (Jun, 1999; Heinrisch, 2000; Pierre, 2000; Agranoff, 2001; McGuire. 2001; Frederickson, 2003; Smith, 2003) and social-centrism path (Cleverland, 1972; Osborne and Gaebler, 1992; Commission on Global Governance, 1995; Gilber et al., 1996; Stoker, 1998; Jun, 1999; Rhodes, 1999; Pierre, 2000; Kooiman, 2003).

With a triangle connecting state, market, and community as the core, the figure shows that these state-, market-, and community-based governance strategies, were built on perceived strengths of the particular social arena: the coordination and regulatory capacity supported by state authority; the mobilization and financial resources through market exchanges; and the deployment of the time- and place-specific knowledge (Ostrom, Schroeder and Wynne, 1993) embodied in communities and other involved stakeholders. It can be seen that environmental issues cannot be addressed single-handedly and joint efforts are needed to handle the increasing dynamic and fast-changing nature of contemporary environmental governance.

3) Environmental governance through networks

There are many clusters of the accelerating literature on governance through networks. Yet, perspectives of the literature are varied, ranging from vertical aspects, like multilevel governance (MLG) to horizonal aspects, like collaborative governance (Kooiman, 1993; Van Waarden, 1992). All these aspects concentrate on collaboration and cooperation.

a. Multilevel governance (MLG) – Vertical perspective

Multilevel governance (MLG) is a key governance theory under the umbrella of network theory (Héritier, 1999; Kohler-Koch and Eising, 1999). It is an updated version of 'regime' (Hasenclever et al. 1997), including different government levels (international, national, sub-national) and all the public and private actors involved at these levels, strongly influenced by the ACI perspective (Marks 1996; Sharpf, 1997). MLG has been widely adopted and testified in EU policy cohesion (Wallace & Wallace, 1996; Peterson & Bomberg, 1999; Richardson, 1996; Marks et al. 1996; Mazey, 1996; Bulmer, 1998; Hurrell & Menon, 1996; Rhodes & Mazey, 1995).

Initially, the MLG concept, as the term suggests, focused on the vertical governance framework. In the research of Gary Marks (1993), he defines MLG as,

> 'a system of continuous negotiation among nested governments at several territorial tiers – supranational, national, regional and local – as the result of a broad process of institutional creation and decisional reallocation' (p.392).

Employing the ideas from policy network theory, he specifically describes how 'supranational, national, regional and local governments are enmeshed in territorially overarching policy networks' within MLG (Marks 1993, pp.402-403).

The initial MLG theory, provides an innovative framework involving all vertical layers of government institutions as a whole. Though this definition is limited to 'governmental levels' and the 'nested' political arenas (Marks, Hooghe and Blank, 1996), it highlights the *vertical complexity* of governance networks. This theory initially focused on *negotiation as a measure* to coordinate actors in the networks of governmental institutions. It provides a transformative role for the state, through new strategies of coordination, steering and networking, which is regarded as highly important by the present Chinese government (Zhu and Zhou, 2011). Similarly, Hooghe and Marks (2001) argue that in the policy-making process national governments remain dominant, but actors at multiple (territorial) levels and scales would share the decision-making competencies with states under the model of MLG. The long-lasting 'gatekeeper' role of central governments has been therefore challenged under MLG, whereas the responses (new strategies) are varied,

largely because of various territorial structures of governance (Hooghe, 1996; Bache and Bristow, 2003) However, as reforms and transformations in China tend to follow the successful experience rather than to adopt theories (Wang, 2009), there are a number of papers on the transformative role of central government in China, few of which are linked to mature theories like MLG theory (Guo, 2003; Zhu and Yu, 2008; Zhu and Zhou, 2011). This may due to the misunderstanding that MLG intends to eviscerate state power. Rhodes (1997) has explained this point: 'persistent tension between the wish for authoritative action and dependence on the compliance of others' (p.15).

Then, Bache and Flinders (2004) expand the scope of the theory to both vertical and horizontal dimensions:

> 'While multi-level governance remains a contested concept, its broad appeal reflects a shared concern with increased complexity, proliferating jurisdictions, the rise of non-state actors, and the related challenges to state power' (Bache and Flinders, 2004, pp.4-5).

Even so, debates still continue on whether MLG overstates the vertical inter-relationships and ignore the equally important horizontal layered interactions (Rosenau, 2004).

The key contribution of Bache and Flinder's (2004) work is the increasing focus on non-governmental sectors in the MLG framework. Based on this focus, they stress the 'complex overlapping networks' (Bache and Flinders, 2004, p.197) mostly from the vertical perspective, that is, the highly contextual institutional relations between intra- and extra- governmental actors at different levels within diverse networks. In this way, the employment of MLG in this research can fill another academic gap in China: although the papers on networks including formal and informal actors have mushroomed in recent years, there has been little work on *overlapping networks* of decision-making (Liu, 2014; Zhang, Mol and He, 2016).

However, MLG also has its critiques. For example, it has been criticised for a lack of predictive powers and explanatory ability (Nugent, 2003), thus it should be classified as a concept rather than a theory. In other words, MLG only exposes the fact that the European Union is complex but nothing else (Nugent, 2003). Kohler-Koch and Eising (1999) defend MLG by comparing it with

other policy analysis theories, like ACF and policy networks, and argue that these theories do not necessarily aim at prediction, and claim that MLG explicates how governance is arranged in EU in a simplified manner.

In addition, the intergovernmental question on the real influence of MLG as state power still dominates every angle of it. The researcher would argue that by increasing the diversity of actors, this MLG approach renews the long-established *responsibility attribution* and thus the *accountability* system in environmental project delivery (Bache and Flinders, 2004), making up the deficits in accountability and risks of regulatory capture of the state centred implementation mechanism in China (see Part I).

MLG's usefulness and applicability in China remains an open question. However, with complexity and diversity as the core and with the overlapping vertical networks as the innovation, MLG is vital in environmental project delivery. As most researchers suggest that the application of this concept needs to be deepened and widened to various regions and nations (Bulkeley and Betsill, 2005; Corfee-Morlot et al., 2009), this research can fill this gap by adopting MLG elements to build the vertical aspect of the analytical framework of Tai'an case. What this research can contribute to MLG area is to link its components, that is, the vertical structure, governments as coordinators, the involvement of non-governmental sectors and complex overlapping networks, to the state-centric implementation process of environmental projects in China.

b. Collaborative governance – Horizonal perspectives

Based on MLG, another important model adopting governance network theory is 'collaborative governance'. It is more comprehensive and covers the horizonal perspectives. Its origin can be dated back to the end of the 1990s when significant streams of changes and increasing complexity spanning geographical and organisational scales challenged the field of public and environmental management, leading to a misalignment between problems requiring solution and existing jurisdictional and political demarcations, causing institutional fragmentation (Lubell, 2013). This diagnosis is reflected in many policy studies, indicating that in an increasingly complex,

fragmented and multi-layered society, efficient governance requires negotiated interaction between a plurality of organisations and groups from state, market and community (Mayntz, 1991, 1999; Kickert, 1993; Rhodes, 1997; also see 2.2). As such, governance networks are established in the local, regional, national and transnational levels, and even sometimes cut across these levels to produce new forms of multi-level governance, e.g. the collaborative governance (Marks et al., 1996; Kohler-Koch and Eising, 1999; Scharpf, 1999). To overcome the institutional fragmentation and handle these changes, collaborative governance also goes through paradigm shifts, in accordance with environmental governance, ranging from public management to network management to collaborative public management (Peters and Pierre, 1998; Kapucu, 2006b).

The collaborative form of governance has long existed in global governance and good governance theory and is often discussed from the view of corporate responsibility (Rasche, 2010). For the purpose of this research, however, collaborative governance is viewed as an independent governance tool based on the concept of governance network. Therefore, *collaborative governance*, here, is understood as:

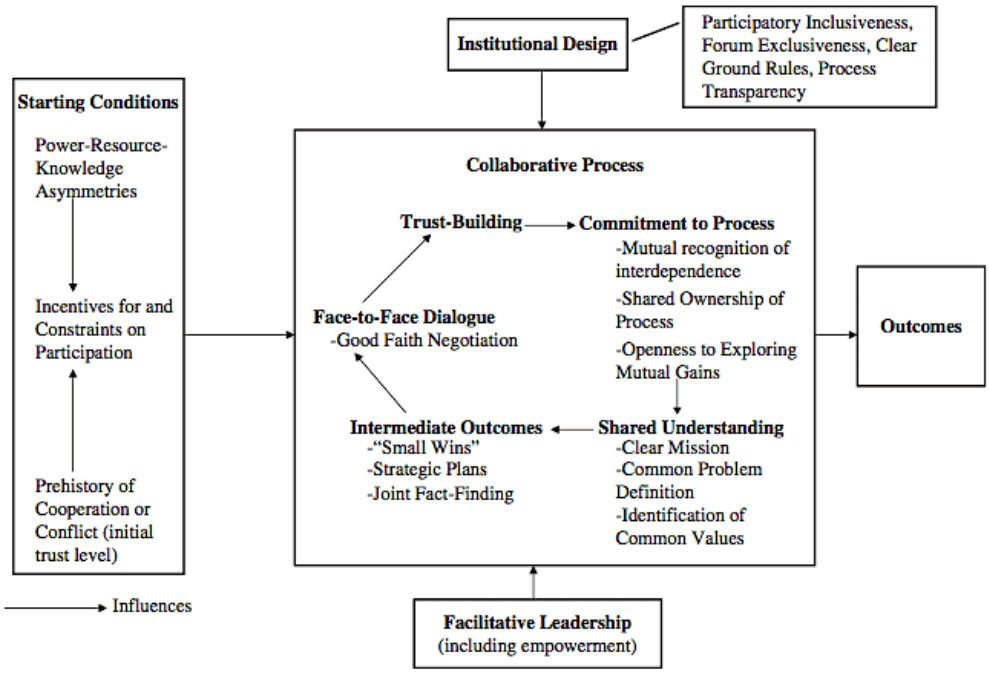
> A governance tool, by engaging diverse state and non-state stakeholders into collective decision-making networks and improving institutional design, which can help build consensus and reduce institutional fragment in environmental project delivery.

This understanding is partially based on Ansell and Gash's (2007) idea (see Figure 2.6) and amendments have been made in order to adopt it to this research topic. These amendments make the definition of collaborative governance more specific but appropriate, considering that the aim of this research is to find ways to promote coordination and cooperation to overcome the 'ambition-action' gap in environmental policy and project delivery.

A 'consensus building' process is stressed in decision-making via collaborative settings (Connick and Innes, 2003; Ansell and Gash, 2007; Gunningham, 2009). However, consensus is built through time and efforts, and is always difficult to achieve (Roussos and Fawcett, 2000; Gunton and Day, 2003; Imperial, 2005; Raab, Mannak and Cambre, 2013). Ansell and Gash (2007) first

suggest adopting consensus-building at an early stage of the policy-making process. Other supporters add that the process, rather than the result of consensus building, is essential despite its time-consuming nature (Yaffee and Wondolleck, 2003; Ansell and Gash, 2007), and thus it better acts as a cause for alarm in 'an all-encompassing mode of government' (Bodin, 2017). In other words, collaborative governance is more appropriate in non-emergent issues (Ansell and Gash, 2007), such as projects in Tai'an case.

Figure 2.6 Ansell and Gash's Collaborative Governance Framework



Source: Ansell and Gash (2007, p.550)

Except for the debates on governance, participants, scope, and the time consumed, other problems with collaborative governance have been identified as well. First, it is argued that collaborative governance still cannot solve regulatory capture problems, which means powerful stakeholders can always control the collaborative forums. If so, collaborative governance itself can intensify new conflicts (Castro and Nielsen, 2001) strengthening the current status quo or concealing intrinsic contradictions with a noncommittal declaration (Brummel, Nelson and Jakes, 2012). Indeed, particularly in environmental issues with continuous high-contested concerns, to regard

collaborative governance as a silver bullet is naïve (Zachrisson and Beland Lindahl, 2013). Next, lacking *trust* can be a severe obstacle to achieving consensus building. Third, to what extent the *interdependence* between stakeholders is appropriate is hard to say. Furthermore, Fischer (2014) reveals that *commitment* to collaboration is necessary but difficult to evaluate, an issue that has been frequently analysed in policy implementation research.

In fact, the problems can be solved through building an appropriate operational mechanism combined with collaboration and policy implementation measures for a specific situation or case before operation. Therefore, in this research, resources and trust issues are taken into the analytical framework.

In terms of methodology, even though the case study has its shortcomings in evaluating performance, it is useful as a means of developing insights into complex issues like collaborative governance process, especially in 'trust building, the development of shared understanding, and commitment formation' process (Ansell and Gash, 2007). If a case study method can be combined with surveys and observations to identify the changes after adopting collaborative governance, a collaborative governance structure can be built to examine and promote collaboration in a particular case.

In addition, almost all collaborative governance scholars highlight the 'contingency' feature of collaborative governance through their research when adopting single or multiple case study methodology (Smith, 1998; Connick and Innes, 2003; Ansell and Gash, 2007; Gunningham, 2009; Bodin, 2017). In other words, the performance and effectiveness of collaborative governance remains unpredictable (Scott and Thomas, 2016), which brings about uncertainty and variability (Bodin, 2017). In fact, the theoretical framework for analysing this 'contingency' has been provided by Ansell and Gash (2007, see Figure 2.6), though further empirical tests and theory elaboration is needed on when, how and for what issues collaborative governance can be effective, and if and how this relates to the characteristics of the governed situation.

2.3.3 Key Elements in the Environmental Governance Networks

Through the literature reviewed on governance networks, collaborative governance, as well as policy implementation frameworks and MLG, are expected to provide useful instruments and influential factors but not the guidelines necessary for environmental project delivery.

1) Institutional settings at upper and local levels

Strong upper-level *institutional settings* can support local-level networks. The strength of collaborative governance relies on 'improving *institutional design*', especially when state failures in policy implementation cause frustration on and distrust of governments' capability and accountability (Fung and Wright, 2001). Besides, the *transformation* of institutional settings at the local level can help pursue better solutions to dynamics and failures in implementation (Axelrod, 2006; Feiock, 2008).

2) Multiple stakeholders

As mentioned in 2.3.2, the characteristics have already rooted in the research of governance networks and MLG, and are the basic components of networks in collaborative governance (Stoker, 2004; Kapucu, Yuldashev and Bakiev, 2009). '*Stakeholder*' here means representatives of all relevant interests, including governmental actors, private actors, third-party actors, scholars in the context of Tai'an case. '*Diversity*' has long been underlined in multifarious governance theories, and is reflected as straightforward according to different stakeholders' *interests*. Except from the perspective of human nature, like Jean-Jacques Rousseau's theory (1762, p49), scholars in the fields of public management (Shani, 2008), environmental governance (Bodin, 2017) and collaborative planning (Healey, 2003) also admit that personal interest could make a different in terms of collaborative actions. Multi-level governance (MLG) stresses the different actors on various levels and scales (Bache, Bartle and Flinders, 2016). Adaptive governance highlights interactions between multiple actors (Steelman, 2016). Environmental governance theory adds

the diverse agents involved, the different interests represented and the integrative knowledge produced and learnt via multi-level approaches (Plummer and Armitage, 2010). Even though numerous researchers have regarded personal interest as an indicator of diversity in collaboration, the emphasis on the importance and influence of diverse personal interests is far from adequate.

There was no grassroot movements in Sponge City and Mount Tai projects at the time of this study, so public and NGO participation is less relevant. Despite that Ansell and Gash (2007) opposition to non-public-participation, this researcher would argue that the form of collaborative governance should be adjusted to various geographical scales and jurisdictional boundaries (Freeman, 1997; Gunningham, 2009).

a. State actors

'*State actors*' is valued first in the networks. First, the role of the central governments as initiators, is distinctive from other actors. This role enables state actors to manage collaborative governance initiatives and enable the *top-down changes* in project delivery. Gunningham (2009) also stated the success of collaborative governance is 'closely linked to hierarchy' (p.165) and thus a strong intervention instead of control from government is still necessary.

b. Local leaders and strong leadership

'Leadership' has long been of critical importance in governance networks. Like in implementation studies, leadership is also seen as a key parameter to guarantee the success of collaborative governance and environmental governance (Agranoff and McGuire, 2003; Crosby and Bryson, 2005). Ansell and Gash (2007) point out that in a situation 'where incentives to participate are weak, power and resources are asymmetrically distributed, and prior antagonisms are high, leadership becomes all the more important' (p.555).

However, little interaction between leadership area and collaborative project delivery has been explored, due to the different foundations upon which the two academic areas were established

(Erakovic and Jackson, 2012). Traditional leadership theories have largely relied on a leader centric approach, without considering novel collective problem-solving working modes. The centric leadership mode has long been adopted by mainstream authorities. For typical leaders and directors of common departments, pursuing departmental goals is mostly analogous to pursuing personal benefits. They become used to exercising formal political authority over their subordinates, which implies that the subordinates are unable to think or handle public affairs independently (Susskind and Cruikshank, 2006). This implication is contrasted with the nature and requirement for collaboration, arising from inviting all stakeholders to the table, including subordinates, so as to achieve better results by considering all interests (Bobbio, 2004; Hoppe, 2011). In this regard, a new type of leadership is required throughout the collaborative process to reconcile different interests according to common ground. Collaborative governance researchers (Ferkins et al., 2009; Kramer and Crespy, 2011; Ansell and Gash, 2012; Cullen and Yammarino, 2014; Bussu and Bartels, 2014) believe that new leadership types should be shared, distributed, and produced collectively. That is to say, leaders should be open and facilitative, their powers should be distributed, and their personal interests and the interests of their job (the collective interests) are no longer equivalent. However, as the influence of traditional leadership has been profound for both leaders themselves and their subordinates (in terms of their behaviour, attitudes and aims), the conflicts or interactions between leaders' interests and the interests generated from novel modes of problem-solving would reshape the collective project delivery.

Environmental projects with collaborative partnerships should require *'strong leadership'* with strong relationship skills and considerable influence (Boswell and Cannon, 2018), while weak leaders can only act as mediators, and guarantee the coordination of processes instead of outcomes, while 'strong leadership' is argued to be beneficial in maintaining ground rules, building trust, and facilitating productive deliberations, all of which need leaders to steer the activity towards productive ends especially in the environment project delivery process (Vangen and Huxham, 2003; Doody and Doody, 2012; Hattie, 2015). Challis et al. (1988) advocated that leadership in a joint team is essential, and agreed that the team should be led by either strong or weak powers.

For collaborative environmental projects in small cities, especially when environmental advantages have not been completely realised by stakeholders, a formal, powerful, committed, and relatively controllable leader is a necessity.

Mayors and vice mayors are usually the leaders of environmental project offices at city level in China. They are mostly strong leaders, and can push various departments and private companies to collaboration, and thus more labourers and potentially more investments and funding resources to the project. They are also more powerful in terms of mobilising their subordinates.(Qian, 2012)

c. Private sectors

Inviting '*private sectors'* is also essential. A large number of collaboration research studies (Smith, 1998; Connick and Innes, 2003; Ansell and Gash, 2007) have suggested that, 'non-state' parties also play a key role in the collaborative governance model. Some scholars are even in favour of 'governance without government' (Reinhardt, 2000). Gunningham (2009) disagrees that nonstate actors can succeed in organising themselves without external intervention and coordination, which is also approved in MLG (Liesbet and Gary, 2003). Specifically, in this research, 'governance without government' is not suitable in China.

d. Experts

The field of environmental management, especially in the areas of water and natural resources management, has a long history of inviting environmental professionals from academia to institute policy delivery (Lintsen, 2002). There is a consensus concerning the benefits of experts' participation in environmental management literature (e.g. Bulkeley and Mol, 2003; Bäckstrand, 2003; Bäckstrand, 2004; Newig and Fritsch, 2009).

A few researchers have acknowledged that the long-term scholars' participation can 'strengthen risk management and process control of environmental engineering' (Deng, Chen, Wang, 2014; Shi et al., 2018). They also pointed out the necessity of *'longitudinal studies'*, which involve

repeated observations of the same variables (e.g., people) over long periods of time. The reasons for longitudinal studies is mainly threefold in the literature: at the outset, a long enough time span can offer more justified evaluation of the performance compared with short-time studies of 3-4 years based on limited data (Kirst and Jung, 1983; Sabatier, 1986); in respect of the impact of knowledge on collaborative project delivery, if knowledge is adopted via '*the enlightenment function*', which means a relative social research result or knowledge is used indirectly as a source of ideas, information and orientations, its influence on policy and project processes will be profound (Weiss, 1977; Derthick and Quirk, 1985). In addition, policy change and policy innovation, as well as the relative importance of influential factors such as dynamic socio-economic conditions and policy-oriented learning, should never be ignored in the environmental public policy and project process, as it requires a time frame of decades (Heclo, 1974; Derthick, 1979; Nelson, 1984; Burstein, 1985).

3) Power

Governance research generally considers power to be a challenge to collaboration. The inevitable power asymmetry has potential negative effects on collaboration (Ansell and Gash, 2008; Provan and Milward, 2001; Purdy, 2012; Ran and Qi, 2016). It is likely to cause the collaborative process to be manipulated by stronger participants (Ansell and Gash, 2008; Bryson, Crosby, and Stone, 2006; Huxham and Vangen, 2005). In this regard, scholars tend to use power sharing to eliminate this negative impact. However, power sharing also has a series of challenges, which are difficult to overcome in practice (Ansell & Gash, 2008; Gray, 1989). In addition, some studies have further analysed the different types and sources of power (Hardy and Phillips, 1998; Purdy, 2012), but these analyses are relatively simple and cannot solve the negative effects of power asymmetry on collaboration.

4) Resources

Various types of resources are discussed in governance literature. Some are categorised as 'distributed' resources such as information, financial resources, physical assets, knowledge

(profession and skilled personnel), and managerial capabilities (Donahue, 2004).

Information sharing is believed to be an crucial element in environmental governance, but the in-depth research on this issue is rare (Pardo, Gil-Garcia and Luna-Reyes, 2010; Wang and Ran, 2018).

Scholars have suggested that knowledge is an essential factor that influences both policy and decision making (Lasswell, 1971; Simon, 1976) and collaborative actions (Ansell and Gash, 2007; Buuren, 2009; Emerson et al., 2011). Knowledge refers to how stakeholders identify an issue, perceive it, and then address it (Sabatier, 1992; Feldman and Khademian, 2007; Feldman et al., 2006), i.e. stakeholders' reality judgments, value judgments, and action judgments (Vickers, 1965). Such capacity is closely associated with what stakeholders have learned, experienced, investigated, and acted upon (Schneider and Ingram, 2007).

Through the participation of experts in these fields, essential knowledge, mathematical and technical data and measures, and new insights are introduced into project evaluation and decision-making processes, especially in the early stages of policy and project process development (Edelenbos, van Buuren and van Schie, 2011). Consequently, a closed and highly interconnected network, which informs project-related authorities and knowledge institutes has developed (Petts and Brooks, 2006). In this regard, the interaction between leaders, governmental actors, and the differences in the knowledge capacity influences the results of collaboration.

5) Trust and commitment

The prior literature identified trust and commitment as important influential factors in collaborative environmental governance (Ansell and Gash, 2008; Huxham and Vangen, 2000; Purdy, 2012), especially in the process of intergovernmental collaboration (Ran and Qi, 2016). Most scholars believe that trust and commitment have positive effects on cooperation (Emerson et al., 2012; Huxham et al., 2000; Ring & Van de Ven, 1992). The benefits include fostering

positive attitudes and confidence among partners (Huxham et al., 2000; Ring and Van de Ven, 1992), enhancing mutual understanding between stakeholders (Emerson et al., 2012), reducing transaction costs (Berardo, Heikkila, and Gerlak, 2014; Gulati, 1995), promoting openness of expression (Van Oortmerssen, Van Woerkum, and Aarts, 2014), accelerating conflict resolution (Ring and Van de Ven, 1994), and improving project implementation efficiency (Johnston, McCutcheon, Stuart, and Kerwood, 2004; Oh and Bush, 2016).

Researchers have proposed that one of the best ways to enhance collaboration trust is through *communication* (Das and Teng, 1998; Booher, 2004). Communication is the first step to build trust in collaboration. It requires skill and experience (Stone et al., 1999). In governance, communication consists of downward and upward ways. Effective upward communication is in a 'report-approval' way, and effective upward communication should include judgements, estimations, propositions, complaints, grievance, appeals, and reports from subordinates to superiors (Liberman, 2010; Canary and McPhee, 2011).

In the collaboration literature, effective communication is always highlighted as essential, while poor communication skills are associated with misunderstandings and conflicts in the practice of collaboration (Grover, 2005). However, in-depth and insightful research on communication skills is still limited and mostly focuses on teacher–student, nurse–patient (e.g. Maguire, 2002; Sweet, Huttly and Taylor, 2003), or customer service communication (e.g. Lucas., 2014).

6) Social ties: *Guanxi*

Various social ties, including *guanxi*, can be built through interactions into collective actions. In collaborative governance theory, these ties are expected to facilitate governance performance. However, some arguments arise, stating that social ties can only enhance information exchange but cannot enable behaviour changes in depth (Nohrstedt and Bodin, 2014). Other studies in favour of collaboration measures have shown the positive effect of social ties (Bodin and Crona, 2009; Bodin and Prell, 2011; Folke et al., 2005) that some solid and appropriate social ties can

provide a basis for the cooperation and consensus-building in governance activities like public policy implementation.

2.3.4 Public-Private Partnership (PPP) as a Tool in Environmental Governance

In light of the increasing involvement of private sectors in the collaborative environmental governance, diverse public-private cooperation models have also been adopted in environmental delivery around the world. In China, the most popular public-private cooperation model specifically refers to PPP.

The Public-Private Partnership Reference Guide (Version 3) (pppknowledgelab.org, 2017) by the International Bank for Reconstruction and Development and the World Bank defines PPP as,

> *'A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.'*

At the micro level, as defined by Garvin and Bosso (2008, p.163), PPP is 'a long-term contractual arrangement between the public and private sectors where mutual benefits are sought and where ultimately (a) the private sector provides management and operating services and/or (b) puts private finance at risk'.

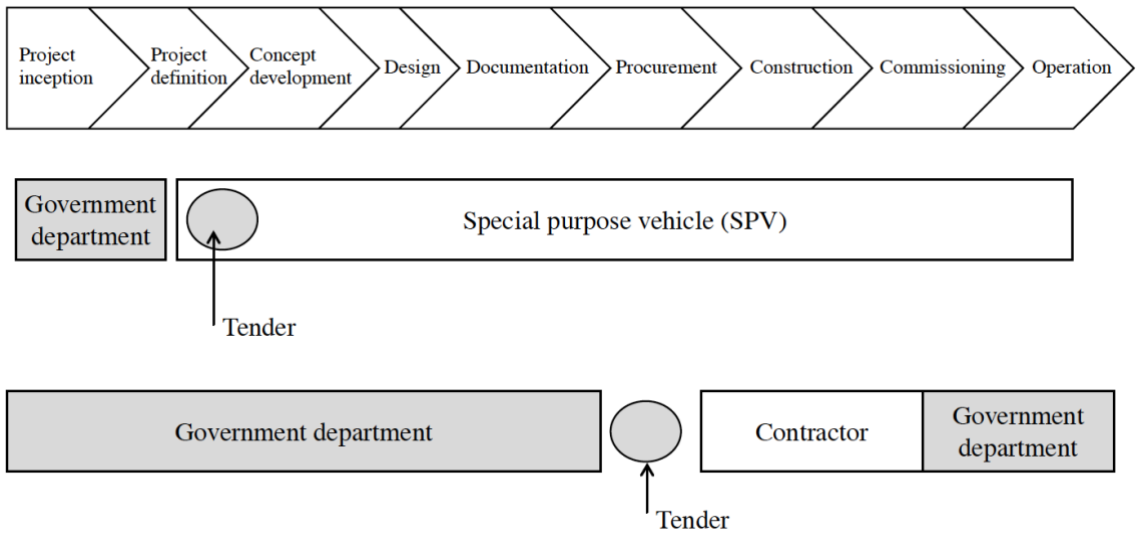
In fact, many scholars understand PPP from a broader horizon. For example, Van Ham and Koppenjan (2001, p.594) believe that PPP is 'public and private sector cooperation to provide products and services, share the risks and expenses incurred in the process, and jointly enjoy related resources'. Vives, Benavides, and Paris (2010) believe that all public services involve the public and private sectors in different ways, therefore all public service facilities should be called PPP projects. Some scholars such as Weihe (2005) and Hodge and Greve (2016) further extended the *PPP model as a form of cooperation between the public and private parties.* In this research,

a broad sense of PPP model is adopted. In other word, PPP is expected not simply to be an agreement between public and private sectors, but a cooperative environmental governance instrument. It can promote mutual communication and cooperation, and build facilitated networks between stakeholders in project governance.

1） PPP project life cycle

The rise of PPP life cycle is the foundation of real Public Private Cooperation (PPC). Kumaraswamy et al. (2010) compares traditional contract measures and the PPP project life cycle (see Figure 2.7): in a PPP project, most of the life cycle activities are only supervised by the government department, and the management of the projects are most directly by the project office and a private sector party, usually through a special purpose company, i.e. the special purpose vehicle (SPV); whilst in a traditional contract, government controls most of the project process apart from construction.

Figure 2.7 PPP project life cycle



Source: Wilson, Pelham and Duffield (2010, p.203)

The new PPP model is also built on a series of contracts. In the contract system, each contract is not completely independent, but is closely connected and interlinked. There is a certain

'transmission effect' between the contracts (Wu, 2016). The transmission effect helps actors have a more comprehensive and accurate control of the PPP project.

In the life cycle, Frame (1954) highlights the impact of *starting conditions* of projects and *cultural and political background* on PPP delivery, as these projects are often temporary and project office members are thus borrowed from outside the office. He (Ibid.) also weighs in on the importance of the behavioural characteristics of the project leader, i.e. the importance of *a strong leadership* in a complex environment. These attributes, discussed by Frame (1954), are now in the dimensions of 'governance'.

1) PPP and environmental governance

PPP now is widely employed in environmental projects and thus becomes a *financial tool* in environmental governance (Tang et al., 2010; Jing-Feng et al., 2010; Kao et al., 2010; World Bank, 2011). This often raises related debates on the tension, apparent or otherwise, between economic growth and environmental sustainability (Paterson, 2005) and the desynchronisation between the 'strong sustainability perspective' (Hueskes, Verhoest and Block, 2017, p.1184) in environmental governance and the essence of PPP. The report of UNECE (2001) suggests that, the adoption of PPP in environmental project delivery is primary due to budgetary issues, and, as a result, the merits of governance in PPP is often ignored. However, PPP, when used as a governance tool, can reduce such questioning, as in this way, PPP is no longer a financing 'measure' but refers to a set of '*processes*' and 'exercises' creating new markets or accelerating the development of existing ones, by which stakeholders can turn investments into profits into further investments (Stoker, 1998).

Criticisms are also concentrated on that, PPP governance, as the economic side of the environmental governance strategy, required the establishment of *political coalitions* within the networks between governmental and non-governmental players, which is not necessary and useless (Valler, 1995). However, the researcher would agree that cooperation between the state

and the private sector is ‘not only useful, but inevitable’ (Dunn-Cavelty and Suter, 2009, p.179), especially in environmental project governance. Based on the governance network theory, it is argued that environmental policy should increasingly rely on networks between stakeholders. Through new coalition building, the role of government becomes more about ‘steering’ and transferring from the direct provider of welfare and other services to the enabler (Osborne and Gaebler， 1992; Stoker, 1998; Dunn-Cavelty and Suter, 2009). In other words, the government’s role transforms into coordinating the networks and identifying instruments that can help motivate networks, to accomplish the ambition of environmental governance. In return, the increased improvement of the collaborative partnership would reduce the risk of regulatory capture and becomes part of a broader shift in the process of governance.

2） Cooperation through PPP: In context of China

In the context of China, PPP is first valued as part of policies facilitating financing in public project delivery. However, due to issues related to the *policy implementation*, there has been increasing criticism in recent years questioning the usefulness and effectiveness of PPP.

Unfortunately, there is very little research on the policy aspect of PPP governance (Greve and Hodge, 2007, 2010; Ysa, 2007). For example, through cooperation on PPP initiatives taken by the Irish government and the Danish government, Petersen (2011) finds out that a loosely organized institutional framework with a number of unsolved and unsupportive fundamental policies and regulations can ruin the adoption of PPP. Most PPP research in China covers the policy aspects but has not integrated the related discussion into a governance dimension (e.g. Sachs, Tiong and Wang, 2007; Zhang et al., 2015). As policy incentive is vital in the introduction of PPP model in environmental project delivery (Zhang et al., 2015), this research will otherwise emphasise the related policies and the influential factors of their implementation and implications in the analysis of PPP cooperative model under the context of China.

In China, the PPP model has been widely combined with not only the public infrastructure

management but also the *environmental governance*. Although the international examples of this combination are not adequate, existing evidence has shown that the results of cooperation between the public and the private dominate the performance of environmental governance (Glasbergen, 1998).

The operation mechanism of PPP cooperation in China follows the experiences of Western countries, but the stakeholders, including the private companies and their investors, in the cooperation are different. Unlike in Western countries, the research of Che and his colleagues (2017) points out that the private capital involved in China's PPP projects is mostly from state-owned enterprises (SOEs) or mixed ownership enterprises and most PPP projects are funded by the state or state-owned banks, therefore, in China, PPP should be expressed as a model of 'government-enterprise cooperation' instead of a PPP model. However, HM Treasury's (2015) report disagrees with Che's point that, contracts signed between the public sector and state-owned enterprises and the state-owned bank financing can also 'reflect some principles of PPP', and can serve as 'transitional structures' between the public and private sectors before commercial relations and mature PPP relationships are realised (pp.9-10).

The so-called 'government-enterprise cooperation' pattern might not be acceptable as a mature PPP model in Western countries, but can be accepted and may continue for a long time, especially in the starting and transforming periods of PPP model, because this pattern fits the definition of the broad sense and has stronger credit base and can provide more sufficient resources in China. As Klijin and Teisman (2003) point out, 'actors cannot achieve their objectives without resources which are possessed by other actors' (pp.137-138). In other words, a strong credit base facilitates collaboration and mutually-dependent resources can be guarantee of a vigorous partnership.

2.4 The Analytical Frameworks for this Research

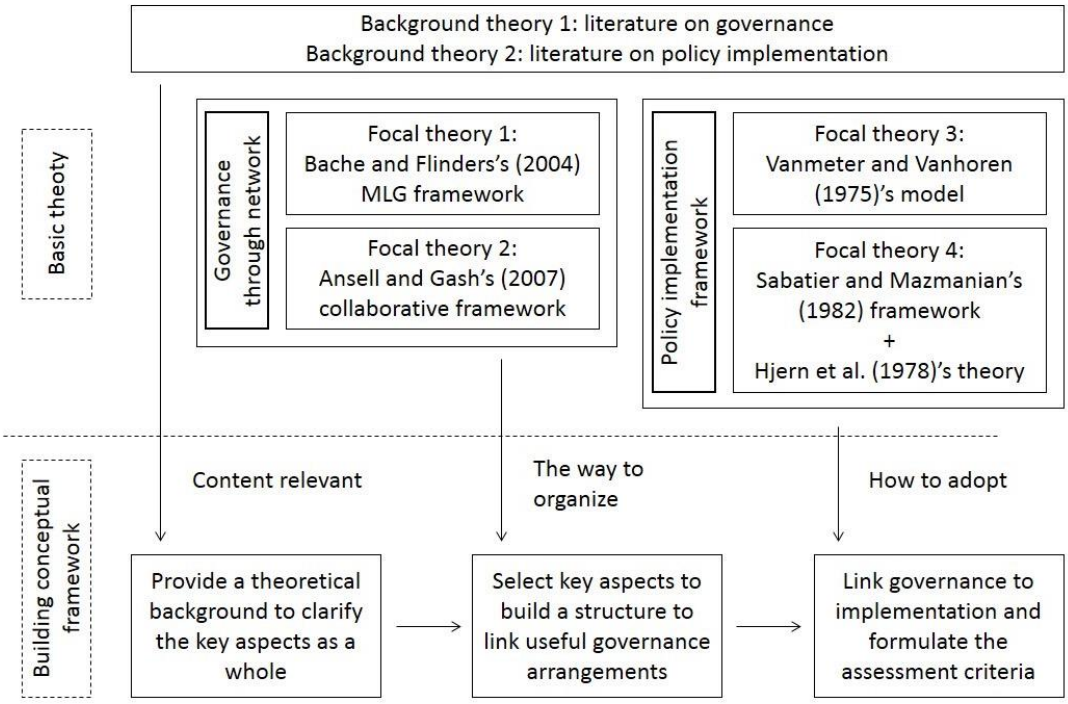
This chapter discusses the basic process of and possible influential factors facilitating

collaboration and cooperation, by reviewing key findings in policy implementation and governance research. This section, then, integrates the implementation frame and governance aspects into an analytical framework.

2.4.1 Learning and Intersection of Policy Implementation and Governance Through Networks

The integration of policy implementation and governance theories, serving as the background, show the policy implementation process and reveal how collaboration and cooperation is organised in a governance setting. Specifically, the integration of governance and implementation approaches draw out four key dimensions of the analytical framework (see Figure 2.8), facilitating coordination and cooperation in environmental project delivery. The formulation process and rationales of the framework have been shown Figure 2.8. Governance through networks, i.e. the integration of MLG (Bache and Flinders, 2004) and collaborative governance (Ansell and Gash, 2007), frame these dimensions into related governance arrangements. In the meantime, the top-down approach, like Vanmeter and Vanhoren (1975) and Sabatier and Mazmanian's (1979, 1980) framework, provides a classic hierarchical structure to this research, whilst a bottom-up approach, as in Hjern et al. (1978) argue that policy networks are based on the idea of the network and other key factors such as diversity and ideas of actors.

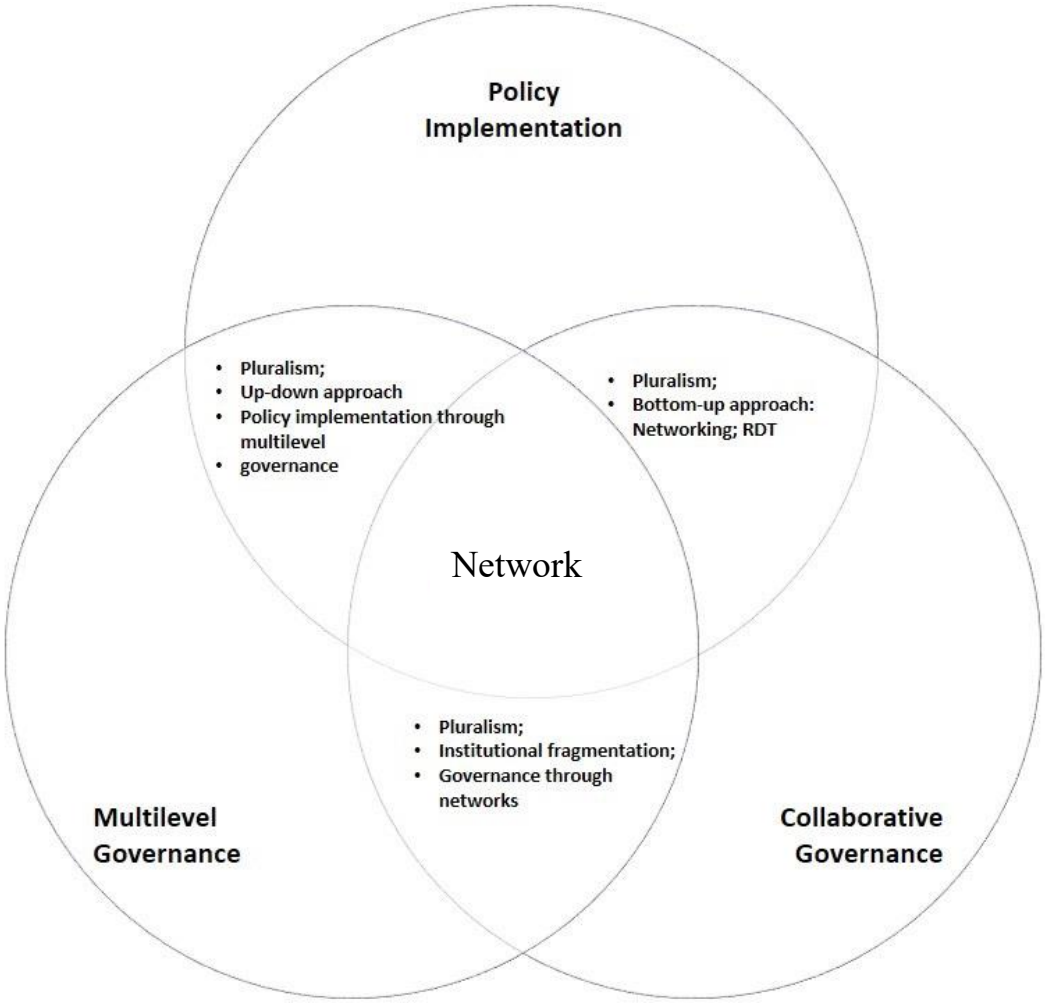
Figure 2.8 Background theories and the integration process



Source: Author

The evolution of the implementation theories and frameworks suggests a change in the role of the government from regulator to coordinator, and the development of the network concept in the changing socio-economic context. Governance theory, on the other hand, suggests the involvement of multiple actors, competing interests and the changes in temporal world. Borrowed from new institutionalism (ACF) and RDT, facing the context of power delegation and decentralisation, governance intents to reduce regulatory capture and opportunism in collaborative and cooperative project delivery. This separate concentration of each theory and intersections in-between them is depicted in Figure 2.9.

Figure 2.9 Concentrations of relevant theory and intersections in-between



Source: Author

It can be seen that networks theory is the coincidence of policy implementation and environmental governance theories. With coordination and cooperation as its heart, it considers multiple participants and focuses on their dynamics in networking.

2.4.2 The Framework: Policy Implementation Through State-Centric Governance Networks

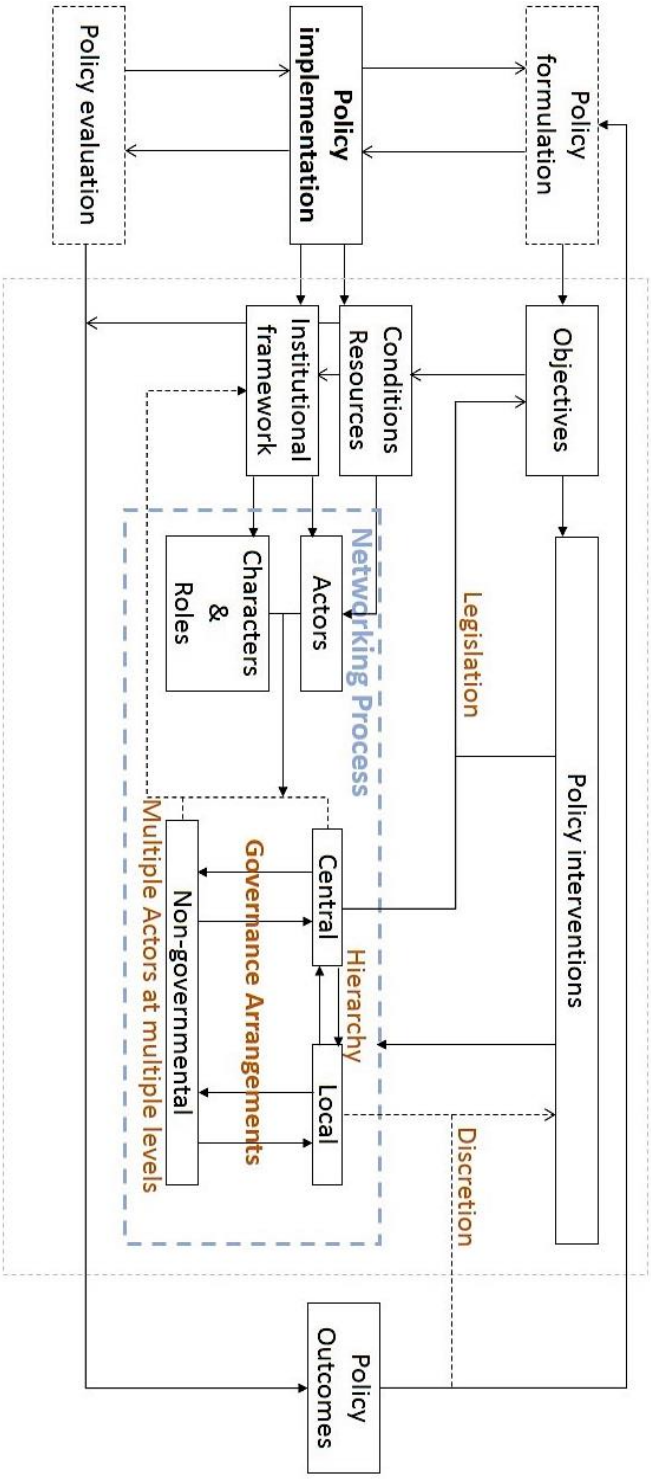
The innovative analytical framework, specially designated for institutional settings in China, uses

the dimensions and elements selected from the governance theories to analyse the joint environmental project implementation. The new layout can be described as a 'policy implementation framework through state-centric governance networks', as shown in Figure 2.10. It identifies key variables for the analysis and thus helps distil the themes and codes needed in data analysis from interview responses.

As environmental projects and PPP policies suggest overlapping networks among both governmental and non-governmental players, the implementation process, as a whole, incorporating multiple actors, levels and arenas (formulation, implementation, evaluation and outcomes) is taken into consideration, forming the frame of the framework.

Baring a whole institutionalism perspective, as shown in the outer purple square, the researcher also links various key external variables into the analytical framework, i.e. objectives, policy interventions, conditions and resources and institutional framework. This can help identify the exogenous reasons that local governments in China's small cities start to collaborate and cooperate in the environmental project delivery process (Research Question 2) and the reason behind the perspectives and behaviours of actors (Research Question 3).

Figure 2.10 Key aspects in policy implementation process



Source: Author

At the heart of this framework, both hierarchical features and horizonal interactions are included. The hierarchical aspect accords to that environmental projects in Tai'an case are formulated at the central level and implemented at the local. The horizonal aspect acknowledges that the delivery and the corresponding financing process require coordination, collaboration and cooperation. The formal and informal networks and networking processes between actors are shown in the inner light-blue square. This square is used to analyse where, why and how collective activities take place through the networks within key governance arrangements, to answer Research Questions 4 and 5.

Based on the learning and interactions of relevant implementation and governance theories, the main governance arrangements of the implementation process are listed in Table 2.1.

Table 2.1. Main governance arrangements on the local level in analytical framework

Arrangements	**Foci**
Starting conditions (External Influential Factors)	Basic conditions: geographical, environmental, financial and political conditions Policy/Project objectives Policy interventions/changes
Multiple level	Strategic institutional framework (to support intergovernmental collaboration and public-private cooperation)
Multiple actors on the local level	Governmental institutions (Stakeholder 1): leaders and normal officials Non-governmental participators (Stakeholder 2): private sectors and scholars Actors' power and resources→Interests
Networks between actors	Power changes Resource dependency: Information, knowledge and money Institutional influence *Guanxi*

Source: Author

These foci indicate the influencing factors needed in the analytical framework, i.e. the key governance arrangements influencing the collective environmental project delivery relevant to Tai'an case. These arrangements are used to fill in the basic implementation process to form the analytical framework and also are employed in the coding of interview responses.

2.5 Conclusion

Most policy implementation theories can hardly be applied in practice in isolation, especially in a dynamic and complicated environmental project delivery. Some implementation scholars have confirmed this view that implementation is 'too complex to be accounted for by a single theory' (Winter 2011, p.24). This is because the implementation analysts consider political feasibility as the most critical principle in their research. Despite deficiency, implementation studies provide a clear top-down policy/project implementation process for this research.

Winter (2011) suggests that potential links between implementation research and governance theories should be built. Based on governance literature, a 'governance through networks' framework, composed of elements from policy implementation and governance networks theories (i.e. MLG and collaborative governance theories), is an appropriate analytical tool to promote coordination and collaboration and identifies problems in environmental policy implementation process in this research. Significantly, network elements in PPP cooperation are valued in this research. In this research, a broad sense of the PPP model is adopted, that is a form of cooperation between the public and private parts (Weihe, 2005; Hodge and Greve, 2016). However, the literature also indicates that environmental problems are often complex and it is widely recognised that they cannot be satisfactorily addressed by single disciplines. Lack of an all-encompassing theory of environmental governance is highlighted, while the improbability of such a theory is acknowledged. In this regard, this research selects both general and specific governance arrangements related to the features of the special situation in China to fill in the analytical framework.

This literature review fills a key research gap: although the papers on networks have mushroomed in recent years, there has been little work on overlapping networks of decision-making (Liu, 2014; Zhang, Mol and He, 2016).

This research then builds up a comprehensive integrated framework, analysing the overlapping networks and networking processes, within the governance instruments across all arenas in environmental project delivery process of small cities in China.

The framework itself improves upon existing collaborative governance frameworks in several ways. First, it examines collaborative governance specifically in environmental area and broadly in terms of extending beyond the typical focus on the public sector and the public manager to include the myriad of collaboratives initiated in the public, private, and academic sectors. Second, the framework also situates the governance networks in the broader context with which it interacts, as the collective implementation process is influenced by surrounding conditions and initiated by specific drivers. Third, the framework specifies the components of the collaborative governance in small cities and suggests some general and very specific causal linkages. Although several frameworks acknowledge the complex and dynamic nature of collaboration, this framework more explicitly builds that vibrant nature, such as *guanxi*, into its process and construction. Finally, the framework further distinguishes process from results and impacts.

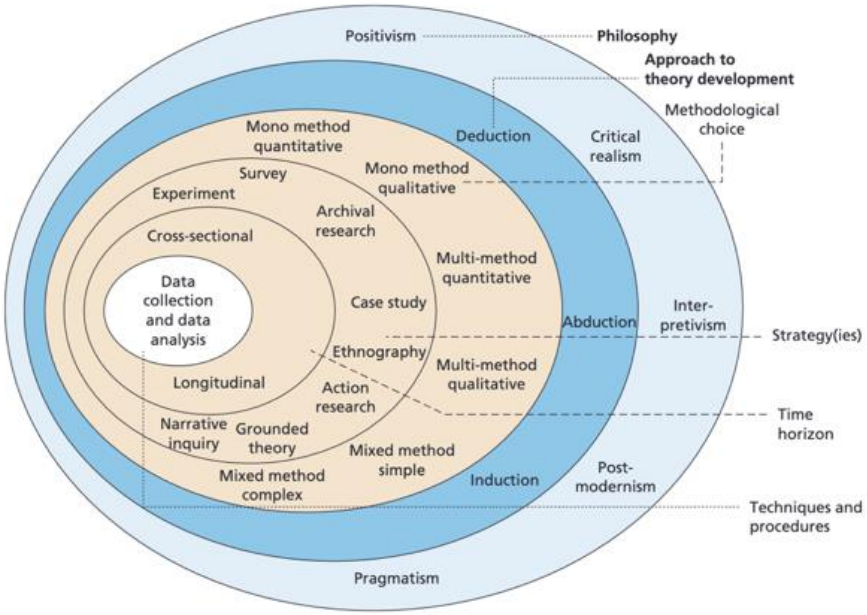
CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter discusses research philosophy and approaches, according to the progressive layers of the issues underlying the choice of data collection techniques and analysis procedures in Figure 3.1. In this research, strategic decisions on methodology are made for understanding and exploring the collaborative and cooperative environmental project delivery process in small cities of China. Therefore, in general, this research adopts a multiple-layered methodology of the case studies.

Figure 3.1 Understanding research philosophy and approaches to theory development (the methodology onion)



Source: Mark NK Saunders, Philip Lewis and Adrian Thornhill, 2015

This chapter starts with the philosophy. Then, the chapter discusses the rationale and systematic procedures to adopt the case study strategy, the concrete methods involved in a case study and the way a case study instructs the research.

Following the strategy, the data analysis process is demonstrated. The process includes the way to access and collect data, detailed data collection activities, the data analysis according to key themes and codes and the referencing and anonymising systems for representing data.

During the data collection and analysis, member check approach and data triangulation approach, are used to advance the credibility and contribute to the trustworthiness of this research. Despite these approaches, the chapter still examines the limitations of the research, including the validity, authenticity, generalisability and ethical issues.

The chapter closes with a diagrammatic representation of the major facets of the anticipated framework for the methodology, strategy and methods and the development of the research.

3.2 Research Philosophy

A research philosophy is a system of beliefs and assumptions about the way in which new knowledge should be developed in a given research. Inevitably, at every corner of a research study, the author would make various types of assumptions in relation to human knowledge (*epistemological* assumptions), about the realities encountered in the research (*ontological* assumptions) and the extent and ways that researchers' own values influence the research process (*axiological* assumptions) (Sogunro, 2002; Saunders, Lewis et al., 2015). These assumptions, underlying the whole research, can shape the understanding of research questions, the adoption of research methods and the interpretation of research findings (Crotty, 1998). Based on a 'well-thought-out and consistent set of assumptions' (Saunders, Lewis and Thornhill, 2009, p.124), a credible research philosophy can be built, underpinning methodological choice, research strategy and data collection techniques and analysis procedures.

This section overviews two major research philosophies in the Western tradition of science, i.e. positivism and interpretivism (Galliers, 1991; Guba and Lincoln, 1994), and explains the philosophy underpinning this research.

Positivists believe that the world is objective and independent of researchers' subjective experience, so it can be observed and described from an objective viewpoint (Levin, 1988). In this way, the reality can be learned and shared and predictions can be made. Positivism is an approach to mirror scientific method, using deductive reasoning, empirical evidence and hypothesis testing. It often relates to the quantitative type of data (larger sample sets, numeric) and adopts surveys based on scientific methods. Hirschheim (1985) points out that

> '…positivism has a long and rich historical tradition. It is so embedded in our society that knowledge claims not grounded in positivist thought are simply dismissed as a scientific and therefore invalid…' (p.33)

Alavi and Carlson (1992) agree that all the empirical studies use positivism in approach and add

that this approach is more possibly suitable in the physical and natural sciences.

The positivist way to understand social reality originates from the philosophical ideas of August Comte. Although many researchers support that positivism is also suitable for social sciences (Hirschheim, 1985), including governance and management areas (Gontcharov, 2017), it is more difficult to measure the variables in the real world than those in laboratories. As it lacks subjectivity in interpreting social reality, its adoption is frequently challenged by critics from two alternative traditions – interpretive constructionism and critical postmodernism (Gephart, 1999). For example, the postpositivist (Phillips, 1990) argues that, total objectivity is impossible to achieve, and therefore, although the research objects have nothing to do with human mind, it still cannot be well perceived purely by the observations. This point is also supported by Cook and Campbell (1979), through their critical realist ontology.

Interpretivism derives from social action theory. Social action theorists argue that human behaviours are not determined by the world, but by the role of the active individual and interactions between people. Accordingly, identifying the motives of human behaviours is important. Based on the opinions of social action scholars, interpretive researchers believe that the reality encompasses people's subjective experiences of the external world, and accordingly the reality is socially constructed.

The development of interpretivism philosophy is closely connected with the critique of positivism. Interpretivists argues that the reality of the world is dependent on the different experiences of different people who understand the same 'objective reality' differently and have their own reasons for taking actions in the world, and therefore there is no 'objective' knowledge, not to mention 'correct' or 'incorrect' theories, of the world as positivists insist (Walsham, 1993; Willis, 1995). Accordingly, interpretive researchers assume that knowledge (given or socially constructed), the epistemological assumptions, is only acquired through 'social constructions such as language, consciousness, shared meanings, and instruments' (Myers, 2008). The

phenomenon in the natural environment is crucial to a study and researchers inevitably leave impacts and unique interpretations on those phenomena they study, but these interpretations also consist of the scientific knowledge.

This research adopts the philosophy of *interpretivism*, considering the research objects, objectives and contents. Interpretivism studies people and their interactions, particularly in social sciences. It aims to identify the meaning of people's character and participation in both social and cultural life. It relies on observation to collect phenomenon-related information, and interpretation to make meaning of the information (Aikenhead, 1997), via collecting qualitative types of data (textual and linguistic) and conducting subjective experience with smaller numbers of respondents (Walsham, 1995; Elster, 2007;).

3.3 Methodological Choice

Interpretivism breeds qualitative research (Terry and Kirby, Mike, 2004) (CORRECT THIS REFERENCE!!), as it values the qualitative type of data to pursue contextual-based in-depth knowledge (Kaplan and Maxwell, 1994; Myers, 1997). Qualitative methods rely on the subjective relationship between the researcher and subject (Brewer, 2000).

Unlike the quantitative data that could be quantified, verified and manipulated in statistical ways, qualitative data comes from materials in a linguistic form that could not be transferred into a numerical form, focusing on 'meanings that come in packages, wholes, ways of life, belief systems and so on' (David and Sutton, 2004, p.35). In qualitative research, multiple realities exist in any given context and depends on both the researcher and the participants' own construction, and these realities unfold naturally without predetermined constraints or conditions that control the study or its outcomes. In this way, the researcher needs to act as an instrument of data collection and analysis and engage into the situation, makes their own specific interpretations.

However, some researchers, such as Giddens (1996), insist that social sciences should follow the quantitative methods to seek for social causation. In this regard, researchers are not allowed to become variables themselves. Besides, quantitative scientists only believe in numbers but qualitative research often fails to use numeric data. Facing these objections from quantitative researchers, Becker (1970), Lofland (1971), Bogden and Taylor (1975) and Lofland and Lofland (1984) insist on that the accuracy and subjectivity do not conflict in their qualitative research. Fetterman (1998) also believes that qualitative researchers can act as storytellers and scientists at the same time if their studies are systematic. These scholars also point out that in some natural scientific research, qualitative methods are accepted in the preliminary and pilot phase of quantitative studies. Ethnographers, like Blumer (1969) and Filstead (1970), Hughes (1990) and Holstein and Gubrium (1998), advocate that qualitative research must disclose people's reality constituting interpretative practices rather than concerning itself with the interests of natural science models of social research.

This research situates in the field of environmental governance, an applied field that involves insights and tools from multiple disciplines and is expected to understand complicated environmental problems and to determine how to address them collectively. The problems to be solved in environmental governance research, including this research, are closely associated with institutional and issue complexity, linkages, and multi-level, that pose challenges for many conventional methodological approaches. O'Neill et al. (2013) undertake a critical review of three types of methodology used in environmental governance field: qualitative, quantitative, and modelling and scenario building. They (ibid) find out that environmental governance researchers mostly relied on the qualitative methods. O'Neill et al. (ibid) also point out that the objects and questions in qualitative environmental governance research have evolved to encompass the main challenges ('complexity and uncertainty, vertical linkages across multiple scales, horizontal linkages across issue areas, and (often rapidly) evolving problem sets and institutional initiatives' (p.443)) and that qualitative data collection techniques have expanded.

Specifically, the goals and questions of this research require qualitative data and suggest the necessity of the researcher's participation and involvement. Controlled experiments could be neither practicable nor ethical to collect the qualitative data and engage a participatory researcher. Even though the experiments are conducted in practice, they are easily to be criticised for the simplified environments they produced (which could hardly have only one variable and are far different from the true circumstances in real world). Besides, this research intends to deepen (and also broaden to a small extent) the interpretation of governance and cooperation activities in the environmental project delivery process in small city. Qualitative, rather than quantitative methods, emphasise depth validity over generalizability. Therefore, qualitative techniques are employed, and data analysis are drawn from particular context in this research.

3.4 The Three-Layer Research Design with a Core of Case Study Strategy

Case studies are intended to provide a level of detailed understanding that allows for the thorough analysis of the complex and particularistic nature of distinct phenomena. Robert K. Yin agrees that case study is a 'thick description' (Geertz, 1973) and defines the case study research method as 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used' (Yin, 2014, p. 23). The term 'case' refers to a program, an event, or an activity framed in time and place.

Based on the definition mentioned above, case study strategy is useful where the impact of contexts on the studied event is essential and the researcher has limited control over the development of the events (Yin, 1989). The overall aim of this research requires a deep understanding, rather than a comparative or general opinion, on governance issues in implementation process. The 'Research Objective Two' (see Chapter 1) emphasises the

importance of the contexts particularly. In the process of case study analysis, unrealised knowledge comes up, along with the complexities of real-life contexts. In addition, this research aims to address several 'why' and 'how' questions, and these questions are raised to explore a complicated and unique phenomenon – collaboration and cooperation as an environmental governance instruments in contemporary China. Accordingly, there is more than one variable of interest and multiple sources of needed evidence in this study, and the researcher has less control.

The case study strategy contributes to this research and existing literature especially as the relevant theoretical base is not strong enough. More efforts, expanding on recent research, need to be explicitly made to explore environmental governance practices in broader political, cultural, and economic contexts (Weidner, 2002; Weinthal, 2002). Specifically, case studies in the context of developing countries are needed in the environmental governance research area (see Chapter 2). According to Benbasat et al. (1987), a rich and natural setting can be fertile ground for generating and complementing theories. The case study strategy is used widely (making up 84% of empirical cases) and effectively in environmental governance, according to Davidson and Frickel's (2004)'s critical review on the methodology of environmental governance research. However, these case studies are mostly under the contexts of highly industrialized states, mainly those in North America and Western Europe (Davidson and Frickel, 2004). As case studies research are seriously affected by the social and political contexts, differences within the complex realm of environmental politics would lead to the limitations in generalisation and application of research findings. Therefore, case study strategy is the optimum choice of this research.

Research design is the logic pattern connecting the research contents (Yin, 2009). A good research design can guarantee that the evidence finally addresses the initial research questions, and can also optimise the validity of data related procedures (ibid; Mouton, 1996). Yin (2003) further explains that 'colloquially a research design is an action plan for getting from here to there, where 'here' may be defined as the initial set of questions to be answered and 'there' is some set of (conclusions) answers' (p. 19). Thus, the research design is to understand topics and issues from

multiple theories in the literature and to refine the theories and literature scope from the case studies.

For a more systematic data collection and analytical process, *a three-layer methodological framework* with *case study* as its main strategy is designed for this research. The design and strategy together offer in-depth data on diverse actors' thoughts, behaviours and interactions in a collective environmental project delivery process in this research. Within the specific research design, a set of research methods are selected and applied properly in the data collection process. The selection normally considers three factors: the type of research questions, the control a researcher has over actual behavioural events and the focus on contemporary or historical phenomena (Yin, 2003).

3.4.1 The First Layer: An Exploratory Pilot Study

Yin (1993) has identified three specific types of case studies: exploratory, explanatory, and descriptive. According to Yin (2014), one study is allowed to contain one or more of exploratory, descriptive and explanatory theories, which means these three types should never be thought of as separate or be regarded as hierarchy. In order to make this research well-structured and make the findings valid, an exploratory-explanatory case study design was adopted.

An exploratory case study is used in the pilot study phase and acts as a prelude to this research. In the pilot study, cases were selected, informal conversations and semi-structured interviews with officials, professionals and practitioners were conducted, and some relevant official documents were provided by the interviewees. The Sponge City case was investigated to examine and refine the analytical framework by finding significant concerns and aspects that did not exist in the literature. This previous process allowed the researcher to better understand and analyse the collaborative and cooperative implementation process in the Mount Tai project.

The aim of this stage was to explore the general knowledge on the research topic and to broaden the initial knowledge of Tai'an environmental projects' delivery, checking the sampling, and evaluating the research design. In this stage, the initial research questions had been raised and were refined repeatedly during other stages.

1) Selecting cases through purposive sampling

Qualitative interpretive research depends on small samples that are purposively or purposefully selected. Patton (1990) indicates that 'the logic and power of purposeful sampling lies in selecting information-rich cases for study in depth…Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of research; thus, the term purposeful sampling' (p. 169). Eisenhardt (1989) and Eisenhardt and Graebner (2007) also point out that purposive sampling, instead of random sampling, is the best applied in the research adopting the explanatory approach. Purposive samples are based on the concept of 'theoretical sampling' (Glaser and Strauss, 1967). Theoretical sampling means that the selected subjects share the key characteristics that the researchers focus on in their research (Yin, 2009). In other words, within a purposive sampling design, the cases are selected on purpose to answer the research questions. Therefore, a purposive sampling design is justified in this research.

The case is the base and pivot of the case study design and its selection needs serious considerations on the following aspects. In this research, a case refers to an environmental project delivery process affected by collaboration and cooperation activities. Its selection was based on the following reasons.

a. Location

The location of cases cannot be randomly selected. In the early stage of the research, the researcher considered a substantial number of cities but found that Tai'an was the most appropriate place to study the governance and cooperation in environmental project delivery in small cities. The reasons were as follows:

a) Considering the time and energy of the researcher and the gap in the literature: a Chinese small city with a relative compact institutional setting.
b) Considering the objectives of the research: a city with essential and urgent environmental requirements and with ongoing environmental projects adopting specific collaborative and/or cooperative mechanism. Since around 2010, collaboration and cooperation have been introduced and promoted by the Chinese government as a key environmental governance mechanism (Zhang, 2008; Hu, 2014; Yan, 2015), but the joint-working process has rarely been examined (Liu, 2012). Thus, in order to engage in the process, ongoing projects were needed in this research. Besides, to bridge the gap in the literature, that is to identify the challenges faced by Chinese small cities in terms of institutional fragmentation, limited financial resources, and unqualified staff (Krueathep, 2004; Liu, 2012), a Chinese small city with urgent and essential environmental development requirements was essential. Tai'an is a small-size third-tier Chinese city. Its location is vital for the governance of Yellow River, and it is also one of the most famous tourist cities, which determines its higher requirement on the quality of ecological environment and natural resources. Therefore, selecting Tai'an as the case city could contribute to the practices and literature in environmental improvement.
c) Considering the access to the cases and potential data (Yin, 2009): the resource and information of the city was most accessible to the researcher. The researcher conducted postgraduate research on the Sponge City project in Tai'an, which allowed her to connect with officials from the Sponge City project office, the environmental protection bureau, the financial bureau and the planning bureau, as well as those staff from private sectors. In addition, the researcher was very familiar with Tai'an, and thus she had personal connections in Tai'an, which is important for participatory data collection in China.

Tai'an city, fulfilling all these requirements, was selected as the case study. The detailed local background will be described in 'Chapter 4. Context and Policy Review'.

b. Number of cases

The number of cases included in a project is also a crucial aspect. A single case is more appropriate (Eisenhardt and Graebner, 2007) under certain circumstances, while in most circumstances, selecting multiple cases is more advantageous in terms of theory refinement, validity and generalisation (Eisenhardt, 1989; Eisenhardt and Graebner, 2007; Yin, 2009), Multiple cases make the propositions 'more deeply grounded in varied empirical evidence' (Eisenhardt and Graebner, 2007, p. 27). Yin (2009) also suggests that 'the evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust' (p. 53). Besides, the number of cases also depends on the time, money, and capacity of the researcher. For a single researcher, the number of cases cannot be too large.

Considering the issues above, this research selected two cases in Tai'an. As the research concentrates only on the networking aspect of the two projects, the time, money, and capacity of the researcher to study two cases did not exceed that available to the researcher.

c. Selecting case projects based on three criteria

Within the purposive sampling, a set of selection criteria should be created to identify the specific features of the cases needed in the given research (Bryman, 2012). Considering the research objective and questions and the limitations of Tai'an city, the three criteria were established to select concrete cases in Tai'an:

a) Objective similarity: The basic requirement is that the cases should target the environmental governance with collaboration and cooperation activities during a related policy and project delivery process at the level of local government. The Sponge City and the Mount Tai project were both multi-level environmental projects based on national environmental policies and were the only two national environmental projects adopting collaborative mechanism and public-private instruments deliberately in Tai'an during the year 2016-2018.

b) Complementarity of data: This criterion considered the time limit of PhD research and it also considered that the cases are selected to provide data to expose the dynamics in collective project delivery process to a large extent. At the case selection stage of the research between 2016 and 2017, collaborative governance works in most Chinese small cities, including Tai'an, had just begun, and the complete collaborative process was difficult to achieve in one case. 'Sponge City', a relatively new and 'small' project, was the first one to adopt the collaborative governance mechanism in Tai'an. Most collective activities within the project were experimental and data generated from the project was mostly raw and at an early stage. As there was no major change in the leadership group between 2016 and 2019 at the city level of Tai'an, the governance work, though of different projects, was mostly continuous within the environmental area. Therefore, the Mount was introduced to provide data of a relatively mature experience. As the collaboration and the collaboration processes between cases can partially complement each other, the deeper understanding of the processes was generated in this research.

c) Accessibility: Full access to potential data is crucial in the sampling design (Yin, 2009). Bryman (2012) believes that the gatekeeper (i.e. the key person in control of the access to the data that needed by the researcher) problem is serious to data collection. In this research, the researchers had accesses to the official documents and interviewees, and permissions to conduct observations. This improved the quality of the data collected in the case study.

2) Selecting interviewees through snowball sampling

Snowball sampling, also known as chain-referral sampling, is a distinct method of convenience sampling, commonly used to locate, access and involve people from specific groups. This method is useful in cases where the researcher may have difficulties in generating a representative sample for the research (Valdez & Kaplan, 1999). In qualitative research, snowball sampling, with a networking feature, is widely used to access potential interviewees (Cohen and Arieli, 2011). When the research approach is exploratory and qualitative, informal snowball sampling is useful

in reaching a target population (Atkinson and Flint, 2001), 'by creating contacts with a respondent's circle of acquaintances' (Cohen and Arieli, 2011, p.427).

Snowball sampling served as an initial and complementary sampling method in this research. This researcher adopted informal snowball sampling approach to gain initial knowledge of the types and institutions of stakeholders involved in the two projects, to access more potential employees needed in the second stage, as well as to better engage in participant observation. The actors in collaborative institutions in the cases were relatively hard to access for this researcher due to their social or political status (e.g., governmental figures, investors). In the pilot stage, the researcher reached four personal connections, who had been involved in or familiar with the cases projects, and requested them to name one or more participants. Once new connections were built, the researcher categorised them into four groups according to their roles, namely officials (IL), private stakeholders (IP), bankers (IB), scholars (IA). The full list of interviewees is attached in Appendix 1.

3) Conducting pilot interviews

A series of pilot interviews with four actors in the Sponge City project were conducted to collect contextual information on contemporary cooperative and collaborative mechanisms in the Tai'an and Sponge City projects before June 2017.

Issues like barriers, funding sources, PPP, role and activities of actors and progress in collaboration and cooperation were covered (see Appendix 2-1). After the interviews, one of the interviewees, i.e. the leader of the Sponge City office, confirmed the form and rationality of the interview questions, provided relevant documents and suggested other key informants for the follow-up interview, and other three interviewees, includes officials and scholars, confirmed the relevance of the questions and also recommended potential interviewees.

All the pilot interviews were conducted in the offices in person. Each interview lasted from around

45 minutes to 75 minutes.

3.4.2 The Second Layer: A Multiple-Method Explanatory Data Collection Approach

An explanatory case study strategy was used after the exploratory pilot survey. The explanatory case study is used for doing causal investigations to 'understand complex social phenomena' (Yin, 2009, p.4). Many scholars point out that an explanatory case study approach is proper in a holistic, in-depth study with regard to education (Gulsecen & Kubat, 2006), law (Lovell, 2006), medicine (Taylor & Berridge, 2006), sociology (Grassel & Schirmer, 2006), community-based problems (Johnson, 2006) and governance and management issues (Pan and Scarbrough, 1999), because it provides a background and allows the understanding of complex issues, extends the depth of a research and makes up for the limitations of other research methods and analytical tools, especially in the social and behaviour problems, via detailed contextual analysis of a limited number of events or conditions and their relationships.

This explanatory process was the principal and pivotal stage of this research, requiring most developmental efforts, of which the aim was to achieve '*Objective One*' '*Objective Two*' '*Objective Three'* and '*Objective Four*' whilst providing the basis of preconceptions for Objective Five. Therefore, this layer was divided into the following three interlinked parts: a review on literature, a documentary analysis design and a case study design.

1) A review on literature

'Chapter 2. Literature Review' started with theoretical debates on policy implementation and governance theories. The definition and evolution of main theories and frameworks on policy implementation were reviewed, from which an understanding of the changes of theories, current issues and future trends were established. In the meantime, plenty of research archives contributed to the library of environmental governance, from which an overall understanding was drawn to

achieve ‘Objective One’. By integrating the key concepts and factors of the two research areas, an analytical framework was built to refine the scope of the research.

2) A documentary analysis design

This design is adopted to provide general understandings about the contexts of the research targets – Sponge City project and Mount Tai Project – the policy backgrounds and city contexts that affect the governance and cooperation in project delivery, to address Research Questions 1 and 2.

The researcher first accessed the application package of Tai’an Sponge City project. An application package was required for the application of provincial pilot Sponge City. The package included an application report with an implementation plan, a financial capacity analysis report and other supporting documents like planning documents, regulatory plans and related research documents. This package of documents covered physical *conditions and resources*, proposed scopes and *aims*, proposed projects including *concrete measures*, *timetable*, *personal and departmental responsibilities* and *financial arrangements*.

Next, documents regarding *local political, economic, social and environmental conditions* were obtained from Tai’an Municipal Archives, and documents regarding Sponge City and Mount Tai projects were obtained directly from the collaborative offices and local departments during the case study and observation exercise. These documents were used to provide the background information. Data from these documents acted as a starting point for the further analysis on the data from other methods. Also, during the data collection and analysis process, some new information learned from the documents led to changes in the research questions and revisions of research policies. As a result, targeted document reviews were conducted during the entire process of the case studies.

The researcher also collected data from various sources to analyse what the Sponge City and Mount Tai environmental policies were and how the cooperative and collaborative delivery process was to be carried out. These documents were collected before and during the field trip in Tai'an, covering the hierarchy of administrative systems, division and cooperation, the description of stakeholders' roles, powers, the institutional/legal arrangements and the plans of collaboration and coordination. These data were sourced from central and local (Shandong, Tai'an) governmental websites and official websites of particular departments (such as National Development and Reform Commission, Ministry of Housing and Urban-Rural Development and Ministry of Finance), and directly collected from the gatekeepers, collaborative offices or government departments during the field trip. All documents reviewed are listed in Appendix 3.

3) A case study design

The case study design mainly included in-depth semi-structured interviews with the stakeholders and a series of participatory observations.

a. In-depth semi-structured interviews

The researcher agrees with Yin (2009) that well-informed interviewees are able to provide valuable information about the phenomena being studied. Before both pilot and formal interviews, information sheets and a list of questions were passed on by the gatekeepers. In addition, WeChat documents were emailed to the interviewees, so that the respondents were fully informed about the research and the interview questions. Interviewees acknowledged that the interviews were voluntary and anonymous, and informed that their confidentiality was well protected. The interview topic guide was used to prepare interview questions (see Appendix 2).

Through face-to-face semi-structured interviews, the interviewee's words were recorded by mobile phone, converted into text and translated into English by the researcher. Some words had different meanings in China and the West, such as *guanxi*, planning, collaboration and PPP. To

achieve ‘conceptual equivalence’, the researchers reviewed a large number of Chinese and Western papers during the process of translating these words, and conducted ‘cognitive interviews’ to test the suitability of the translation (Van Someren, Barnard, & Sandberg, 1994) with both Chinese and Western scholars. When an English expression did have a different meaning in the Chinese context and could not be replaced, the researcher used the ‘decentring’ method (Werner & Campbell, 1970), that is, when introducing the relevant vocabulary, noted the applicable background. For example, this thesis specifically distinguished the difference between the term PPP in China and the West.

Interviewees’ body language and facial reflections also helped provide more data. This kind of data was used to complement and triangulate the verbal data.

Sometimes the meaning of body language and verbal expression are the same. For example, in a casual conversation, one official expressed his worries about the temporariness of the Mount Tai project office. Another official nodding and also said that:

> ‘Our project office is supposed to last for three years. After three years, no matter whether the project goals are achieved or not, the office will be withdrawn…’ (According to participant observation records from 7th September, 2018)

Nodding is a universal gesture of approval. However, the researcher did not completely determine that the interviewee’s nodding showed his agreement. Instead, the researcher noted his actions and recorded what he said, and considered them together when collating the data.

When the body language and verbal expressions are inconsistent, the researcher also tried to draw more accurate conclusions based on long-term observations, by learning more background information and the behaviour characteristics of the observed. For example, when asked about the role of the leader, all interviewees used positive words as their answers. However, it could be observed from their evasive eyes, defensive postures and hesitation expressions of some employees that they were not sure of their answers.

Between August, 2018 and December, 2019, a series of follow-up interviews were conducted. The researcher did not intend to interview all the participants in the two projects. The researcher selected the stakeholders who were participating in both projects or at least the Mount Tai project, who were continuously contactable and willing to be interviewed. Combining the purposive sampling and snowball sampling strategies, 16 governmental leaders and officials, 11 staff from private sectors, 2 bank employees and 2 scholars were selected ('List of Interviewees' is included in the Appendix 1). The aim of the follow-up interviews covered all the aspects listed in analytical framework, and particularly gained more understanding on the formation, forms, process and problems of collaborative and cooperative environmental project delivery. The following-up interviews also helped locate the further documents needed, as well as enhancing the understanding and comprehending of documentary data and filling the gaps in the document review.

As the interviewees were busy, interviewees were interviewed once or several times to acquire adequate data needed, and all the initial interviews were conducted face-to-face in the offices with some follow-up interviews by telephone, depending on conditions. The length of the interviews varied from 15 minutes to around 1 hour.

a) Semi-structured Interviews with governmental representatives

Governmental representatives involved the vice mayor of Tai'an (who also takes charge of Sponge City Leader Group), director of Financial Bureau of Tai'an and director of Urban Planning Bureau of Tai'an, because the study was about how the official system and framework had been comprehended by those who established, promoted and applied them. Given that politics and its related issues were highly sensitive to discuss, unthreatening questions were imperative. As a result, interview questions avoided sensitive information and mainly concentrated on a story-telling mode, unless the interviewees showed that they were willing to and comfortable with talking about sensitive information.

b) Semi-structured Interviews with other key participants

Using both purposive and snowball sampling, other key interviewees were targeted according to the policy documents and recommended by governmental interviewees. Interviews were conducted with staff from the various bodies, including governmental departments, including the Sponge City Office in Tai'an Municipal Government, the Sponge City Leader Group (the collaborative office), the Cuwen District Committee, the Cuwen Sponge City Project Group, the Mount Tai Project collaborative office, the Dongping Lake Mount Tai Project site office, the City Governance Office in Tai'an Municipal Planning Bureau, the Tai'an Municipal Finance Bureau, the Tai'an Municipal Environmental Protection Bureau, the Tai'an Municipal Land and Resources Bureau, the Tai'an Municipal Water Bureau, third-party sectors, i.e. consulting companies and banks working for Tai'an Government, private sectors, i.e. the investors and the relevant academic areas.

Although some questions focused on intergovernmental aspects, the non-governmental actors are also invited to answer the same questions. This was a necessary remedial measure when governmental staff skewed data due to political or governmental issues and the 'observer's paradox' (Labov, 1972). 'Observer's paradox' refers to a universal phenomenon that people tend to refine their original thoughts when they are under observation. Therefore, it was imperative to triangulate answers of governmental employees from other respondents who understood these issues in a same level with them and responded without those hierarchical thoughts.

Most interviewees from the local government, especially in high positions, were excellent story-tellers. Their answers sometimes went beyond the questions in the list, which means some questions were answered before asking. Under the semi-structured frame, most interviewees appeared comfortable when giving information and talking about their experience and opinions, and their answers stayed in line with the research in most circumstances.

b. Participatory observations

The researcher conducted participatory observations in selected organisations. This method was aimed at triangulating (and thus verifying) the findings from interviews and documents, and further exposing the influence of cooperative policies and activities on everyday work.

The researcher conducted the first participant observation over the period July 2017 to August 2017, as an extra hand in Tai'an Cuwen Committee and Tai'an Cuwen Sponge City Project Group, the institution directly in charge of Tai'an Sponge City project. The researcher observed the case as a participant and involved in management work (e.g. visiting the construction site on 26th, July, 2017) and governance affairs (e.g. auditing Sponge City leaders meetings on 19th July, 2017 and 4th August, 2017). As a result, the researcher was able to observe key aspects of Sponge City delivery process as well as the relationships and interactions of stakeholders in the project. In addition to being a participant in the Committee, the researcher herself became an instrument of observation who observed first-hand and understood better how participants behaved in a specific setting and what that setting comprised.

The researcher carried out a second set of participant observations in the Mount Tai Project office during the beginning of August to the end of September, 2018. Compared to that in the Sponge City project office, the participation level in Mount Tai Project office was deeper and more thorough. The office leader allowed the researcher to attend the two regular meetings (on 19th August, 2018 and 14th September, 2018) and several informal meetings within the collaborative office, observe the meetings and phone calls between the office members and private investors during the observation period and to go on all the business trips with the team to Dongping Lake subproject site in August, 2018. These meetings and trips provided an insider view of the collaboration (both vertical and horizonal) and cooperation process, and allowed the researcher to observe the behaviour and language of the stakeholders concerning networking. As the

observations were conducted along with the interviews, it shed some light on the background and key informants to be interviewed.

During the participatory observation, the researcher tried to mitigate the subjectivity by compiling field notes during the observation and comparing the data with the literature and documentary data collected beforehand. The facts and occurrences were also noted from judgments and reflections to keep neutral.

The participant observation brought the researcher with certain benefits and opportunities that could not be acquired by an outsider. The researcher was able to apply triangulation, as there were several data sources, thereby increasing the validity of the research. For example, interviewees were more open with the researcher as a participant and thus a richer data set over an extended period was acquired. Besides, the Sponge City policy documents, project plans and contracts were more accessible. Moreover, the researcher became more familiar with the Sponge City delivery process, which greatly facilitated the formal survey. Further, in participant observation, the researcher could more accurately assess the nonverbal expression of feelings, interactions and ways of communication among people or the time scale of observed activities, as people usually behaved in a more natural manner. This provided background information for the development of sampling guidelines and interview guides and thus further guaranteed a relatively high external validity of results.

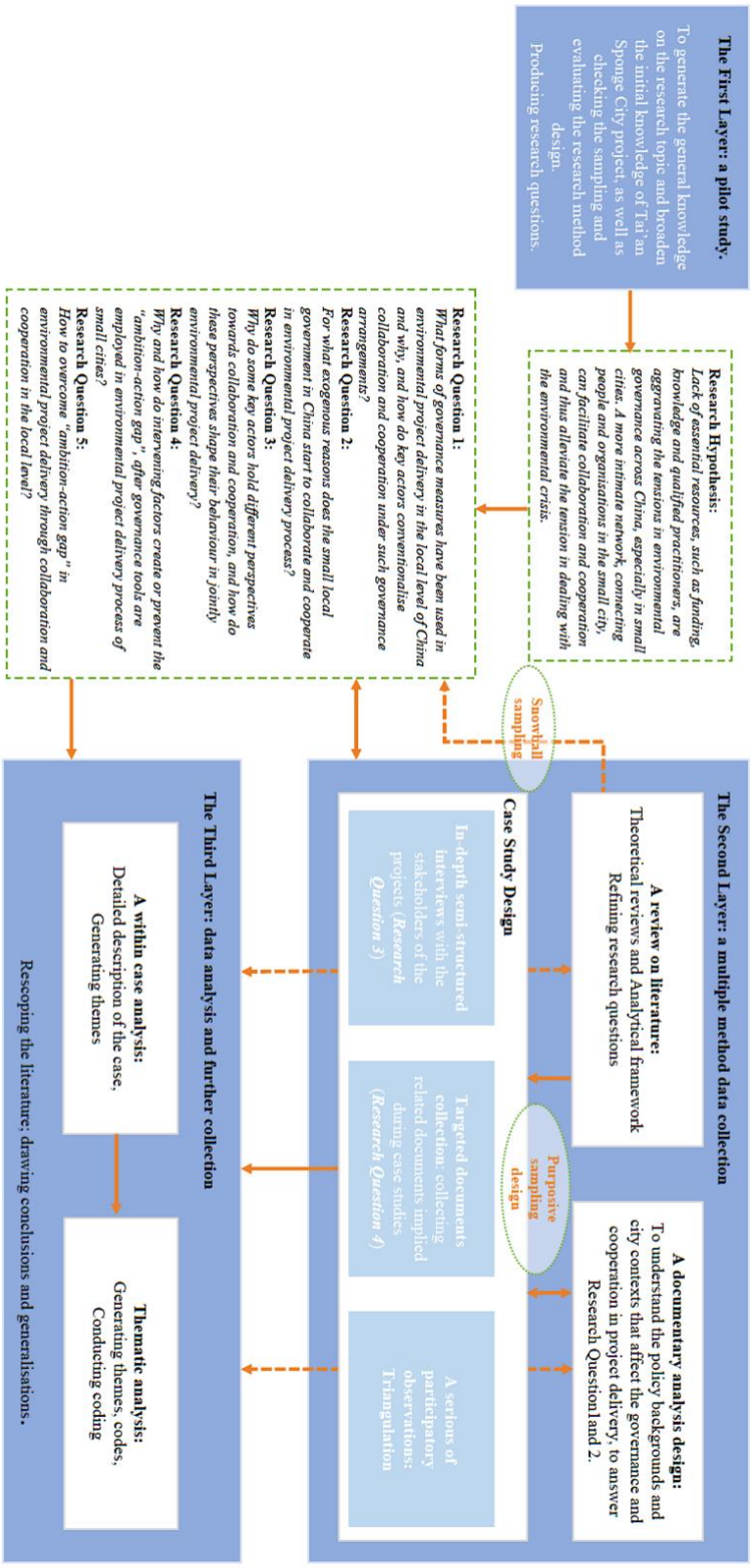
3.4.3 The Third Layer: Data Analysis and Further Collection

This part was designed to revise the answers of the Research Questions 4 and Question 5. After the analysis of data collected on the first and second layers, a series of further interviews were conducted focusing on the omissions of the second layer. By combing all findings, a

comprehensive and dynamic understanding of the collaborative and cooperative environmental project process was achieved, and potential recommendations on collaboration and cooperation activities in environmental project delivery of Chinese small cities were devised.

This three-layer strategy followed an order to achieve the five research objectives. This specific order ensured that each objective was met and that the structure existed for the development of the next one. However, the three layers here are not completely separated from each other, but instead, they have some overlap and therefore form an iterative process (see Figure. 3.2).

Figure 3.2 Methodological framework



Source: Author.

3.5 Data Analysis

3.5.1 Longitudinal Within Case Analysis

The longitudinal within case analysis examined chronological timelines of events or changes in real-world organisational characteristics over time, and was applied widely in the studies on processes and changes (Street and Ward, 2012). Therefore, this approach was used for analysing documentary data and some observation data in this research.

Longitudinal within case analysis was essential to this research. In the data collection process, a detailed description of the cases was generated (Stake, 1995). The data exposed that the activities and processes within the Sponge City project affected those within the Mount Tai project. In detail, the intergovernmental collaboration and the public private cooperation activities were intrinsically interlinked between the Sponge City and Mount Tai Projects, in terms of the similar institutional setting and mechanism, as well as the same leader and leading group (specifically referring to the leading group of the PPP projects in the two cases). Also, the observations and interviews in the Mount Tai Projects also suggested that connections and activities in the past were a key determinant of the present choice of the collaboration and cooperation networks and activities in the same project. For example, as the participants in the project preparation and planning stage (in 2017) were excluded in the implementation stage (beyond 2018), the information flow and commitment level were influenced in the collaborative process. In addition, multiple evidence showed the huge influence of history and the temporal dimension on the development of collaboration and cooperation in the two projects. As a result, a temporal sequence was considered crucial to present choices and outcome.

Analysing the documentary review and observation data allowed the researcher to build the chronology, to reveal the development of collaboration within each case and to verify specific claims through other research tools. The time and energy put in the longitudinal within case analysis process was rather consuming but acceptable, because this analysis process sorted out

immense volume of data and generate in-depth knowledge. Eisenhardt (1989) points out that longitudinal within case analysis can produce 'preliminary theory' (p.533), by uncovering specific key issues and knowledge gaps.

3.5.2 Thematic Analysis

Thematic analysis was applied to analyse interview transcripts and other data generated from interviews. Braun and Clarke (2006) indicate that the utility of this approach 'often goes further than this, and interprets various aspects of the research topic' (p.6). By closely examining the data, the researcher identified common themes, i.e. topics, ideas and patterns of meaning that appear repeatedly. Combining the data from the two cases, thematic analysis was conducted to address the research questions to gain rich details of the collaborative and cooperative environmental project delivery process in practice.

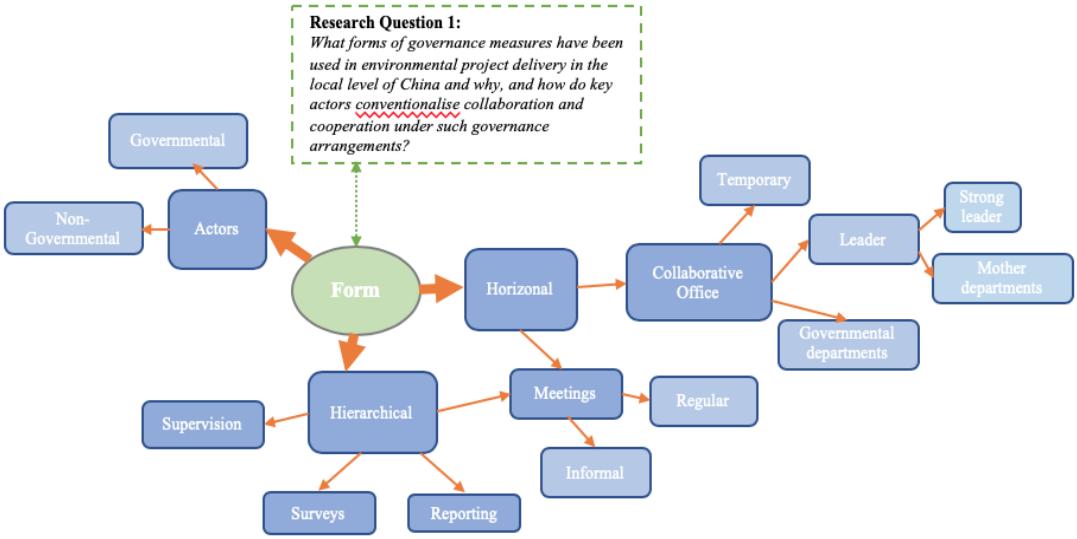
In the thematic analysis process, both inductive and deductive thematic development approaches were employed to interpret the data. The theory-driven deductive approach generated themes according to the influential factors distilled from the existing literature. In the meantime, the data-driven inductive approach allowed the themes to be created from the within case analysis process. The themes and codes included collaboration, cooperation, objective, motivation, leadership, institutional setting, power, resource, interest, guanxi, relationship, trust and commitment, funding, knowledge, efficiency and challenge.

The body language and facial expressions during the interviews, as well as the daily observed conversations were recorded, converted into text, and coded together with the transcripts of the interview, or merely appeared as a descriptive language in data analysis.

The Figure 3.3 is an example of coding process based on pre-defined codes in line with the first research question. In order to reduce the omissions of the research questions, during the process

of repeatedly browsing the data, an inductive approach was also used as a supplementary tool to identify missing key information that might help achieve the research aims.

Figure 3.3 An example of coding process



Source: Author

3.6 Limitations

The case study methodology has, however, been disputed continuously, the most common of which concern the inter-related issues of methodological rigor, researcher subjectivity, and external validity.

Regarding to the first issue, Zeev Maoz (2002) notes that 'the use of the case study absolves the author from any kind of methodological considerations…case studies have become in many cases a synonym for freeform research where anything goes' (p164-265). Yin (2009) believes that 'a relative absence of methodological guidelines' is the main reason of the lack of preciseness. Thus, an increasing number of contemporary case study practitioners have sought to clarify and develop their methodological techniques and epistemological grounding (Bennett and Elman, 2010). This

research built a methodological framework to guide the research process. This framework covered multiple research methods, increasing the rigor of the research to a great extent.

The researcher benefited from acting as the primary instrument of data collection and analysis. However, as Hamel (1993, p. 23) suggests, 'the case study has basically been faulted for its lack of representativeness...and its lack of rigor in the collection, construction, and analysis of the empirical materials that give rise to this study…this lack of rigor is linked to the problem of bias...introduced by the subjectivity of the researcher and others involved in the case'. This kind of argument misses the point of doing qualitative research. Shields (2007) claims that 'the strength of qualitative approaches is that they account for and include differences--ideologically, epistemologically, methodologically--and most importantly, humanly (p. 12).' The researcher had been trained for interviews and observations before fieldwork and had a background knowledge of 'Sponge City', Tai'an, and environmental governance in China, which helped reduce the bias.

External validity focuses on the value, especially the generalisation of research results. According to Flyvbjerg (2006), the misunderstandings of the case study include 'that one cannot generalise on the basis of a single case is usually considered to be devastating to the case study as a scientific method' (p.224) However, Flyvbjerg (2006) claims that both human and natural sciences can be advanced by a single case, and he also argues that formal generalisations based on large samples are overrated in their contribution to scientific progress. Yin in particular refuted that criticism by presenting a well-constructed explanation of the difference between analytic generalisation and statistical generalisation: 'in analytic generalisation, previously developed theory is used as a template against which to compare the empirical results of the case study' (Yin, 1984). The result of this research could be a reference for future studies and an experience for other small cities conducting collective activities in environmental projects.

Specifically, in this research, there are another two challenges in case study design considering the feasibility in practice. First, local governments and state agencies such as National

Development and Reform Commission could not provide relevant materials or data, given confidential reasons. For this challenge, the researcher tried to dig more useful information from accessible materials like more interviews. Second, interviewees, especially some governmental officials were unwilling to release information in interviews. With regard to this challenge, the researcher tried to make more contacts with them and turned to more resources like media interviews or statements made by them on relevant issues, and prolonged the field work to find out more alternative data.

3.7 Conclusion

The research methodology was deconstructed from six layers: the research philosophy, methodological choice, strategy, design, data collection and data analysis.

The interpretive paradigm served as the research philosophy. To explore the meaning, beliefs and experience, a qualitative methodology was adopted. A case study strategy was used according to the research questions and the control of the researcher (Yin, 1989). Specifically, there was more than one variable of interest and source of evidence and the researcher had little control with the case. To develop the systematic procedures for this strategy, other qualitative research methods, i.e., documentary review, participatory observation and interviews, were employed to establish a three-layer research framework. The three layers were not completely separated with each other and followed an order to achieve the five objectives of this research.

Tai'an, a Chinese small city, was selected as the location of the case study. This choice was based on the comprehensive consideration of the researcher's limited time and resources, the lack of research on Chinese small cities, representativeness of the city's environmental needs, and the availability of information. Two environmental cases in Tai'an, the Sponge City and Mount Tai projects were selected due to their unique representation, objective similarity, complementarity of data and accessibility.

The data collection process generated a detailed description of the cases. The interviewees were selected via purposive sampling and snowball sampling. Data collected from the documentary review covered the Sponge City and Mount Tai environmental policies, the planned cooperative and collaborative delivery mechanism (central documents), and local political, economic, social and environmental conditions (local documents). A series of pilot interviews with four stakeholders in the Sponge City project collected contextual information about the Sponge City project governance and progress and refined the research questions. The follow-up interviews

with governmental leaders filled in the missing aspects in documents and disseminated key contextual information. The follow-up interviews with other key actors, from all the key aspect in the collaborative and cooperative delivery processes of two projects, made the data comprehensive, direct and valid.

A participant observation was adopted from an early stage to collect first-hand data to develop a holistic understanding. Although data would be relatively limited through this method, the 'insider's identity' of the researcher was essential in the analysis of the process of a new policy's implementation. The researcher took part in various important meetings and field trips and observed a large amount of daily conversations.

The data analysis process combined the longitudinal and thematic approaches. The longitudinal approach within case analysis was used to analyse documentary data and some observation data, in order to build the chronology, reveal the collaboration progress within each case and to verify specific claims through other research tools. Thematic analysis was then applied to analyse interview transcripts and other notes generating from interviews and observations.

This chapter also showed the limitations of the methodology, specifically in terms of the perspective of 'researcher as instrument' and the generalisation of case study research. The researcher believes that by building a well-structured, researchers' engagement, more information would be provided. Further, the researcher feels that like experiments, case studies are generalisable at least to theoretical propositions. Further, the research findings can be expanded to generalised theories (analytic generalisation), even if not to statistical generalisation. In the face of the challenge that a single research method could not provide sufficient data, this research adopted multiple research methods to complement one another and to triangulate.

CHAPTER 4

WITHIN-CASE ANALYSIS OF THE TWO CASES IN TAI'AN: CONTEXT AND POLICY REVIEW

4.1 Introduction

This chapter presents the data collected from the two case studies and provides a longitudinal analysis of the starting conditions and institutional framework, and actors' networking processes in the collaborative and cooperative implementation of the Sponge City and Mount Tai projects according to the adopted analytical framework.

This chapter first introduces the geographical, environmental, financial and political conditions and the institutional settings of the two projects. These are basic external influence factors of governance and cooperation in environmental project delivery of small cities. Then, policy interventions, especially national policies are reviewed and analysed. They are the most critical external factor of governance networks. According to data from the survey, 'policy trends' and 'central governments' direction' were two of the most frequently mentioned external motivations in the interviews. Policy issues pertaining to collaborative governance determine the environment of and restrictions on stakeholders' behaviour, and other key influential factors that inform how collaborative governance unfolds. The above two longitudinal analyses draw on sources and information from documents and pilot interviews, laying out a descriptive narrative of each case. They are used to address Research Question 2.

Finally, as a collaborative office/team was established with a single workforce implementing the project collectively in each case, this chapter then focuses on the two cases separately. Within

each case, the specific policy interventions, and networking form and mechanisms are presented chronologically, thus demonstrating the developments and changes. The network processes of the two projects are divided into hierarchical and horizontal parts based on the separate periods in which key policies and decisions on collaboration and cooperation were made. The actors involved in the two projects, the strategic institutional framework to support local networking and the initial power and resources status are analysed. The analysis is based on primary data obtained through follow-up interviews, observations, and targeted documentary reviews, thereby providing a contextual and policy framework for the thematic analysis of the two cases in the next chapter. The analysis helps answer why key actors held different perspectives towards collaboration and cooperation, and how these perspectives shaped their behaviour with regard to joint environmental project delivery (Research Question 3).

4.2 Geographical, Environmental and Financial Conditions of a Chinese Small City – Tai'an

It is essential to delineate the basic conditions of Tai'an where the case projects were located at the beginning of this chapter. These conditions are all important basic external factors that affected collective environmental project delivery.

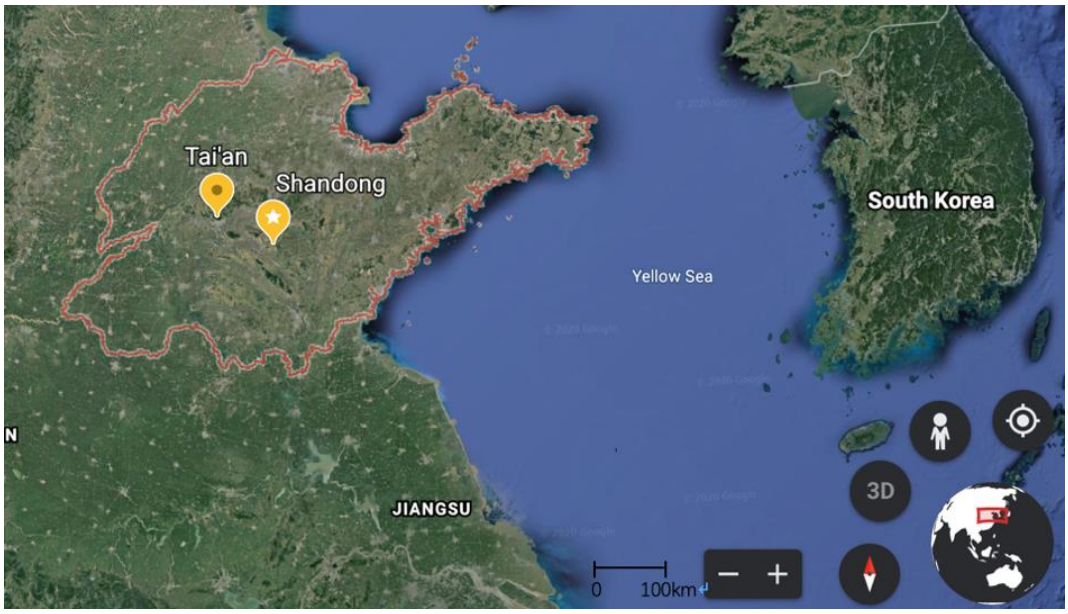
In terms of city size and financial resources, Tai'an is a small third-tier city in China. The small city defined in this thesis considers these two factors but ignores the urban population factor. On the one hand, the large population base is a prominent feature of Shandong Province. Every city in Shandong Province has a population that far exceeds other Chinese cities with similar areas and similar economic conditions. Shandong Province, where Tai'an is located, is one of only two provinces with a population of over 100 million among the 34 provinces in China, while it is ranked 20th in terms of area and 3rd in GDP (Baike, 2020). On the other hand, the pilot survey indicated that financial factors had a greater impact on collaboration and cooperation in environmental project implementation than demographic factors.

4.2.1 Geographical Conditions: Unique Small-Size City

Tai'an is a small-sized city in China. Its area ranks 261st among the 293 cities in China (Baidu, 2020).

Tai'an City is located in the foothills of Mount Tai, east of the Yellow River, in the central part (inland area) of Shandong Province. It is 66.8 kilometres from Jinan, the capital city of Shandong Province. Tai'an's territory is 7762 square kilometres, approximately 176.6 kilometres from east to west and around 102 kilometres from north to south (see Figure 4.1).

Figure 4.1 Location of Tai’an in Shandong



Source: Google Earth, 2020

Tai’an is located along the main water delivery channel of the east route of the South-to-North Water Transfer Project. Therefore, the water quality of the South-to-North Water Transfer Project is closely related to the water ecological environment of Tai'an. The main spots of the Sponge City and Mount Tai projects are located in the Dawen River area, the main catchment area of the east route of the South-to-North Water Transfer Project. Dawen River is the ‘mother river’ of Tai’an. It plays an important role in farmland water conservancy, aquaculture, flood control and irrigation, and is of great significance to purifying water quality, regulating weather, and protecting biodiversity in the basin. The Dawen River is also the only secondary tributary of the Yellow River in Shandong Province, which means that the ecological environment management of the Dawen River is of great significance to the improvement of the water quality of the Yellow River Basin.

4.2.2 Environmental Conditions: Critical and Concerned Environmental Resources

Tai'an has unique historical and cultural advantages as well as abundant ecological tourism resources. Mount Tai is the first of the Five Sacred Mountains. Because of its majestic natural scenery and long-standing cultural landscape, it has been listed as a UNESCO World Natural and Cultural Heritage.

However, as it is located in the northern part of China, its current environmental risks cannot be ignored. Tai'an is a water-deficient city with less rainfall and more mountainous areas, resulting in drought and drainage issues, as well as mountain torrents. The drought, suffered severely in winter and spring, is mainly due to the typical monsoon climate in Tai'an. The annual average precipitation in Tai'an is 697 mm (1971-2000). However, the annual precipitation varies greatly, and distributes unevenly in a year. The precipitation in summer accounts for 65%, but only 3.6% according to the statistics provided by Tai'an Municipal Government. Mountain torrents are mostly affected by topography. The west of Tai'an is arid, but its east is more prone to sudden torrents during the flood season in summer. Mount Tai, located in the north-eastern part of Tai'an, is 1,545 meters above sea level, with obvious alpine climate characteristics. The average annual precipitation of Mount Tai area often exceeds 1,000 mm (Tai'an Municipal Meteorological Bureau, 2019). The mountainous areas in the northeast have more precipitation than the plains in the west, while the evaporation in the west is greater than in the east. This situation is particularly obvious in summer. The drought in the city has also resulted in the original design of the underground drainage facilities without sufficient carrying capacity to deal with emergencies. During the flood season, it is easy to cause urban waterlogging. Besides, due to the acceleration of urbanisation, the increase in population and factory buildings, the pollution in Tai'an has become more and more serious. The increase in groundwater pollutants threatens the water safety of residents.

The environmental situation in Tai'an has received special attention from the central and Shandong Provincial governments. Tai'an has become part of a provincial plan called the 'Shandong peninsula urban agglomeration' and part of a national strategy called the 'landscape city', both aiming to promote a 'new type of urbanisation' and urban transformation through urban planning and governance. In order to accelerate this 'new type of urbanisation' and to seek a new economic growth pattern, Tai'an government also decided to transform the Ecotourism City Strategy from 'Mountain-Based' to 'Mountain- and River-Based'. This included planning a new development zone covering Mount Culai and the Dawen River, and expanding the zone to cover all of the districts and counties in Tai'an that contain valuable natural resources. Both the Sponge City project and the Mount Tai project have been implemented under this context. (Tai'an Housing and Urban-Rural Construction Bureau, Jinan Municipal Engineering Design and Research Institute, 2017)

4.2.3 Financial Conditions: A Third-Tier City with Financial Pressure

According to China Business News (2017), Tai'an is a third-tier city in China, considering financial resources in Shandong, a province with strong economic strength, Tai'an's financial capability is only at the mid-level with less financial competitiveness. By 2016, the gross value of production (GDP) of Tai'an was 331.68 billion yuan, and the total population was 5,637,400, of which the urban population was 2,642,000 (Tai'an Housing and Urban-Rural Construction Bureau, Jinan Municipal Engineering Design and Research Institute, 2017).

Researchers point out that the *locus standi* of environmental departments in terms of financial expenses is relatively weak, and environmental issues are relatively marginalised in budgetary debates (Wilkinson, Benson, and Jordan, 2008). Therefore, when cities with less financial capability and competitiveness carry out complex environmental projects, PPP is often adopted as an essential complementary political tool in the budgeting system.

Tai'an also adopted PPP in the budgeting of environmental projects. However, the researcher suggests that, this cooperative method, under its special context in China, was mainly a forced move but not a market behaviour (HM Treasury, 2015). The real reasons why small cities like Tai'an favoured the PPP model were two-fold: the policy considerations and the local debt pressure.

High levels of local debt have become normal in China (Bank of China, 2019), especially as it contributes to the current leverage ratio (debt to GDP ratio) of small local governments. In 2015, for example, the public fiscal revenue of Tai'an was 20.53 billion yuan, and the bond-issuing urban investment enterprises had interest-bearing debts of 36.7 billion yuan, with a debt ratio of 189%, ranking second most in Shandong province (Dajinsuo, 2016).

The pressure and difficulty of obtaining loans increased significantly for small and medium-sized cities and district- and county-level platforms. Since 2017, borrowing from banks has become even more difficult for small cities. After a series of policy restrictions, such as the 'Opinions on Strengthening Local Government Debt Management' (Caijin, 2014), the functions of local government's financing platforms have been largely restricted and the traditional financing models (such as the Build-Transfer mode) have, effectively, been blocked. Due to this increase in financial supervision, credit funds were restricted as well. Most banks inclined to lend to 'large customers such as large cities, central enterprises and state-owned enterprises', because these customers 'had more sufficient collateral and produce lower risk, which could bring more deposits and intermediate business income to banks, and help the banks maintain better relationships with stronger local governments (usually governments of bigger cities)' (**IB01**, interviewed on 4th September 2018).

4.2.4 Political Conditions: Local Leaders' Dilemma

In China, the performance of project implementation concerns both promotion and punishment of officials, especially of local and departmental leaders. In China, the 'yardstick competition' measure involves rewarding or punishing local officials according to their performance (Zhang, 2006). One of the reflections of such 'yardstick competition' is the cadre performance evaluation mechanism. This mechanism was formulated by the Organization Department of the Central Committee of the Communist Party of China in the 1980s, passing the will and policy priorities of central government to local officials. Its evaluation principles include appraisals from the aspects of Morality, Capability, Diligence, Performance and Honesty. Many studies pointed out that cadres attach great importance to this appraisal, as its results are closely related to both promotion and punishment. (e.g. Chan and Li, 2007; Gamer, 2002; Pu and Fu, 2018)

Especially in small cities with few large projects, the implementation status of a large project may directly affect the political fate of the leaders. This reward and punishment mechanism linked strictly to political performance cause mayors and vice mayors to attach great importance to a new project and have a strong enthusiasm for project implementation when the relevant policies are introduced by upper-level governments. The 'strong relationship skills and considerable influence' (Boswell and Cannon, 2018) of these powerful leaders, such as mayors and vice mayors in China (Qian, 2012), advance the start and progress of the policy and project delivery. The promotion and punishment, as well as policy interventions (as shown in 4.3 and 4.4) act as incentives for local leaders to employ effective governance tools in environmental project delivery process, such as the 'collaboration and cooperation' that is particularly emphasised in the central policy (explained in detail in 4.4.1), in order to pursue better implementation performance. This section first focuses on the impact of the promotion and punishment mechanism on the implementation of policies and projects by key government officials.

1) Promotion as an incentive

Good project implementation is regarded as a way to promotion. In China's civil service, there is

no clear boundary between politics and administration as is common in Western countries (Podger and Yan 2013). Merit-based promotions and guanxi-orientated appointments exist together in career advancement (Choi 2012). In a merit-based promotion channel, if cadres could carry out the central governments' policies well, their chances of promotion would be much greater. According to the observation, the vice mayor and leaders actively participated into collaboration and cooperation mainly because of the requirements of the central government. Local leaders rarely show any doubt, officially or publicly, regarding the concept of collaboration and the necessity of the collaborative teams and offices. For them, abiding by the direction of central government is their top duty and a shortcut to political advancement. As Interviewee **IL03** (interviewed on 7th September, 2018) stated,

> 'After the municipal leaders applied for the project, they felt that the project was so in line with the central government's policy that they then separately reported to Li (the contemporary executive vice governor of province) (in order to get the application through as soon as possible). Li considered that the ecological environment issue complies with the will of the upper levels, so he wrote a letter to the superior leader, Zhang (served as the Vice Premier). Then the application was quickly approved...'

In a guanxi-orientated manner, cadres are strongly motivated to please upper-tier authorities, who directly control their promotion and the results of central policy and project delivery (Ma, Tang and Yan, 2015). The interviewees were very excited when recalling the reactions of the project leaders at the beginning of the Mount Tai project (in a chat during an official field trip with the Mount Tai project office members):

> '…our mayor and vice mayor were both extremely delighted when they heard that Tai'an had become the first pilot city for the Mount Tai project after the pilot in Sponge City. You can imagine, if this project could be smoothly completed like the one in Sponge City was, our mayor and vice mayor would acquire great recognition from the upper level governments and Tai'an could be a model to be learned from by other cities. What a huge political achievement...' (according to the notes from participatory observation by the researcher on the way to Dongping on 7th August, 2018)

To this end, for vice mayor or departmental directors, successful collaborative project delivery could enhance their reputation and boost their political career. During an unofficial dinner, the secretary also stated that 'the (vice) mayor was busy with various affairs but still valued the Mount Tai project in particular, as this project could earn him rewards and praises' (IL 02). This implied that even when leaders are often overwhelmed by requests about multi-tasking, strong incentives of promotion can seduce and encourage them to put more effort into environmental project delivery.

This positive incentive also makes leaders rethink the significance of collaboration. Logsdon (1991) believes that stakeholders are more engaged and active in policy delivery when they are conscious of their goals, as decided by the cooperation of other stakeholders. As leaders regard collaboration and cooperation as a ubiquitous political tool, 'more like a government-leading coordination system' (**IL01,** interviewed on 18th September, 2018), they set up a collaboration office as 'a useful temporary coordination institution' (**IL01,** interviewed on 18th September, 2018) to handle difficult and emergent environmental issues, keeping it open beyond the end of the project. In this way, their 'efforts on environmental governance can be more valuable and better seen (by the central government)' (**IL01,** interviewed on 18th September, 2018). This also confirms the strong motivating force of political achievement, as collaboration can secure their political careers.

2) Punishment as a stressful incentive

The influence of 'punishment of irresponsibility' is as strong as that of 'political achievement'. The 'Target Responsibility System' associated with the punishment (Huang, 1995; Whiting, 2004). In the system, all the policy indicators assigned by superiors appear in the 'term target responsibility letter'[2] (Edin, 2003), as submitted by the subordinates every year. Different government departments and policy areas have different 'responsibility letters', which makes it

[2] The 'term target responsibility letter' refers to a document that demonstrates to senior leaders and all employees their responsibilities during the term of office and the goals that the department must achieve.

easy to assess the performance of local leaders in various fields at each year end. Environmental issues are one of a wide range of policy areas. The results of the implementation of the Sponge City and the Mount Tai projects were part of the component, environmental responsibility, as listed in the governor's, mayor's, vice mayors' and county and district leaders' responsibility letters for the years 2017 and 2018. The responsibility letters explained the significance of environmental policy across a wide range of policy areas and conveyed the central government's expectations of local leaders (Yang and Zhao, 2019). Specifically, the 'responsibility letter' included the punishment for failing to achieve the expectations (Husain, 2017).

This clearly targeted the implementation schedule, on the one hand, and makes collaboration in China more efficient, as it can decrease the possibilities of 'endless discussions' (Freeman, 1997; Waardenburg et al., 2019). On the other hand, the pressure from the schedule, where overwhelming, can potentially damage collaborative efforts. In several recorded conversations with the mayor's secretary, he mentioned that the system caused him to feel under great pressure. This 'put tremendous pressure on the leaders' bodies and minds and made them trapped in daunting risk condition' (according to the participatory observation on 17th August, 2019). At the same time, many members also mentioned that when the leadership was put under pressure, they 'handled affairs with temper, irritably and unstably' (according to the participatory observation on 3rd September, 2019). This affected their communication with subordinates and created a hostile office environment.

3) Conflict between economic indicators and environmental indicators

The evaluation of the performance of government leaders is often inseparable from economic achievements, especially in small backward cities. The weight that leaders attach to economic development could compromise the attention they put on environmental issues. Thus, the pressures on economic prosperity represents a severe challenge to collaborative environmental governance.

Economic prosperity is considered as highly important for the development of small cities, usually

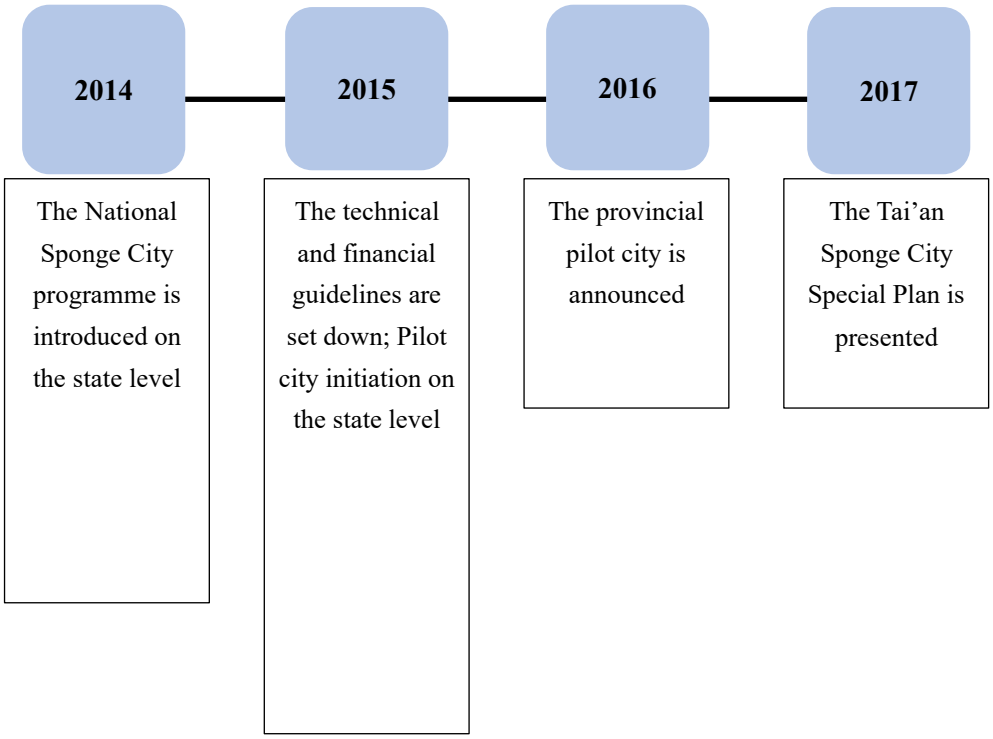
being emphasised even more than environmental advancement by Chinese provincial and local governments. The local economy, instead of environment, has always been a more significant Key Performance Indicator (KPI) when evaluating leaders' political careers in third-tier backward city. Therefore, local leaders usually try to find a trade-off between the local economy and the environment, and sometimes habitually value economic development goals more than the achievement of environmental policies and projects (see also Lieberthal, Lin and Young, 1997; Kostka and Nahm, 2017).

4.3 Context and Policy Review of the Sponge City Project

To deal with water-related deficiencies, Tai'an started the Sponge City Project in 2014. The concept of Sponge City was borrowed from water-sensitive built environment ideas, such as the Low Impact Development (LID) in the United States, the Water Sensitive Urban Design (WSUD) in Australia and New Zealand, and the Sustainable Urban Drainage System (SuDS) in the UK. The aim of this new idea is to design a city with a water system that can absorb, store, infiltrate, purify, and reuse more surface water runoff through the construction of green infrastructure (Yu, 2016), thereby creating an urban environment that acts in a similar way to a sponge.

Adapting cities to cope with various water risks is not only a technical problem but also a governance issue (OECD, 2016). A review of both national and local policies is conducted first. As analysed in Chapter 2, the rules and policy interventions were the first key factors that determined the performance of the policy implementation and the governance of the project (see Table 2.1 in Chapter 2). Then, this section focuses on governance issues in the delivery of the Sponge City project through the analysis of the pilot survey data, providing the basis for further research. The presentation and initial analysis of the data are given according to the chronology of the project (see Figure 4.2).

Figure 4.2 Chronology of the Sponge City project



Source: Author

4.3.1 National Sponge City Policy and Financial Support

The Tai'an Sponge City project is a top-down project, initiated because of both a national policy and the National Sponge City Programme and then developed at the local level.

China's Sponge City policy has a relatively short history. The term 'Sponge City' was first used officially by the Chinese President Xi Jinping at the Central Government Working Conference on Urbanisation in December 2013. Since then, the Ministry of Housing and Urban-rural Development (MHURD), the Ministry of Finance (MOF), and the Ministry of Water Resources (MWR) have begun to issue Sponge City national policies, and they launched the Sponge City programme in November 2014. In October 2015, the State Council issued the Sponge City technical guidelines.

MHURD, MOF, and MWR were the main actors at the national level, and their responsibilities, include reviewing, evaluating, and selecting candidate pilot cities. The pilot cities were recommended by their respective provincial governments according to a series of criteria concerning the rationality and feasibility of pilot goals, financing mechanisms (Li et al., 2017). By the time the pilot survey was conducted in 2017, there were 30 national pilot cities, mainly municipalities and provincial capital cities like Beijing, Shanghai, Shenzhen, Jinan, Wuhan, Fuzhou, and Dalian (MOF, 2016).

Financial support from the central government was the most attractive measure that encouraged cities to engage with the pilot cities competition. These pilot cities received annual subsidies from the central government for three years, with the amount determined by the administrative level of each individual city. Municipalities received subsidies of up to 600 million yuan, provincial capital cities were awarded up to 500 million yuan, and other cities received 400 million yuan a year. Moreover, MOF offered additional funding (up to 10% of the initial amount) to reward those cities which had developed PPP in their Sponge City projects (Chinese Office of the State Council, 2015).

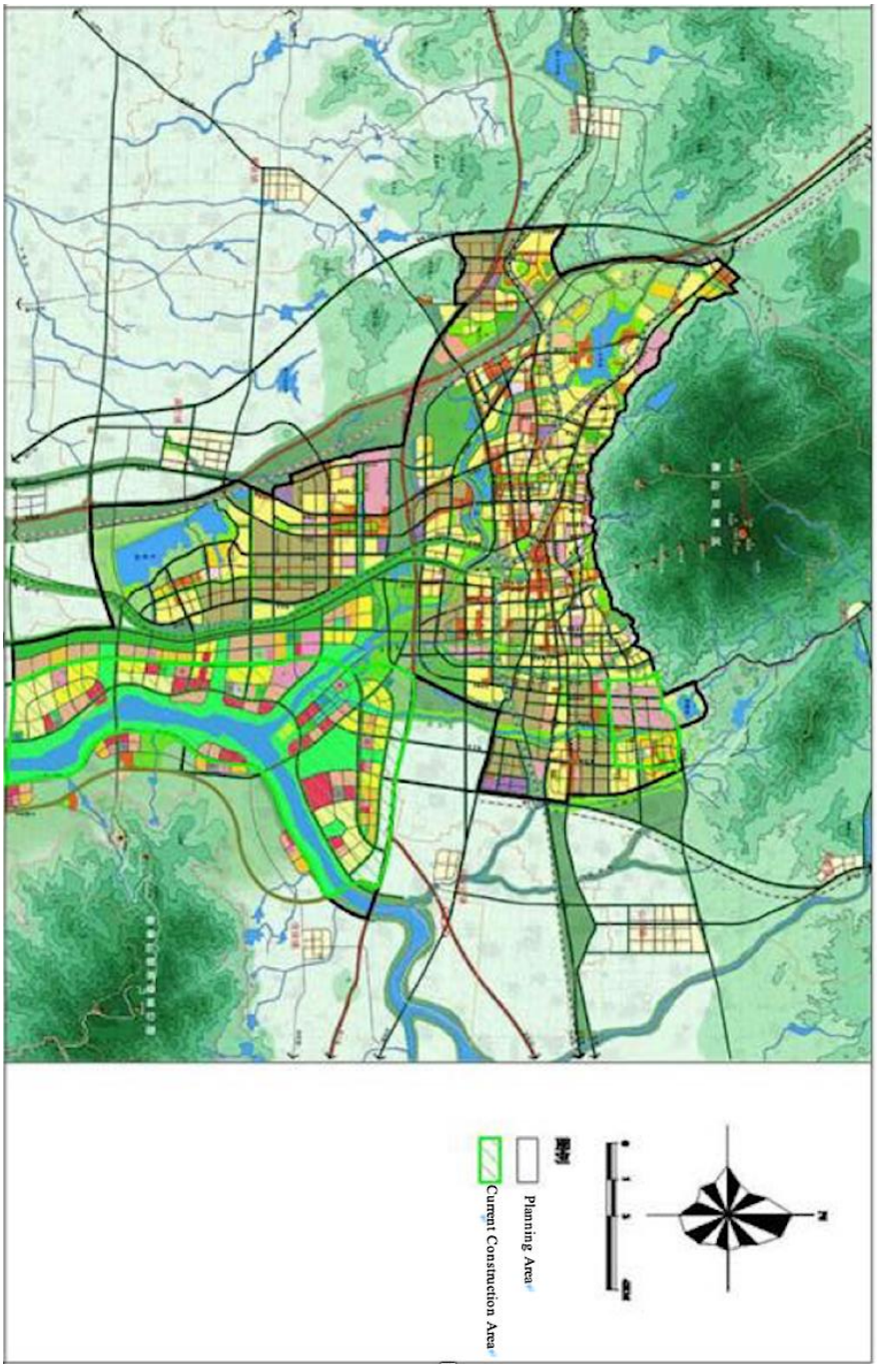
4.3.2 Tai'an Sponge City Project

1) A Provincial Pilot Project Facing Financial Difficulties

In April 2015, the list of state-level pilot projects for the Sponge City programme was formally announced. Jinan, the capital city of Shandong Province, was included in the list. Following the successful delivery of the Jinan Sponge City projects in 2016, the Shandong provincial government started selecting the provincial-level Sponge City pilot projects. The main goal was to transform or rebuild more than 25% of the built-up urban areas in Shandong into Sponge City areas by 2020 (General Office of Shandong Provincial People's Government, 2016). In 2016, five cities, Weifang, Tai'an, Lincang, Liaocheng, and Binzhou, and three counties, Qingzhou, Qufu,

and Jixian, were selected as provincial pilot sites (General Office of Shandong Provincial People's Government, 2016).

Figure 4.3 Tai'an Sponge City Project Area



Source: Special Planning of Tai'an Sponge City Project (2016-2030) (Tai'an Municipal Government, 2018)

Tai'an government planned a new development zone covering Mount Culai and the Dawen River for the Sponge City project. This new development zone, an extension of a traditional tourism site, was determined as the location of the current Sponge City project area, with Taixin Expressway to the north, the eastern boundary of the Culai Scenic Area, the Taixin Expressway, and the Wenhe Bridge to the east, the Beijing-Shanghai Railway to the west, and the Yanxie Dam to the south (see Figure 4.3). In 2014, this zone was officially put under the administration of a newly established institution, the Mount Culai and Dawen River New District Administrative Committee (hereinafter referred to as 'the Cuwen Committee'). At the end of 2016, this zone was designated as the first (and, so far, only) pilot Sponge City site of the Tai'an Sponge City project (Tai'an Housing and Urban-Rural Construction Bureau, Jinan Municipal Engineering Design and Research Institute, 2017).

As a provincial pilot area, Tai'an city did not have access to the Sponge City subsidy fund issued by the central government, only the limited subsidies from the provincial government. In total, 200 million yuan was raised to fund the pilot sponge cities (Tai'an Municipal Finance Bureau, 2015). The fund allocations were determined based on two factors: the pilot city demonstration area and the proportion of the Sponge City demonstration area that was covered by built-up urban areas. For example, by 2017, the area of the Sponge City demonstration in Tai'an City was 78.3 square kilometres, and the percentage of the demonstration area that was classed as 'urban' had reached 61.8%. As a result, Tai'an was awarded the highest provincial funding reward of 41.48 million yuan. To achieve the optimum use of the funding, the cities and counties were also encouraged to increase the amount of funding for the Sponge City project through marketing mechanisms.

2) Project objectives: technical ambition-action gaps

In the Tai'an Sponge City project plan, the aims were categorised into overall objectives, drainage objectives, water supply objectives, green land system objectives, and water resource objectives

(Tai'an Housing and Urban-Rural Construction Bureau, Jinan Municipal Engineering Design and Research Institute, 2017).

As observed in the survey (June to August 2017), some concrete objectives failed due to unrealistic time limits. In fact, when the project was launched in 2016, some scholars and experts expressed negative views on the short-term results of the drainage objectives. One planner (interviewed on 8th August 2017) said that:

> 'Local government always wants to see some substantial progress in a short time, but it is almost impossible to avoid waterlogging, flooding, and addressing waste water once the Sponge City construction is finished.'

He also highlighted the importance of a general plan and showed his positive opinions on the long-term results: 'These [negative results] do not mean that the Sponge City project fails, instead, it suggests that a long-term view and an overall plan are needed' (interviewed on 8th August 2017).

Besides, local authorities tended to learn from successful cases and copy their experiences without considering local conditions and specific implementation strategies. Research conducted on four pilot Sponge Cities, Qian'an, Baicheng, Shenzhen, and Yuxi, shows that, even though the weather, geographical, and hydrological conditions of the four cities vary drastically, the Sponge City strategies proposed by these cities remain similar (Wang, Chen, and Li, 2015). This problem also occurred in Tai'an. According to an employee from the local planning bureau, before the Sponge City project was started, local officials had visited Jinan and Wuhan to learn from their successful experiences. When they came back, they just copied what Jinan and Wuhan had done. Although the weather conditions in Jinan are similar to those in Tai'an, the financial abilities of their respective local governments are distinctly different. For instance, the target of having 30% of all roof space as green roofs may be easily achieved in Jinan but is economically unviable in Tai'an. As for Wuhan, as a humid, rainy city located in the south of China with severe flooding problems, the natural conditions are completely different from those in Tai'an, which is a relatively dry city suffering from deteriorating water quality, shrinking bodies of water, and water shortages.

Moreover, some concrete objectives were not tailored to fit the local conditions. There was a national-level overall guideline published at the end of 2014 and only a few local guidelines published by pilot cities between 2015 and 2017. Most of those local guidelines were too general or simply translated the guidelines adopted in America. According to an expert from the planning academy (interviewed on 8th August 2017), building reservoirs and green roofs as a 'set meal' was also not suitable in the case of Tai'an. Based on the observations, it was evident that the project wasted time, money, and materials by destroying the original topographical conditions to dig a large reservoir. Another example was that, in order to include more green roofs as the plans require, planners added a tall pavilion on the water without considering the aesthetics and landscape. When asked about the reasons, the leader of the project team (interviewed on 14th July 2017) said: "We just follow the drawings and documents. Building reservoirs and adding green roofs are 'hard requirements' for applying a provincial pilot Sponge City".

4.3.3 Strategic Institutional Framework and Actors Involved in Sponge City Delivery

1) Intergovernmental collaboration

The Tai'an Municipal Government established a joint meeting system for Sponge City project delivery. This mechanism was led by the Sponge City project office that was established by the Municipal Government. The directors of the Committee and Planning Bureau were the second conveners. The attendants of the joint meeting system included the leaders of the Municipal Development and Reform Commission, the Municipal Finance Bureau, the Municipal Water Bureau, and the Municipal Land and Resources Bureau (See Table 4.1). Such administrative settings are called teams in the literature. In 'teams', people meet at a higher level to build new networks of departments and officials, take synoptic views of the project, and resolve conflicts if necessary, in order to promote coordination and cooperation (Schout and Jordan, 2008).

Table 4.1. The members of joint meeting system in Tai'an Sponge City project

Department/People	Roles and Duties
Sponge City project office	Headquarters of the Sponge City project. To coordinate all the works related to the Sponge City project and the corresponding PPP project.
Executive vice mayor	Leader. To coordinate the office members and make the final decisions.
Cuwen New District management committee	Project management organisation. To deal with issues within the project construction.
Municipal Planning Bureau	Member. To deal with the project plans and report relevant issues to the leader.
Municipal Development and Reform Commission	Member. To deal with issues on project sites and major developments, and to report relevant issues to the leader.
Municipal Finance Bureau	Member. To find issues and report them to the leader.
Municipal Water Affair Bureau	Member. To deal with water-related technical issues and report relevant issues to the leader.
Municipal Land and Resources Bureau	Member. To conduct geological surveys and deal with land-related issues and report relevant problems to the leader.

Source: Author

This institutional design indicated that, an intergovernmental collaborative governance mechanism was adopted in the implementation of environmental projects in Tai'an. This collaboration included several selected governmental organisations that developed a network for the sake of achieving their common goals together.

2) Cooperation with non-governmental sectors

Tai'an local government invited scholars and private companies to support the implementation of the Sponge City project, but there was no systematic cooperative mechanism established at the time of the pilot survey.

a. Cooperation with scholars

The survey found a lack of scope and that a low number of experts were involved. There were only two professionals invited by the government to take part in planning the Sponge City project, and only one expert was asked to work with the planning bureau over a relatively long period to cover both the design and construction process. As a result, the project-related research was insufficient. In the project planning phase, the application package included a research document; however, the content of the document only incorporated a simple description of the local natural and economic situation. This was not enough information to construct a whole-system Sponge City project.

Worse, governance issues were ignored in the project preparation studies. Research during the Sponge City project preparation period was short-term and designed to identify technical problems (Wang, Chen and Li, 2015) without considering governance issues. Once the preparation research was completed, there was no follow-up research. As one expert (**IA01**, interviewed on 10th August 2017) said: 'Most research on the Sponge City is concentrated on technical aspects, but the management and governance of the Sponge City are equally important for its successful implementation'. Another expert (**IA02,** interviewed on 10th August 2017) also stressed the importance of governance studies:

> 'In practice, building a whole system of construction, integration, and management, as well as continuous improvements during the process, is important, which is barely studied and emphasised in China.'

b. Cooperation with private sectors

According to the financial reports of Sponge City project (collected from pilot survey), the total investment was expected to be 1,282,302,600 yuan, of which the 'platform company' (mainly comprised of the government departments) invested 10 million yuan and the private capitals provided the remaining 1,272,302,600 yuan. In this regard, the direct and indirect benefits

provided by the operation of the project itself could guarantee the total return on investment (ROI) for the private company and thus the local government could only provide a small subsidy. This suggested a possibility to use the PPP model to resolve the poor local financial situation as well as to guarantee the profits of private sectors.

However, in practice, the profits of private sectors were difficult to guarantee purely by employing PPP model according to document review. Private capital's income source in the Sponge City project consisted of two parts: 'land financing' and management of facilities (and potential 'feasibility gap subsidies').

The cost of building environmental facilities was about 1.25 billion, and the benefits were realised through the maturity and value-added of the surrounding land. The balance of payments could be basically achieved (according to the private sectors' presentation on a regular meeting on 19th July, 2017). This is actually China's traditional 'land financing' model[3], and there was no expected 'cooperation' between the government and private companies in this model.

The profits of operating these facilities should be obtained by private companies through market operations in principle according to the PPP contract. This operation investment was 30 million yuan. However, since the main purpose of project area was ecological protection, the income was relatively low, and entertainment facilities were not too enough for profits. Thus, in practice this part of the income was difficult to achieve in accordance with the requirements of the contract. According to the provisions of the *'Interim Measures for the Management of Investment and Financing of the Tai'an Municipal Government'* (2016), the actual investment income of private enterprises during the project operation period was equally distributed according to the expected annual investment income. It was determined by the actual investment balance at the end of the previous year and the annualised rate of return in the bidding documents. In other words, when private enterprises could not achieve the profit targets, the government would make up the

[3] The land resource conditions in China are different from other countries. According to the 1982 Constitution, urban land in China is owned by the state and cannot be mortgaged or transferred in any way. The local government owns the land on behalf of the state.

difference between actual profit and estimated profit.

This ‘ambition-action gap’ in terms of guaranteeing private sector’s ROI exposes that the PPP model adopted in China from 2014 to 2017 was different from the PPP model of Western countries. The ‘land financing’ at the time was still an important guarantee for the successful financing of Chinese local governments through PPP. Therefore, the PPP model in China was only widely used in public welfare projects, and the government paid to protect the ROI of private companies. Whilst in Western countries, PPP was used in both social infrastructure (government payments) and economic infrastructure (user payments) projects.

Based on preliminary observations and document review, the researcher discovered the deficiencies of the central PPP policies. At the time of the Sponge City PPP project tender, the rules, policies, and laws about PPP were changing rapidly in China, so it was difficult now to evaluate whether the tender actually satisfied the legal and regulatory requirements at the time. In the survey, more than one official mentioned that the PPP model in China was still ‘in its infancy’. In particular, the PPP model used in infrastructure construction had barely been used previously, and its supporting rules and regulations were relatively weak. In the beginning, most of the regulations were not mandatory, and many of them were only in the trial stages. It was also identified that the PPP approaches used in the Sponge City PPP project were inconsistent with some previous standards for project approvals, feasibility studies, and construction guidelines. However, if the inconsistencies were ignored, the efficiency of the PPP projects would have been badly affected, while if the inconsistent standards had been abolished, the legality of the project would not have been guaranteed. When it comes to the reasons for these inconsistencies, one official (IL03, interviewed on 6th July 2017) said that:

> ‘The policies on the PPP model mostly come from the central government. Accordingly, in the implementation process of local government, those policies tend to be inappropriate or unrealistic. Improving the policy framework for the PPP model by making it ‘down to the ground’ is imminent’.

Preliminary observations also exposed the lack of PPP knowledge. The rapid introduction and launch of Sponge City PPP projects led to a lack of education and training on PPP knowledge. The meetings (attended in July 2017) about the Sponge City PPP project in the Tai'an Finance Bureau showed that all of the staff working on the project had not acquired suitable knowledge and training beforehand. Initially, only a few of the staff knew what PPP was and how it should operate, and some of the staff did not even understand the terms and provisions in PPP documents.

The funding problem of Sponge City was resolved during 2017 and 2018, but was not completely resolved through the PPP project. At the same time, the implementation of the Sponge City PPP project also created new government debt pressure. These problems are also related to the institutional system and unmatured PPC mode. Section 6.3 will further elaborate on the follow-up issues and their impact on PPC.

4.4 Context and Policy Review of the Mount Tai Project

The following section contains a brief introduction of the second case project in this research, the Mount Tai project, including the objectives and contents of the relative policy interventions, the agents involved, and their roles. Also, the current processes being used in the project that were identified in the case study research are illustrated to reveal the existing conditions and resources of the project, providing contextual knowledge for analysis in the next chapter. The intention is to identify the key features that contributed to the collaborative governance system and to provide some insights into the ways in which they affected the project implementation.

4.4.1 Policy Interventions and Financial Support

1) Policy origin: 'Life community'

The Mount Tai project is a national pilot ecological protection and restoration project. It came

about as a response to a call of the *'life community'* (ShengMingGongTongTi) [4] from President Xi Jinping, who said that:

> 'Mountains, rivers, forests, farmlands, lakes, and grasslands are a life community. The building of ecological civilisations must take all those factors into consideration with good overall plans and multiple measures' (China Daily, 2018).

The 'life community' concept emphasised full integration of relevant policies, an overall arrangement of funds and investments, and overall protection, systematic restoration and comprehensive management of natural resources.

Guided by this fundamental concept of 'life community' (CPC Central Committee, 2015), the MOF, the Ministry of Land and Resources, and the Ministry of Environmental Protection (2016) who jointly issued a *'Notice on Promoting the Ecological Protection and Restoration of Mountains, Rivers, Forests, Farmlands and Lakes'* (hereinafter referred to as the 'Notice') on 30th September, 2016, requiring the steady and rapid development of a comprehensive plan for ecological protection and restoration.

2) 'Collaboration' and 'cooperation' in policy documents

The importance of collaboration has been highlighted in an unprecedented manner (Forestry and Grassland Administration of the People's Republic of China, 2018) at the national level. Policies undeniably underpin the spread of the concept of collaboration as a prevailing trend across the country. In the interviews, the mayor himself admitted this:

> 'After releasing *'Deepening the Party and State Institutional Reform Plan'* (hereinafter referred to as the 'Reform Plan'), the central government initiated various collaboration groups and offices. The moves of the central government are a sign – a strong incentive – for provincial and local governments to start building collaboration teams and offices in environmental projects'. (Interviewee IL01)

[4] Life community means that human beings should regard the earth as a community of life forms and do their best to protect the environment and maintain the ecosystem.

After the release of the 'Reform Plan', the central government's policy clearly and directly detailed the requirements for collaboration to be followed up in the Mount Tai project. The 'Notice' (Ministry of Finance of People's Republic of China, Ministry of Land and Resources of People's Republic of China and Ministry of Environmental Protection of People's Republic of China, 2016) also highlighted the necessity of cross-boundary cooperation and collaboration during project delivery, and the importance of active coordination and joint problem-solving patterns. For local governments, the wording in the document, such as 'integration', 'overall', 'joint' and 'coordination', called for the involvement of multiple departments and stakeholders in policy delivery. Consequently, in early 2017, the Mount Tai project office, which was the operational entity for collaborative actions, was established by Tai'an Government.

Not only were the detailed requirements for collaboration written separately into all project-related official documents, but the institutional design for collaboration in practice (see '4.5.2 Institutional Design') was discussed repeatedly and thoroughly by the upper levels. In this regard, although the development of collaborative governance was also mainly forced by the social and structural changes in China, these policy interventions showed the government's desire to adapt to these changes and to provide essential preconditions for collaboration. However, in the follow-up practice at the local level, there were new problems arising, making institutional collaboration in the small cities more difficult, which are discussed in Chapter 5.

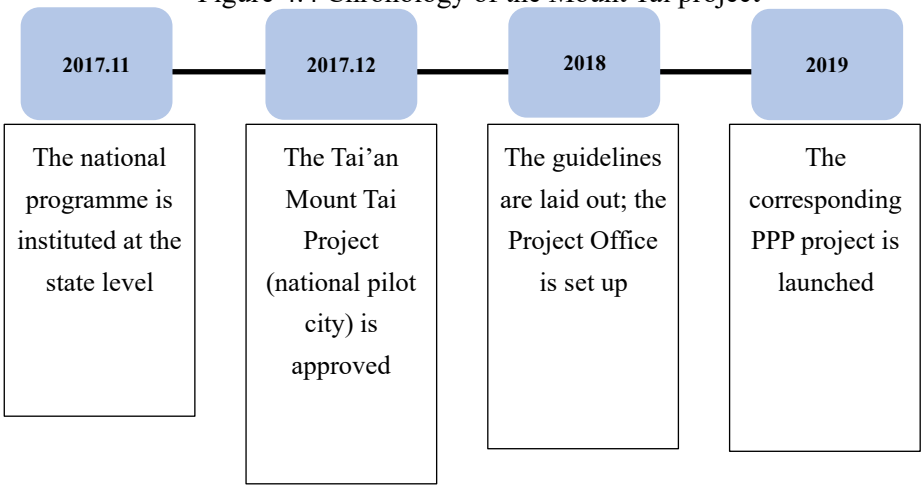
When it came to cooperation between the government and the private sector, the wording of the national document showed that the local government was always the dominant party. This suggested a possibility that guanxi might play a key role in PPP cooperation (Luo, 2007). Long (2003) also pointed out that the key to China's governance was political mobilisation, which relied heavily on the 'rule of man' and replaced laws with policies. In this way, this policy seemed to greatly hinder the process of institutionalisation and legislation in governance and invalidate the official requirement of 'equal cooperation between government and enterprises' in practice. Nevertheless, in practice, the cooperative situation differed from this assumption, which are discussed in Chapter 6.

Policy trends also affected local leaders' understanding and use of governance tools, and closely related to the deeper leadership thoughts and behaviours. This researcher would argue that following policy trends actively was considered by leaders as main motivations which can bring benefits to their official careers. In China, local government leaders typically pursue 'popular' national policies, as long as these policies do not generate too many negative influences. This is partially because following popular policies allows Chinese officials to achieve their core goal, which is to pursue political power to gain a promotion. The interview conducted with an official from the planning bureau also proved this point. When asked the reasons why the office was so active in the Mount Tai project, the interviewee (**IL13**, interviewed on 22nd August 2017) replied: 'on the one hand, it is trending nationwide, so Tai'an cannot be left behind; on the other hand, doing this can make the leadership happy, and then we can get a better career future'. Therefore, rather than believing that policy factors were the main driving force behind collaboration for leaders, it is reasonable to construe that policy factors enabled leaders to attain the approval of their superiors and gain promotion, which underlines the deep-rooted motivation for their collaborative actions. This argument is discussed in-depth in the next Chapter.

3) Mount Tai project: A national pilot project with national subsidy

The Mount Tai project was officially approved as the national pilot project by the MOF, the Ministry of Land and Resources (now the Ministry of Natural Resources), and the Ministry of Environmental Protection (now the Ministry of Ecology and Environment) in November 2017. The timeline of the pilot project application is shown in Figure 4.4.

Figure 4.4 Chronology of the Mount Tai project



Source: Author

Mount Tai project was the largest environmental project in Tai'an at the time of this study, in terms of the number of sub-projects, its anticipated investment, the total area of its project sites, and the variety of departments and disciplines involved.

The project comprised 62 sub-projects, including geological environment management, comprehensive land remediation, water environment management, biodiversity conservation, and regulatory capacity improvement. These sub-projects established a multi-objective, functional, and efficient ecological remediation management system for the purpose of protecting and restoring the regional ecological environment. The overall investment in the sub-projects located in Tai'an was large, estimated to be 19.203 billion yuan. However, the funding resources were still unknown, although it is believed that they might be a combination of private investments, national policy guidance funding, and local governmental financial budgets.

The total area of the project's sites was vast and widely distributed. It was planned that 9090.12 hectares of coal mining subsidence area would be regulated, 990 hectares of mining ecological area would be repaired, six geological disaster prevention and control projects would be implemented, 241.58 square kilometres of geological parks and geological relics would be protected, 25,900 hectares of land would be renovated, and the amount of cultivated land would be increased by 2,658.39 hectares. What was more important here was that the sub-projects were located not only in the Tai'an City area, but also in four of the county-level cities of Tai'an: Xintai,

Doingping, Ningyang and Feicheng. This meant that collaboration and cooperation activities and behaviours would also take place between the Tai'an Municipal Government and the lower level governmental departments.

This project apparently involved a large number of governmental departments. Of the 62 sub-projects, 27 projects, including 16 geological environment projects, nine land remediation projects, and two regulatory capabilities building projects, were under the charge of municipal land and resources departments. 25 projects, including 15 artificial wetland projects, five drinking water source protection projects, and five pollution source comprehensive management projects, were related to water environments, which were the responsibilities of the Municipal Housing and Urban-Rural Bureau and the Water Conservancy Bureau. Ten biodiversity protection projects and other projects involving multiple bureaus and departments.

At the end of 2017, the first 1-billion-yuan basic award funds from the central government were allocated and the project's construction was officially started. However, this national subsidy was not nearly enough considering the huge demand of this project.

4.4.2 Strategic Institutional Design

Exploring the design of and changes in institutional setting can provide a foundation to overcome the problems in the joint implementation of Mount Tai project (see '2.2.2 Relevant Debates on Basic Components of Implementation Process').

1) Institutional settings

Given the large size of this project, many problems could appear in the process of project implementation, including the coordination of all the sub-projects, the fulfilment of the funding, and the coordination and cooperation of relative departments and stakeholders. In order to pursue a better outcome, an institutional design of collaborative governance settings was proposed in the official project documents. The whole collaboration system in this project was designed deliberately, and included three different tiers of committees (see Figure 4.5). Central policies

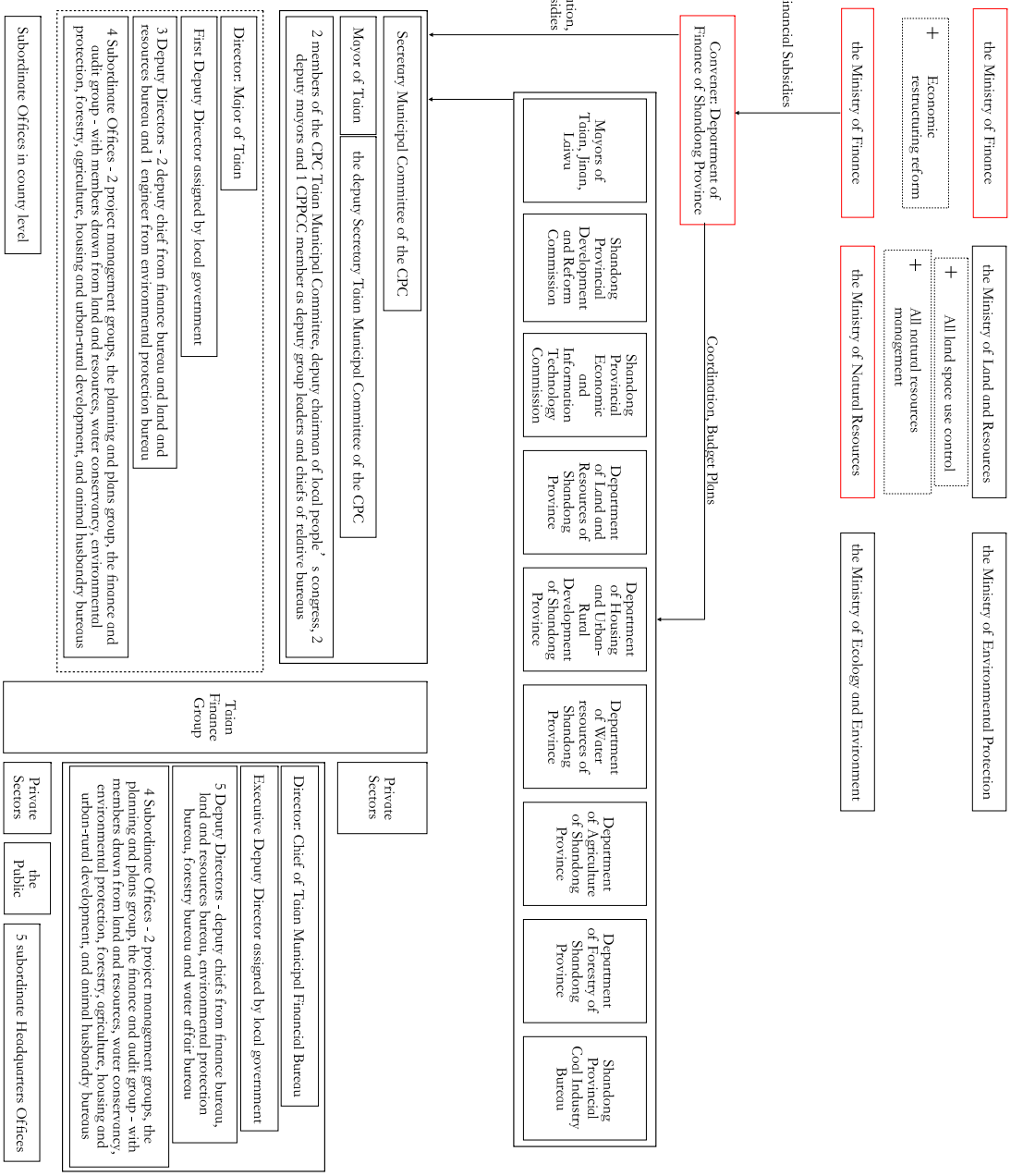
highlight the basic requirements for the parties that should participate, and provincial and local governments decide which of these should play the leading role, how the working groups should be set up, and what the reporting structure should be.

a. Top tier: policy formulation level – the central government

In the Mount Tai project, the policy-making process took place at the national level where a collaborative model had already been formed. The formulation of this national project was a joint move by the MOF, the Ministry of Land and Resources (now the Ministry of Natural Resources), and the Ministry of Environmental Protection (now the Ministry of Ecology and Environment). Within this tier, the complicated and changeable features of collaboration had already been conspicuous. During the idea generation and the development period of the project, China was experiencing a large-scale institutional reform at the ministry level. As a result of this reform, the Ministry of Natural Resources and the Ministry of Ecology and Environment inherited a wider range of responsibilities (Deng, 2018)[5], reshaping the natural resources management and environmental governance at central and local levels (Wang, 2015). These complications and changes within the top tier had a further impact on the balance of power and resources between the top and the bottom levels, which are discussed in Chapter 6.

5 The new Ministry of Natural Resources integrates all the responsibilities of the original Ministry of Land and Resources, the responsibility of developing the main functional area plans previously done by the National Development and Reform Commission, the urban and rural planning management responsibilities of the Ministry of Housing and Urban-Rural Development, the water resources survey and the authority registration management responsibility of the Ministry of Agriculture, the grassland resources survey and the authority registration management responsibility of the Ministry of Agriculture, the forests and wetlands resources survey and the authority registration management responsibility of the National Forestry Administration, responsibilities of the National Oceanic Administration, and duties of the National Bureau of Surveying and Mapping Geographic Information. The new Ministry of Ecology and Environment absorbed the duties of the Ministry of Environmental Protection, the National Development and Reform Commission's responsibility for climate change and energy conservation, the Ministry of Land and Resources' duty of supervising groundwater pollution prevention, the Ministry of Water Resources' duties of planning water functional areas, sewage disposal management, and watershed environmental protection, the Ministry of Agriculture's duty of guiding the agricultural non-point source pollution control, the marine environmental protection responsibility of the National Oceanic Administration, and the environmental protection responsibilities of the Office of the South-to-North Water Transfer Project Construction Committee of the State Council.

Figure 4.5 The three tiers of collaboration in the Mount Tai project



Source: Author

A new round of economic restructuring[6] also started as part of the institutional reform. This reform embodied the principle of *'conflict of interest'*, indicating that the government could not be both a regulator and an operator. This reform of financial institutions reset the non-regulatory management functional enterprises authority under the China Securities Regulatory Commission (CSRC), the China Insurance Regulatory Commission, the central bank, and other ministries. As a result, SOEs and local government platform companies participating in PPP projects also faced a comprehensive restructure in terms of legal subjects and fund management, which influenced the investment resources of the project.

b. The middle tier: Coordinating level – the Provincial Government

Within the middle tier, the collaborative network was relatively disciplined and adhered strictly to its remit as this tier was only involved in coordination and funding issues. Shandong Province, as the middle level in the collaboration system, established a provincial-level joint meeting system for the project. In the system, an official from the provincial finance department was assigned as the convener, and the members include the mayors of Jinan, Tai'an, and Laiwu, and the leaders of relevant departments[7]. According to the official documents, the system should function as coordinators and funding providers. These members were responsible for studying the implementation plans, managing the funding from the central government, drafting and discussing support policies, coordinating and resolving major problems encountered in the work, and supervising all of the departments in their implementation of the project.

However, according to the observations made between July and September 2018, the Tai'an local government believed that the provincial funding was more important, overlooking the province's' coordinating role. During the observations, aside from the two regular meetings that took place, communications between the Tai'an Municipal Government and the provincial government were

[6] On July 8th 2018, the central government announced the Guidance on Improving the Management of State-owned Financial Capital, with the aim of merging the China Banking Regulatory Commission and the China Insurance Regulatory Commission, and to set the State Council Financial Stability Development Committee (Tian, 2019).

[7] The Provincial Development and Reform Commission, the Provincial Economic and Information Technology Commission, the Provincial Land and Resources Department, the Provincial Environmental Protection Department, the Provincial Housing and Urban-Rural Development Department, the Provincial Water Resources Department, the Provincial Agriculture Department, the Provincial Forestry Department, and the Provincial Coal Industry Bureau.

mainly conducted by telephone, and face-to-face meetings only took place when they were discussing funding issues.

c. The lower tier: Implementation level – Tai'an and its county and district Governments

The local level is the focus of this research. Whether the reforms of the government institutions meet its goals and whether government functions are genuinely transformed depends, to a large extent, on local governments. Policy and project delivery can vary depending on the local distribution of power, even though the central government has decided to streamline administration and has committed to delegating power (Zhang, 2008).

At the beginning of the project, there was no formal collaborative system at the local level, and the local Land Resources Bureau dealt with the application single-handedly. Two officials explained this period in detail:

> 'The application process started in April 2017. At that time, the Construction Division of the MOF and Economics issued a notice which caught the attention of our mayor. At the beginning, it was us, the local Land Resources Bureau, that took responsibility for this project, and our director (from the local Land Resources Bureau) attached great importance to it. We started to collect the relevant information and reported to the mayor. The mayor was satisfied with our work and thought this project was a great opportunity for the city, so the local government started to prepare the application as a national project' (IL03, interviewed on 7th September 2018).

> 'There were no offices built in the early stages. The main work on this project was done directly by the relevant departments. For example, the environmental protection departments at the county and district levels would sort out the projects and report to the local Environment Protection Bureau. It was not until March that the office was formally established. We were called together, though the official documents requiring the establishment of the office were only published in May' (IL08, interviewed on 7th September 2018).

Between March and August 2018, a *temporary* advisory and coordinating group system were officially built to deal with various affairs in the implementation process and to facilitate the collaboration between public institutions. This did not stick to the original plan, as shown by the interview with the vice mayor (**IL01**, interviewed on 18th September 2018). The original plan was to establish a permanent organisation, with the local government as the leading institution, to promote all of the environmental affairs in Tai'an when this project was finished. However, this plan was interrupted because 'the authorised number and size of official government bodies became stricter' (**IL01**, interviewed on 18th September 2018) due to the reform at the central level.

A new plan was put forward to act as a compromise measure. According to the official document (issued on 23rd December 2017), the purpose of the temporary leadership group was to enable all of the environment-related decisions to be made from the upper levels, especially those decisions related to the Mount Tai project, and to coordinate all issues alongside the project implementation process. The tasks of the group office include supervision, coordination, making regulations, promotion, professional examinations, carrying out regular checks, evaluation, and acceptance.

The temporary collaborative system contained a steering group[8] and a subordinate leadership group office[9]. There were four subordinate working groups for this project, which accounted for a significant part of the structure (see Figure 4.5). The members of these work groups were drawn from the land and resources, water conservancy, environmental protection, forestry, agriculture, housing and urban-rural development, and animal husbandry bureaus. Similar project offices were set up at the county and district level as well (CPC Tai'an Municipal Committee and Municipal Government, 2017).

[8] The steering group was initially led by the Secretary of the Municipal Committee of the CPC, with the mayor and the deputy secretary of the Tai'an Municipal Committee of the CPC as the seconds. The steering group also contained two members of the CPC Tai'an Municipal Committee, the deputy chairman of the local people's congress, two deputy mayors, and one CPPCC member, all of whom acted as deputy group leaders, with the heads of the relevant bureaus as group members.

[9] The subordinate leadership group office consisted of a director (the mayor), one first deputy director assigned by the local government, three deputy directors, two deputy heads from the local finance bureau and the local land and resources bureau, and one engineer from the local environmental protection bureau (CPC Tai'an Municipal Committee and Municipal Government, 2017).

2) Changes of Institutional Settings at the Local Level

Although designed deliberately, the structure was changed again to adjust to the central policies and practical realities. Firstly, pre-existing working groups were able to opt out of the collaboration. This meant that they were led to believe that their tasks in the project had been completed and the members who were finally chosen to run the leadership group office had no connection with the people involved in the first-phase preparations for the project.

In addition, collaborative efforts continued to evolve to adapt to the changing situation. New working groups were created when new specific agendas had been added to strengthen supervision and monitor the environmental impact of the project implementation. For example, in August 2018, the *Guiding Options on Further Deepening the Reform of the 'Distribution Management' in the Field of Ecological Environment and Promoting the High-Quality Development of the Economy [2018]86* (the Ministry of Ecological Environment, 2018) mentioned that massive environmental projects needed to 'strengthen the inspection and accountability of the ecological and environmental protection work and make sure the leading actors and departments that damage the environment be accurately accountable by the law'. In response to this guideline, the collaborative system in Tai'an was changed significantly. Firstly, the name of the group office changed to the headquarters office, which seemed to highlight the management and regulation role of the organisation. Next, the institutional structure and the leadership team setting were changed as well. The head of the financial bureau was designated as the director in order to guarantee funding resources and management. The original first directors were renamed as executive deputy directors, with more work and jurisdiction than the other deputy directors accordingly. The deputy chief of the environmental protection bureau replaced the engineer to avoid a change in the balance of power. Two additional deputy directors were added, one each from the Municipal Forestry Bureau and the Water Affairs Bureau, ensuring the involvement of more stakeholders. The original four coordinating groups, which were the main functional departments, were not mentioned in the new document, but were still in operation, as revealed during a follow-up telephone interview on 17th October, 2018. Five subordinate

headquarters offices were established according to the five sub-project clusters, namely the regional protection and recovery projects related to the mountain, water, forestry, farmland, and Dongping Lake. In addition, the responsibilities of the office were expanded from merely linking related projects and specific implementation plans in this one project to covering all environmental issues in Tai'an, and the range of the office's functions was expanded as well[10] (CPC Tai'an Municipal Committee and Municipal Government, 2018). In this way, the collaborative system could be expanded from one single project to all related issues in environmental governance.

3) Networking process in practice

Most conceptual collaborative governance frameworks illustrate simple forms of collaboration networks (Ansell and Gash, 2008; Gibson, 2011). These simple forms often indicate direct interactions and communications between all the individuals and organisations involved in the collaboration activities through regular meetings. However, in practice, the network within a collaborative governance system is endemic to a country, and it often has multiple layers and can be 'far more complicated and changeable in form' (**IL02**, interviewed on 18th September 2018).

The form of collaboration used in the Mount Tai project was not restricted to regular meetings led by one steering group or management office. During the participant observation, there were only two formal meetings convened. In the two meetings, deliberations on each proposal or problem, which were mostly conducted by bureaucratic officials (excluding private sector agents), ranged from 10 minutes to around 40 minutes, followed by a very short period of 'synthesising time'. The director of the office was present both times, listening to all the reports and making final decisions. Staff from the consultant companies attended when requested by the officials to offer technical advice. Social capital agents did not show up on either occasion.

In fact, meetings and the working groups also only accounted for a small proportion of the

[10] Funding management and collaboration with accountability institutions, political stability institutions, and audit institutions to its list of existing functions were added (CPC Tai'an Municipal Committee and Municipal Government, 2018).

collaboration process. Meetings were not conducted regularly, and not all of the agents were invited. One official said:

> 'In the beginning, we would attend a meeting involving all office members, but later, we would not. For example, if there were problems with environmental protection projects, the director would only meet with several people in the environmental protection sector. Although, initially, the system of this office was not intended to operate like this, it is difficult to maintain regular meetings (IL07, interviewed on 7th September 2018).'

The accrual form of the collaboration was very different and more complicated than was illustrated in the documents:

> 'We just do our own jobs separately as with the old times (when this office had not been established). For example, I am from the Land and Resources Bureau, and so I am responsible for coordinating the affairs in the Land and Resources Bureau. The members from the Environmental Protection Agency coordinated the affairs within the Environmental Protection Agency. Then we gather all the information together to the office, to the director of the leadership group. Director Li, the leader of our group, representing us all [all the members in the office] reported the information to Mayor Zhang, who is in charge of environmental protection affairs in Tai'an. When it is necessary to explain something more important to the lower levels, the mayor would call the county or district magistrate to have a meeting… In fact, the specific tasks and daily work are all done by the mayor and the staff from the lower levels [counties and districts]. The role of our office is mainly information collection and supervision. When something unreasonable appears in the project delivery, we will let the mayor know and urge the staff from the lower levels to rectify it through emergency meetings (IL08, interviewed on 7th September 2018).'

Key agents, like the mayor, the deputy mayor, and the director of the office, met only when problems occurred, as infrequently as once every one or two months. According to **IP09** (interviewed on 4th March 2019), the responsibility for making the overall collaborative

arrangement was often delegated to a ‘middleman’, which was the deputy directors or consultant companies in this case.

4.4.3 Multiple Actors at the Local Level

Before discussing how diverse stakeholder’s perspectives affected collaborative governance in small cities, it is essential to identify who stakeholders were, whom they represented and their roles, power and resources.

It is worth pointing out at the beginning of this section that there was no grassroot movement in the implementation of both the Sponge City and Mount Tai projects during their implementation, even though the government had made relevant information publicly in accordance with the New ‘Environmental Protection Law’ (2015) before the construction of the two projects. This might be because relevant laws did not clearly stipulate the rights and particularly the process of public participation, the local government also lacked a corresponding management system, and the citizens in small cities were also weak in participating in such ‘non-sensitive environmental projects’ (such as air pollution control projects) (Guo, 2019). Therefore, the form of collaborative governance discussed in this research does not include public participation, to adjust to the specific context (Freeman, 1997; Gunningham, 2009) of small Chinese cities.

The selection of stakeholders was thoughtful and considerate (Fung, 2006). Three types of stakeholders were identified in this research: local governmental officials (the mayors, departmental leaders and departmental staff), staff from private companies (Tai’an Financial Group employees, private company employees and bank managers), and experts (consultant companies and scholars). The number of official members was relatively stable, but the number of other stakeholders adapted according to the implementation stage of the project.

Each type of participants brought a set of individual attitudes, values, interests, and knowledge in addition to the cultures, missions, and mandates of the organisations or constituents they

represented (Bardach, 2001). Their perspectives on collaboration and cooperation were diverse, and depended on various external conditions, i.e., their backgrounds, hierarchical position, organisational and personal goals, and internal resources, i.e., their knowledge, power and financial assets.

1) Leaderships

The steering group of Mount Tai project was led by the mayor, the strong or even centric leader who could bind everyone together to take decisions. The mayor acted in a 'command-and-control' way (Mol, 2009; Liu, Zhang and Bi, 2012; Lo, 2015) in the project delivery process and used to exercise formal political authority 'over' the subordinates (Susskind and Cruikshank, 2006). These two behaviours are typical features of centric leaders. Besides, according to the literature, strong leadership should be able to maintain ground rules and use resources to facilitate productive deliberations in collaboration (Vangen and Huxham, 2003; Doody and Doody, 2012; Hattie, 2015), and the leadership of the steering group fit for these requirements. In the Mount Tai project, the mayor and his 'formal leadership' serve as 'committed sponsors' (Crosby and Bryson, 2005) at the local collaborative level. The mayor held considerable prestige and authority at the local level, and could access and secure both personnel and financial resources, even when they were not closely connected to daily collaborative work. In interviews, officials from both the local Financial Bureau, the Planning Bureau and Land and Resources Bureau agreed on the benefits brought about by strong powers, in terms of acquiring information at the provincial level (L04, interviewed on 10th September, 2018), coordinating subsiding disagreements (IL06, interviewed on 2nd September, 2018), building close cross-functional relationships (IL10, interviewed on 2nd September, 2018), and making decisions based on various suggestions (IL04, interviewed on 10th September, 2018; IL07, interviewed on 7th September, 2018; IL08, interviewed on 7th September, 2018).

The leadership of the Mount Tai project office were not simply assigned by the mayor but were chosen based on specific considerations. In practice, the permanent director was the director of the Municipal Finance Bureau, because the leading departments in the upper levels of the project

used to be the MOF and the Provincial Department of Finance. The other director was selected in order to balance the powers.

The director of the Municipal Finance Bureau was also a 'strong leadership' in collaboration as he had 'considerable influence' (Boswell and Cannon, 2018) in the collaborative office out of his authority and financial resources and 'facilitated productive deliberations' (Vangen and Huxham, 2003; Doody and Doody, 2012; Hattie, 2015) in many ways. For example, officials mentioned in the interviews:

> 'Such a temporary co-ordinating institution still needed a strong leading department, and the Finance Bureau became the optimum choice. To assure the power of the government and negate the excessive centred power of the Finance Bureau in this project, the government also assigned another director to assist the permanent director at work to ensure the fairness of the decision-making results, but the power of this deputy director seems to be subordinate according to the members of the group office (IL01, interviewed on 7th September 2018).'

> 'The power of the other deputy directors is very limited (IL08, interviewed on 7th September 2018).'

2) Other governmental members

The extent to which the other members were involved varies. In March 2018, members were selected from the relevant departments and bureaus in the office. They were assigned to four specific groups according to their work backgrounds, interpersonal relationships, and professional competence.

Interpersonal relationship/*guanxi* was important for selecting members. Some of the members were recommended by the group leaders. For example, one member was recommended by a senior official in the office because he had left a good impression on the official when they had worked on a previous project together. Another member was selected because she was known personally to the office leader. Except for *guanxi*, the leaders also needed to take into

consideration whether the people they selected had grass-roots work experience, and thus strong connections and resources at county and district levels.

In addition, the people drawn from mainstream departments, which were the most relevant departments such as the Land and Resources Bureau and the Finance Bureau, accounted for the majority of the human resources for delivering collaborative work. As a result, members from the mainstream sectors were actively contacted daily, but those from less relevant departments were relatively ignored, except at formal meetings of the collaboration. Sometimes, officials drawn from major departments did not even know people who were drawn from less relevant bureaus. Interviewee **IL07** (interviewed on 7th September 2018), who was from the Land and Resources Bureau, said: 'I don't know the function of the planning and programme group and I barely know staff working in that group as well'. This was partly because 'coal face' workers did not often work together. As each official was responsible for a few specific projects in the subordinate counties and districts, their daily routines were mainly about collaboration with leaders and relevant staff from the lower levels, but not horizontal cooperation or communication. Sometimes, even employees drawn from the same department or who were assigned to the same group rarely networked with each other.

The observation also found that the *coalitions* established in the collaboration depended on the departments in which the members originated (*mother departments*). Officials felt that had they built some 'small-sized bureaus' within the new organisation (**IL07**, interviewed on 7th September 2018). The personnel involved in the project were expected to ignore their backgrounds, but, on the contrary, they tended to be closer to their original co-workers and leaders because they felt that they belonged to and still represented their mother departments.

3) Non-governmental sectors

Three sorts of non-governmental actors were involved in the Mount Tai project, i.e. the scholars, consultant companies, and private capitals (including the Mount Tai Finance Group Company[11]).

[11] The Finance Group Company is a state-owned capital investment company. It was established out of the remnants of the former Tai'an Economic Development and Investment Company, aligning with the economic restructuring. It is

Their *resources* aid was urgently needed by local governments. However, they were not seen as the equal of the public sector. This situation is deliberated in Chapter 7.

Among these non-governmental actors, the role of consultant companies was unique in these environmental projects in small cities, especially since the *'Life cycle project construction consultation'* (Office of the State Council, 2017) was announced in February, 2017.

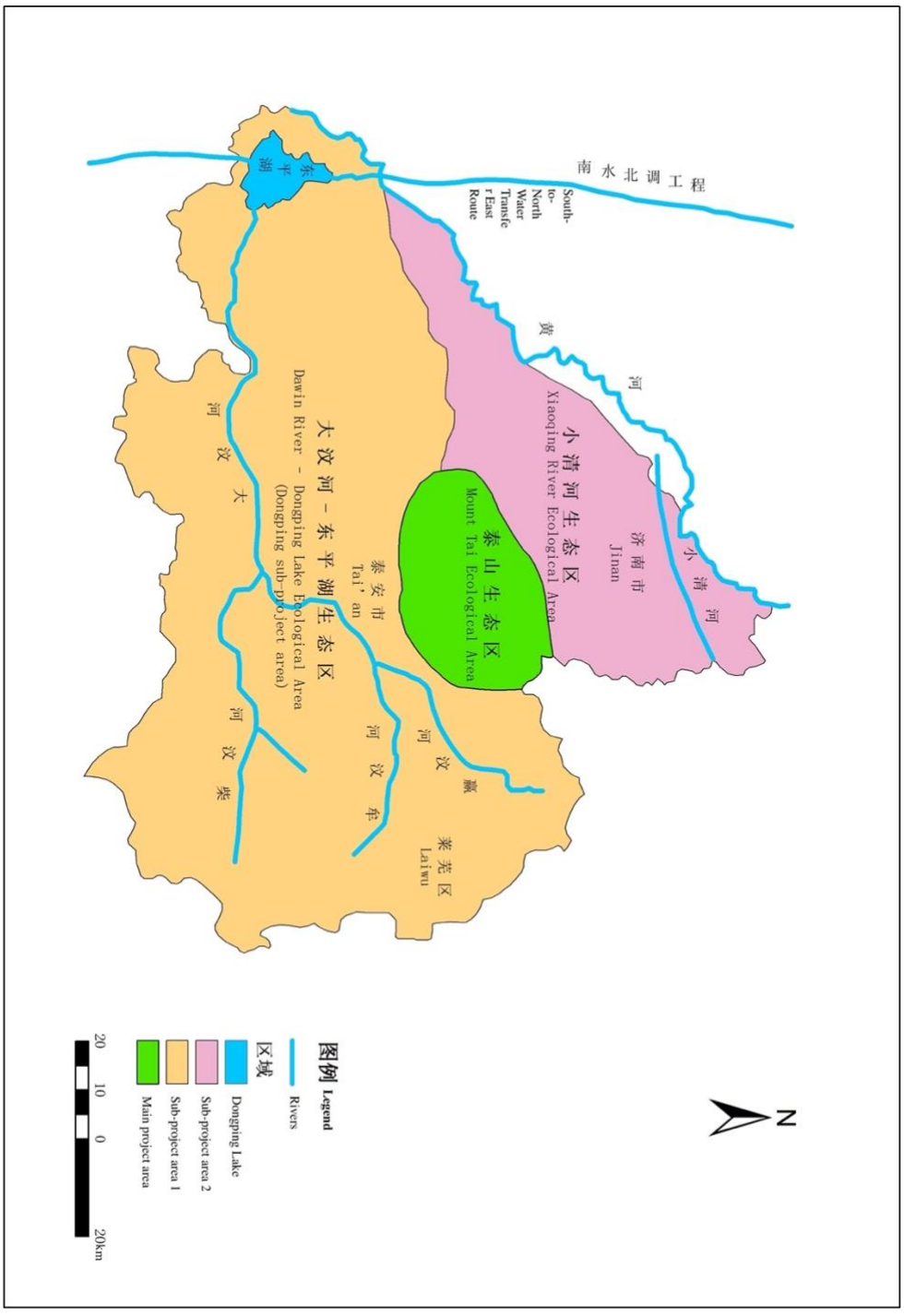
> 'Encourage investment consulting, survey, design, project supervision, bidding agency, project cost and other enterprises to adopt the joint operation, mergers, acquisitions, and other methods to develop the life cycle project construction consultation. Cultivate a group of first-rate life cycle project construction consultation enterprises. Formulate consultation service technical standards and contract models. Government investment projects should take the lead in implementing life cycle project construction consultation, and encourage non-government investment projects to entrust life cycle project construction consultation services. In civil construction projects, give full play to the leading role of architects and encourage the provision of life cycle project construction consultation services.'

Unlike the scholars who were involved short-term and provided technical and academic knowledge, consultant companies were involved in 'almost every part of the projects' (**IP08**, interviewed on 2nd March 2019) to deal with issues related to investment and cost. Their knowledge and expertise mainly contributed to the PPC process. They were close to both local governments and private capitals. It was these companies, instead of the governments, that acted as 'the main coordinators' (**IP07**, interviewed on 2nd March 2019) in the cooperation between the public and private sectors.

4.4.4 Corresponding PPP Project

a policy-oriented, public-serving, and professional investment and financing entity that reflects the intentions of the central and provincial governments.

Figure 4.6 The Mount Tai project area (2018). The yellow area indicates the scope of the Dongping sub-projects



Source: The author drew it according to *'Opinions on Promoting the Implementation of Ecological Protection and Rehabilitation Projects of Mountains, Waters, Forests, Lakes and Grasses in Tai'an'* (issued by the General Office of Shandong Provincial Government No. 70, 15th May 2018)

In order to ensure sufficient investment, the local government in Tai'an integrated many central and provincial special subsidy funds[12], according to **IL01** (interviewed on 18th November 2018). However, the total amount of all the funds and investments from the local governments involved in the project was only around 1.5 billion yuan, which was still far less than the required construction investment of 5.768 billion yuan (Caijin No.92, 2016). Thus, PPP was adopted in Mount Tai project, as well.

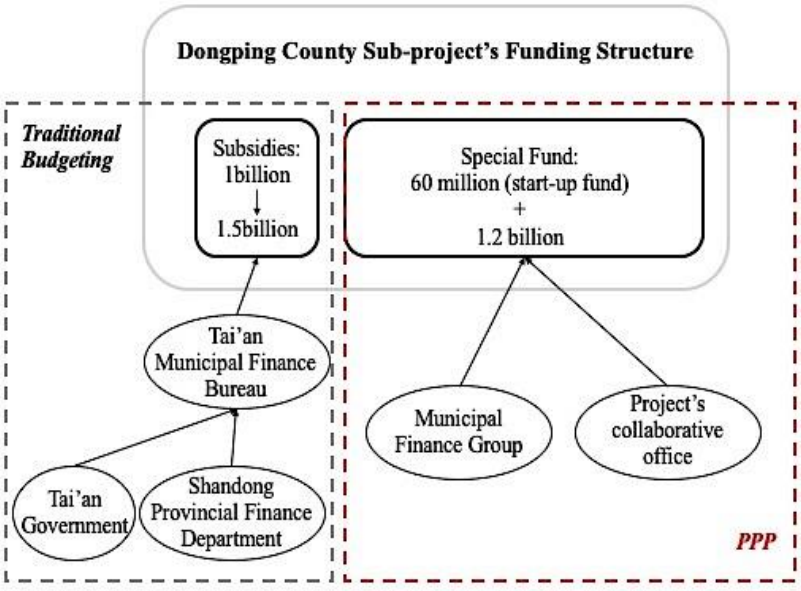
Fundraising for the Mount Tai project also showed the effectiveness of the PPP model. According to a senior official from the Tai'an Municipal Finance Bureau, **IL06** (interviewed on 2nd January 2020), the PPP project was 'urgent and gigantic'. It included seven sub-projects with a total investment of 5.8 billion yuan. These sub-projects focused on the ecological protection and restoration of the local water system, rainwater and sewage diversion reconstruction in the urban area, and improving the water supply from the Wangjiayuan Reservoir to Tai'an. Facing the difficulties, a consortium, led by the China Railway Group Limited, still achieved the necessary goals within one year.

The introduction of the PPP mechanism successfully made up for the shortcomings of the budgeting that relied solely on financial subsidies. For example, among all the Mount Tai sub-projects, the Donping County sub-project was the largest in terms of its area (shown in Figure 4.6 as 'Sub-project Area 1') and total investment (3.2 billion yuan). Facing the pressure, Tai'an Municipal Finance Bureau firstly increased the subsidies for the Dongping County sub-project. Then the project's collaborative office and the Municipal Finance Group raised 60 million yuan through the corresponding PPP project before February 2019 as the start-up fund of the first Mount Tai project special fund. After another short period of time, they collected 1.2 billion yuan

[12] These funds include comprehensive land treatment funds, environmental pollution prevention funds, comprehensive coal mining subsidence land treatment funds, water conservancy development funds, forestry reform and development funds, agricultural resources and ecological protection subsidy funds, comprehensive agricultural development funds, mining rights transfer income and occupancy fee income, cultural relics, and cultural and tourism protection and restoration funds.

more into the special fund through PPP (see Figure 4.7). This was the first special fund raised by the municipal and county finance bureaus together. Since then, a long-term budgeting mechanism, called the special fund system, was established and has been used in all major sub-projects.

Figure 4.7 Dongping County Sub-project's funding structure



Source: Author

Staff from the Financial Group indicated that the PPP model was conducive to 'building innovative investment and financing mechanisms, and broadening social capital investment channels' (**IP01**, interviewed on 29th July 2017). Other governmental members in the collaborative office also admitted that PPP brought benefits in terms of 'saving investment in project delivery' (**IL13**, interviewed on 22nd August 2017), 'easing local debt pressure' (**IL01**, interviewed on 18th September 2018; **IL06**, interviewed on 2nd September 2018), and 'mitigating local financial burdens'.

The data showed that the adoption of the PPP model brought about great advantages to the delivery of projects, especially in terms of reducing new debt and alleviating local fiscal

expenditure pressure. It did this by including the private sector in project investment, financing, and construction, operating in accordance with a market-oriented approach, and establishing a project company.

4.5 Power and Resources

As was discussed in the Literature Review, it is widely acknowledged that power allocation and resource distribution can affect the collaboration process (Tett, Crowther, and O'Hara, 2003; Warner, 2006; Ansell, 2016). During this investigation, it was discovered that all stakeholders held resources that were useful to others, and these resources affected the distribution of power in the collaborative process.

The local government had land resources, allowing it to make final decisions on all relevant issues. The finance sector was responsible for the preparation, allocation, and regulation of money. The other functional sectors were equipped with technology and had connections with relevant experts and functional departments at lower levels. The scholars got knowledge. As for the private sectors, the Tai'an Finance Group had a history of cooperation with both local government and private companies, and the other private capitals had financial resources, technology, and management skills. It is worth pointing out that, according to the investigation, those private companies, who obtained a privileged status through their previous guanxi with local government, first had the first chance to communicate with senior officials.

Position and status within the collaboration were not only decided by what resources each organisation had at its disposal but also how much their resources were desired by the others. The initial power and resource condition (both owned and needed) based on the observation is shown in Table 4.2.

Table 4.2. Power and resources

		Powers and Resources Owned	Powers and Resources Needed
Government	The Municipal Government	Political Status Social Status Land Resources The Power to Invite Stakeholders	Money Technologies Management Skills
	Finance Departments	Money Allocation	
	Other Functional Departments	Technologies Connections with lower levels Regulation Power	
Non-Governmental Sectors	Finance Group and Consultant Company	Connections with Private Capitals Prehistory of cooperation with the government Money Resources	Money Resources
	0ther Private Capitals	Money Technologies Management Skills	Political Status Social Status Profits
	Experts	Expertise	Participation Reputation Research

Source: Author

4.6 Conclusion

The within-case analysis uncovered a number of basic elements and key issues in governance and cooperation in environmental project delivery process, i.e. the starting conditions, strategic institutional framework and multiple actors on the local level. These arrangements provide essential foundation for the in-depth analysis in the following chapters.

Analysis of the empirical data described basic exogenous conditions for environmental policy implementation in Tai'an, i.e. the special geographical as well as the critical and concerned environmental statuses, and exposed the tensions in small cities' environmental governance, including poor financial conditions and more complex promotion mechanism (merit- or guanxi-based) faced by local leaders. These conditions were the triggers of adopting governance tools in environmental project delivery.

Other exogenous reasons like policy formulation, preparation and changes and policy/project objectives created the technical and financial 'ambition-action gap' in environmental project delivery. On the one hand, vague and unified policies made local governments in small cities lack the necessary and localised technical support, and the more limited state subsidies in small cities made the implementation of large environmental projects aggravate the financial difficulties of small local governments. The constantly changing project-related policies also resulted in the uncertainties of the project processes and the institutional settings. On the other, the emphasis on collaboration and cooperation in the national policies allowed the form of collaborative governance and PPP to be developed at the local level. Changes in policies also improved the environmental governance process to a certain extent.

Two types of stakeholders were involved in the case study, that is the governmental and non-governmental actors. They were basic elements in the governance networks and played different irreplaceable roles. The selection of governmental stakeholders was thoughtful and considerate,

out of formal channel or guanxi. The involvement of non-governmental stakeholders successfully released the local financial pressure. Institutional settings were in a top-down style but changed frequently on the local level. In the changes of institutional design, where things happened in the past and power and resources that stakeholders possessed could affect future collaborative and cooperative networks.

It can be seen from these preliminary analyses that the top-down style of governance was more closely coordinated with the networked culture of guanxi in small cities, in terms of the leaders' wills and selecting members.

CHAPTER 5

INTERGOVERNMENTAL COLLABORATION IN ENVIRONMENTAL PROJECT IMPLEMENTATION

5.1 Introduction

In this chapter, the researcher discusses intergovernmental collaboration in environmental project implementation from the perspective of governmental actors.

According to the analytical framework (see Chapter 2), the variables, i.e., power, resources and institutional settings, were taken into consideration in this chapter to analyse the overall robustness of environmental collaborative governance in Tai'an. Specifically, this chapter establishes how shifts in power and imbalanced resources portrayed strong and weak governmental actors, and how these power and resources affected the institutional framework and networking process (between the governmental departments involved and their networking); and how previous and current institutional settings related to the commitment and communication of governmental actors. In this way, the emergence and causal stories of the 'ambition-action gap' in intergovernmental collaboration of environmental project delivery are elaborated.

5.2 Changing Power and Imbalanced Resources

Power and resources are basic elements in collaborative environmental project delivery process. Benefits and interests, derived from power and resources are the intrinsic connections between people in governance networks. If participants had equal powers and shared resources, they would obtain equal benefits through collaboration. This assumption is considered as a strong incentive for collaboration between departments and the departmental officials' commitment of policy delivery (Gray, 1989).

However, collaboration with balanced power, resources, and knowledge bases can only exist in a utopian dream; instead, imbalance of power and resources is a widely acknowledged situation in collaborative governance literature (Gray, 1989; Short and Winter, 1999; Susskind and Cruikshank, 1987; Tett, Crowther, and O'Hara, 2003; Warner, 2006; Ansell and Gash, 2007). Numerous researchers have recognised that differences in power could jeopardise collaboration under most circumstances (Hardy et al., 1992; Tett, 2000; Wilson and Pirrie, 2000; Power, 2001). The imbalance of power and resources, determined mainly by the administrative level in intergovernmental collaboration, thus creates conflicts of interests among departments and forces disadvantaged departments and individuals to be silent in collaborative project delivery. As a result, collaboration could be easily exploited by strong powers as a political tool for pursuing personal or departmental interests, and could also lead to the exclusion of weak actors.

This chapter confirms that different actors' perspectives of collaboration are affected by the power and resources they hold and the interests they value. This chapter also identifies the influence of power changes. It claims that these effects are not always negative.

5.2.1 The Impact of Power and Resources on Collaboration

Fundamentally, the contribution of government departments and officials to projects is

determined by the power they control and the resources they have available. The efforts that the departments and officials are willing to put are directly connected to their economic or political interests. Driss, Zrikem and Zolghadri (2016) support the view that power can be perceived as 'referring to the extent to which individuals feel that they can exert influence over the outcomes and experiences of others' (p.1023), thus affecting the confidence, position, and commitment of all involved actors.

1) Authority power

Hardy and Phillips (1998) state that if power first comes from authority, this kind of power is named *'authority power'*.

In intergovernmental collaboration, the control of power and the management of resources are dominated by the authority, which is determined by administrative status. That is why the mayor held decision-making power in both the Sponge City and the Mount Tai projects (as discussed in Chapter 4). In practice, the higher administrative level selected, restricted, and coordinated the participants (especially those of lower administrative status), had ownership of the collaborative process, set the agenda, and made the final decisions. For example, although the director of the Municipal Finance Bureau was the leader of the Mount Tai project in name and was responsible for most collaborative activities, 'the mayor still needed to take charge when the county governor (who is on the same administrative level with the director of the Municipal Finance Bureau) came to the meeting or reported the progress' (**IL06**, interviewed on 7th September, 2018).

Besides, actors believe in authority power. This makes upper-level authorities more powerful and lower-level authorities even powerless in intergovernmental collaboration. Members in the collaborative office expressed doubts and concerns about the leadership of the departmental director (with less authority) in charge of the office from the very beginning of the Mount Tai project:

'I do not think many issues can be coordinated, if only a bureau director takes the lead in

collaboration.' (**IL02**, interviewed on 18th September, 2018)

Worse, the participation of the powerless gradually decreases as time goes by. According to the observation of the Sponge City case, at the beginning, everyone had meetings together, but later the powerless was excluded. In the later stage of the project, the main task of Sponge City project was related to environmental protection. When problems emerged, the director of the project office only held meetings with those who were from the municipal Environmental Protection Bureau as these officials had authority power and resources in environmental protection affairs. The behaviour of the director was contrary to the nature of collaboration and also showed that authority power overshadowed the level of participation in collaboration.

In fact, authority is affected by the adoption of the collaborative mechanism to some extent. At least, the new collaborative form changed the attitudes and work modes of the participants who held more authority power. It made the powerful actors realise the possibility of relying on others' resources. Interviewee **IL03** (interviewed on 7th September, 2018) mentioned that, under the collaborative mechanism, 'the senior leaders began to improve their coordination ability, so as to fully mobilise the members of various departments… to deliver the project with high efficiency and high quality'. The collaborative setting has also caused the authority power to lose its strength in the project delivery process to some extent. Some interviewees admitted that the collaborative form forced the leaders to regularly 'share the project progress' (**IL05**, interviewed on 7th August, 2018) with the other members, so that everyone in the project office knew 'what was going on' (**IL06**, interviewed on 2nd September, 2018) and had 'an overall view of the project implementation' (**IL12**, interviewed on 29th July, 2017). Besides, since the policy emphasised collaboration (see Chapter 4.4.1) and required power not to be overly centralised, some authority powers had to be dispersed. To disperse the power of the Finance Bureau, the local government 'appointed another director to assist the permanent directors (from the Finance Bureau)' (**IL01**, interviewed on 18th September, 2018) in institutional adjustment.

2) Resources and power

The available resources that one can employ are also intertwined with power. Some scholars believe that power brought by resources (named *'resource power'* by those scholars) should be distinct from authority power (Purdy, 2012). Nevertheless, the researcher argues that in the specific context of China, power acquired from resources was highly relevant to authority power and sometimes further empowered the higher administrative authority in intergovernmental collaboration (Freeman and Langbein, 2000).

Information is a manifestation of resources. Information unique to certain government departments can give these departments privileges, and the privileges allows them to rewrite the rules of collaboration. This can explain why departmental leaders were prone to hide information from each other in Tai'an case (according to **IL08**, interviewed on 7th September, 2018, **IL12**, interviewed on 10th July, 2017, and **IL15**, interviewed on 25th September, 2017). These leaders would not share information because they did not like to share resource-related power. *Ergo*, non-leading actors also could not receive all useful information from the leaders, let alone acquire power and benefits from the leaders.

Financial capacity is another important resource, deciding the power relations especially in the hierarchical intergovernmental collaboration. Interviewee **IL05**, a governmental official at the city level (interviewed on 1st September, 2018) mentioned that financial capacity influenced their collaboration with the county level in Mount Tai project:

> 'County Ningyang and Dongping's budgets are under direct control of the province. Their finance is separated from us (the city level) and, thus, their performance in the project delivery has little to do with us. As a result, we (the city government) certainly want to keep the funds for our own use, and always place important sub-projects in the city area instead of districts and counties.'

However, if other stakeholders, including other departments and the private sector, could not

acquire useful resources from the leading department, they would not be able to stay active in the collaboration. This observation showed that counties, districts, and the governmental departments of lesser authority and resources were relatively inactive in collective activities compared to the leading departments. These powerless actors often adopted a passive attitude ('let things drift if they do not affect one personally') according to **IL08**, interviewed on 7th September, 2018) during the collaborative project delivery process. This situation confirms the view of Tett, Crowther and O'Hara (2003) that 'to secure greater resources' (p.43) is one of actors' key expectations of collaborations they are involved in.

3) Pursuit of interests

The pursuit of departmental and personal interests, accompanying power and resources, is the fundamental connection of participants in the governance network. 100% of the interviewees mentioned 'interests', especially 'interests of the department' 'political and economic benefits' and 'leaders or officials' own 'advantages'. Although 'personal interests' were rarely orally mentioned in the face-to-face interviews, during the observations, the researcher found that potential personal benefits, such as promotion opportunities, and closer connections with leaders, were evident and appealing triggers for collaboration.

Promotion opportunities and career expectations are not only an objective way of praising political achievements (as discussed in 4.2.4), but also a sign of subjective satisfaction of personal interests. Pursuing promotion opportunities is one of the most important manifestations of pursuing personal interests., but also a sign of personal interests being satisfied. Actors pursued promotion opportunities by gaining power and resources through collaboration. Especially for local and departmental leaders, a fruitful collaboration could result in strongly demonstrable benefits that could boost their political prospects. This was why local leaders were more enthusiastic and eager than ordinary officials (according to the observation). For ordinary officials, if they were aware that their performance in a collaborative office could lead to a closer *guanxi* with directors, they behaved more positively in their daily work. For example, one official noticed

that he would be favoured by his superiors if he accepted a temporary secondment in the project office for one year. As a result, he more actively engaged in the work at the collaboration office as well as chores and errands for other leaders and colleagues.

However, the pursuit of interests sometimes can also cause silence and exclusiveness in collaboration. The leading parties tended to use their ample financial, informational, and human resources to maximise their own benefits (e.g., career achievement) and interests (e.g., promote familiar subordinates). From their opinions, by doing so, they could also avoid conflicts of interest created by cooperation with other departments or actors. However, these behaviours intensified the imbalance and competence, decreasing the interdependence of stakeholders, and reducing the motivation of the power- and resource-less parties. The channels of communication between staff, thus, were also blocked. Weak members had fewer resources and could hardly acquire sufficient resources from the leading ones.

5.2.2 Power Shift and Its Influence

As the situation of participants' authority power and recourse power is closely linked with collaborative project delivery, shifts in power might rework the collaborative networks. With the transforming of power statuses, the collaboration process can become extremely dynamic and unstable.

1) Power shift

At the beginning of the Mount Tai project, the leading department was the Land and Resources Bureau. At that time, the Land and Resources Bureau showed great enthusiasm for the project since they knew that they could benefit the most: if the project succeeded, having an influence nationwide, the bureau could gain reputational benefit, and the bureau directors might receive a promotion. However, when the Finance Bureau, the Housing and Construction Bureau, and other departments successively participated in the project, the absolute leadership and power of the

Land and Resources Bureau was weakened and the interests of the bureau and the director were severely affected. All the bureau directors wished to take the praise and credit by participating in the project.

Afterwards, the mayor assigned the director of the Municipal Finance Bureau to be the permanent leader of the collaboration office. The change meant that the Financial Bureau, from that point on, took charge of the project at the local level. According to Hardy and Phillips (1998), such the formal power of the Financial Bureau in this case, is the primary source of power to make and enforce rules in collaboration. Especially in the collaborative institutional design initiated and conducted by local government, embedded in the long-lasting legal and bureaucratic hierarchy, 'the authority of government is tied to its rights to establish and enforce rules' (Purdy, 2012, p.410). In other words, the Financial Bureau with ultimate authority power 'over'[13] other departments.

Moreover, the change of leading department meant a change of the real power elite (the individual with formal power). According to Booher (2004), leaders, personally, are keen to power display. Aforementioned in 5.2.1, leaders of governmental agencies can acquire personal benefits from the political achievements. Therefore, by this change, it was more likely that the leader of the Municipal Finance Bureau would take all the credit at the end of the project instead of the leader of the Municipal Land and Resources Bureau. In this way, the leaders of the two departments built 'a competitive rather than cooperative relationship', and the conflicts between the two departments 'sharpened' (**IL08**, interviewed on 7th September).

2) Policy change

As analysed in 4.4.1, policy changes resulted in institutional change and power change in Mount Tai project. In turn, the transfer of power brought about policy changes, due to different leaders' different emphasis of the project. In addition, the imperfection of initial policies also increased the space and probability of policy changes following power changes. Since the Mount Tai project

13 The 'power over' perspective refers to that the authority can clarify which player ultimately makes decision on a specific issue.

was in the pilot stage in 2018, its policies lacked a robust foundation (see 4.4.1). This left enough space for policies to be changed along with leadership shifts. Besides, as the leaders did not entirely understand the project concept at that time, they tended to fulfil self-interest when making or maintaining potential policies.

The policy changes brought turbulent and unstable factors to collaboration. Policy change, whether beneficial or unfavourable to policy implementation, have affected the resources of sub-system actors (Cerna, 2013). Regardless of the benefits that the changes brought the project delivery (which requires future investigation, after the power change in 2019), they did shift the focus and direction of the policy and project implementation process, causing unexpected changes and an unstable implementation process. Indeed, Sabatier's (1988) Advocacy Coalition Framework (ACF) of policy change supports this point, explaining that changes in the direction or main components of a policy usually result from 'shifts in external factors such as macro-economic conditions or the rise of a new systemic governing coalition' (p.134), and are associated with a policy-oriented learning process by which the key actors or organisations involved learn from their past experience (Bennett and Howlett, 1992), and the consequences of the changes are often an alteration of 'goals or techniques of policy in response to past experience or new information' (Hall, 1993, p.78). Greener's (2002) case study of the 'internal market' reforms of the National Health Service (NHS) in the United Kingdom also found that the changes in health policies were strongly influenced by an authority power change, i.e., following the 1987 general election.

As the Municipal Financial Bureau was responsible for the local budget management, the bureau was concerned about financial flow. For the Financial Bureau, public projects, including green infrastructure and natural resource management projects, were mostly 'high-invest and low-return tasks' (from the interview with Interviewee **IL06**). These projects were beneficial but 'dangerous to debt control', thus requiring close attention to and 'prudent calculation' (from the interview with Interviewee **IL05**) of financial expenditure. As a result, the bureau tightly restricted the usage

of budget and the accumulation of debts in Mount Tai project delivery. Accordingly, unlike the director from Municipal Land and Resources Bureau, who was eager to expand the area and scope of the project, the director from the Municipal Financial Bureau, reduced the number of 'unnecessary' sub-projects and combined some 'small' sub-projects after taking over the project office. By September 2018, the simplification of the sub-projects was still under repeated discussion between the Financial Bureau and the Land and Resources Bureau. Yet the progress by December 2019 saw an increase in the number of sub-projects, from 62 to 312. That this outcome may partly result from the recent power transition, once again from the Financial Bureau to the Natural Resources Bureau, due to the ministry-level reformation (see 4.4.1). It was hard to say how the changing number of sub-projects influenced the project delivery, as there were no up-to-date financial data or concrete effects in practice at the time of the research (2019).

On the other hand, changing policies can be a useful tool in implementing environmental projects. Policy change seemed to be a more direct solution, compared with negotiating or even conflict, whenever the issue occurs in Tai'an case. As Jason and Maton (2014) mentioned in a presentation, 'changing policy is one strategy for either implementing interventions or getting them benefits'. If all the 312 sub-projects were successfully implemented as expected, the environmental impacts on local communities, without doubt, would be tremendous.

The sharp turns in policy direction also indicated that the collaboration mechanism in Tai'an was at odds with collaborative governance theory, i.e., bottom–up and dialogue-based (e.g., Ansell and Gash, 2007) by the end of 2019. In the Tai'an case, the collaborative project delivery process was still top-down and policy-oriented, led by authority power and resources. In the short term, the impact of this situation would not be fully exposed, but in the long run the difference may be significant.

5.3 Influences of Original Institutional Settings: Low Commitment

Changes in institutional settings, it is argued, can be a crucial influential factor in the performance of collaborative project delivery according to the literature, affecting the commitment level of officials (Ansell and Gash, 2007; Emerson, Nabatchi, and Balogh, 2011; also see 2.2.2 and 2.2.3).

The researcher suggests that the original institutions exerted significant influence on the commitment of and networks between the implementing actors in collaborative governance of small cities in China, through power, resources and *guanxi*. The commitment level decided the engagement, *guanxi* and behaviours of governmental officials in collaboration in return.

5.3.1 Deep Affective Commitment to Mother Department: Trust

Affective commitment is the foundation to collaborative project delivery and is deeply affected by the institutional setting according to the literature (see 2.2.3). This research finds that the strong trust in and the fierce loyalty to the original department lead to a lack of affective commitment to new institutions.

1) Short involvement period in new collaborative organisation

In general, the longer the actors participate in the projects, the stronger their sense of belonging and their emotional ties are. A short involvement period can weaken the emotional bond between the actors and the collaborative office, thus lowering actors' affective commitment to the collaborative project delivery.

In the Mount Tai project, before the project office was established, the early-stage project-related preparation and application tasks were delegated to the officials from corresponding departments. According to the observation, the early participants were found to care more about the project outcomes and show more passion when talking about the project, which suggests that they had

built strong affective commitment to the project. Unfortunately, these officials were mostly not invited into the project office later on, while some new members (with relatively stronger commitment to their mother departments) weighed in. In the observation in 16th August, 2018, as a project member recalled:

> 'In the early stage, this office did not exist, most of the (project-related) work was allocated to related departments. For example, the county environmental protection department reported their work to the Municipal Environmental Protection Bureau. It was no different to other work. (After the project office was established), before relevant official documents were published in May, we actually knew nothing about the preliminary preparations or what we were going to do.'

The interview showed the low affective commitment of the new members.

2) Trust issues emerging in the new organisation

Collaborative governance theories hold the common sense that 'trust' is a crucial element (Gash and Ansell, 2011; Emerson, 2011; also see 2.3.2). Affective commitment has been shown to be closely tied with trust issues (Guinot and Chiva, 2019, also see 2.2.3). However, in this research, the evidence showed that implementing actors had less trust in their new leaders in the collaborative office, and trust building had been undervalued or even ignored involuntarily due to their loyalty and attachment to their mother departments.

When asked about the challenges within the daily work in the project teams and offices, none of the interviewees mentioned 'building trust'. This was not because building trust was easy and 'non-challengeable' (Waardenburg et al., 2019) in the collaboration of the two selected cases, but that the officials 'barely thought about 'trust'' (**IL15**, interviewed on 25th, September, 2017) and 'did not believe trust was necessary' (**IL10**, interviewed on 2nd, September, 2018) or 'possible' (**IL06**, interviewed on 7th September, 2018) in their work. The officials believed that the collaboration process 'made connections with new people in both work and life' but 'the level of these connections was far from trust' (**IL03**, interviewed on 7th September, 2018).

Although government officials did not regard the lack of trust as a threat to collaboration, this research found that the displacement of trust affected their behaviour and, thus the affective commitment in collaborative project delivery.

a. Trust in leadership

Leadership has been identified as a key factor in the institutional design of collaborative governance (see 4.4.3), therefore trusting leadership is of great significance. As the level of affective commitment in the joint project delivery is associated with interpersonal trust (between the employee and the leader) (Guinot and Chiva, 2019), the governmental officials' low trust in leadership can trigger weaker affective commitment.

The influence of trust in leadership on organisational commitment has been evidenced in past studies (Liden et al., 2014). Given the society of *guanxi*, which is reliant on personal trust and emotional links, the role of trust is particularly significant. The lack of trust can lead to low acceptance of the goals and values in collaboration, less effort in the collaborative work, and low faith in the collaborative office.

The level of trust in a leadership is affected by the features and behaviour of the leadership in the new collaborative mechanism. Sabatier and Mazmanian (1981) mentioned the significant influence of the character and behaviour of the leadership. Some leaders' features and behaviour can greatly decrease members' level of trust in them and are not beneficial in the establishment of members' commitment.

First, the strong leadership in Tai'an case had a negative influence on the trust issues in collaboration. The leaders in the two cases were not 'honourable bureaucrats' (Hart, 1984) or 'transformational leadership' (Bass and Riggio, 2014). This meant they could not play the role of servants to other members of the collaborative teams, acted 'in a morally significant manner for

those whom they serve', or conducted their affairs 'on the basis of trust' (Miao et al., 2014). The 'servant' or 'mediation' character of leadership is crucial to build trust according to various studies on collaboration (Ainscow and West, 2006; Gash and Ansell, 2011; Sullivan, Williams, and Jeffares, 2012). The servant feature of leaders is also highly linked to the empowerment level. Empowerment causes officials to 'feel a sense of significance, community, competence, and even fun' in their work, contributing to their commitment to the work. However, strong leadership in Tai'an case could hardly empower other officials, as the leaders did not put members' benefit over their own as mentioned in 5.2.1.

Changes in leadership in Tai'an also contributed to the low trust in leadership and thus the low commitment to collaboration. As public agencies frequently face political and financial pressures to reform managerial and organisational practices, and the constant reforms have potentially negative influences on commitment (Javidan and Waldman, 2003; Park and Rainey, 2007).

Besides, pursuit of resources and interests deceased the trust in leadership of the new organisation. Officials trusted their original departmental leaders more than the leaders in the collaborative office. The officials believed that the intangible resources and power held by their original leaders were more trustworthy and could determine their personal future. The original departmental leaders, through these resources and connections, imposed an indefinable shackle on their departmental members in return. This unconsciously tightened the bonds between officials and their original departments and estranged the officials from different departments in collaborative office, thus reducing the efficiency of the collaborative office. The departmental directors expected their departmental officials to commit to their original departments and thus they would unconsciously use their social connections as 'bargaining chips' to strengthen the affective tie between them and the officials. As Interviewee **IL06 (**interviewed on 2nd September, 2018) shared:

> '…in practice, we need to keep the relationships with our original leaders…the team members still need to use the resources from our original departmental connections now and

then… sometimes when we encounter problems, we still need to ask our original leader or rely on the leaders' *guanxi* for help.'

b. Trust in the organisation

The researcher found that the loyalty to original organisation reduced the affective commitment to the collaborative working mechanism. Affective commitment was found to be more affected by the so-called 'systems trust' (Guinot and Chiva, 2019) between the employee and the organisation. Loyalty to original institutions serves as a stepping stone in the building of belief systems. If the officials have more trust in their original organisations than the collaborative office, their affective commitment to the work of the collaborative project implementation can be moderate.

The unconnected working mode within their mother departments caused their low trust in the collaborative institution. In other words, the officials' belief systems lacked the concept and experience of cooperation, so it was difficult for them to believe that cooperation would be more efficient and effective in project delivery. In the interviews, most officials revealed their attitude that the intergovernmental collaboration was only a 'formality' (**IL15**, interviewed on 25th September, 2017) or 'fallacy' **IL06 (**interviewed on 2nd September, 2018). One office member said, 'maybe this (the Mount Tai project office) is just a more convenient way to bring us together to report to the mayors' (**IL12**, interviewed on 10th July, 2017). This low level of trust in collaborative organisation, no doubt decreased the officials' commitment level to the collaboration.

In the interviews, Interviewee **IL03** (interviewed on 7th September, 2018) tried to describe the relationship between project office members and their original departments, and attributed the relationship to the acquisition of resources:

'Although the contact with the original department (makes the cooperation process) more complicated rather than simplified, (we still) would report to our original unit. Of course, in

principle, our connection with the original department should cut all the way through, getting rid of all the unit's work and affairs. However, you can see, each department has its own resources, and it is more convenient for people in the original department to communicate (better access to information), so in essence we have not completely separated from the original unit.'

c. Trust in other members (*guanxi*)

Low affective commitment also associates with poor *guanxi* with other colleagues in collaborative offices. The significance of *guanxi* in collaboration in China is established in the literature (e.g., Luo, 1997; Tsui and Farh, 1997). The ACF also indicates that officials selected from different groups and positions may need to establish new belief systems between themselves, despite of their own belief systems (Sabatier and Jenkins-Smith, 1991; Sabatier and Jenkins-Smith, 1993, also see 2.2.3). The new belief systems lead to new *guanxi*, facilitating intergovernmental collaboration.

However, in this case, after working in the mother department for many years, officials were consciously and unconsciously working on strengthening the affective commitments to and building *guanxi* with the co-workers of their mother departments. Such *guanxi* built on long-term trust was hard to break and prevent the establishment of new *guanxi*. The interview with Interviewee **IL07** on 7th September, 2018, confirmed this point:

'…but it (the collaboration) is easier said than done. Everyone is still accustomed to working in their cliques that they are familiar with. Things become more familiar and safer this way.'

This opinion was also supported by another four civil servants in daily talks (on 29th August, 2018).

Being loyal to the original *guanxi* brought considerable convenience in acquiring useful work resources. Interviewee **IL07** also mentioned that some 'mini-bureaus' emerges in the collaborative institution in order to better acquire resources:

> '…usually, in daily work, we can chat and joke, but we are just not used to sharing our information and work. It is comfortable and convenient for us to communicate with colleagues in our own departments regarding work-related issues. This is equivalent to some mini versions of departments, such as a small land and resources bureau, or a small environmental protection bureau, appearing in the project office.' (Interviewed on 7th September, 2018)

The strengthened personal networks within the mother organisations, along with the short working period in the new institution (mentioned in 5.3.1) reduce the members' senses of belongingness to the project office, therefore further lowering the level of trust in other office members. The low trust in other members aggravated the isolation of members from different departments and the feeling of insecurity during the collaboration. Some officials felt like 'strangers' in the office or indicated that they had been 'borrowed' for the project, according to the participant observation in July, 2018.

5.3.2 Strong Normative Commitment to Mother Departments: Professionalism and Information Sharing

The researcher argues that the high-level normative commitment to the original institutions were not eliminated but strengthened in the collaborative institutional setting to some extent.

1) Professionalism

There was a paradox produced by normative commitment in terms of the impact of professionalism. On one hand, the professionalism caused departmentalism thus reducing commitment to the project offices. On the other, such professionalism gave official confidence and unique identities, enhancing commitment to their daily work in collaboration.

Strong normative commitment to mother departments could divide members from different departments in collaboration, causing departmentalism and thus officials' resistance to collaborating. Scholars have identified that the normative commitment sometimes deepen the gap between departments and prevent agents from the different departments forming coalitions (Henry, Lubell and McCoy, 2010). The resistance was also reflected in Tai'an case: officials from specific departments refused to be designated to some sub-projects, using the functional scope of their mother department as an excuse.

Normative commitment to different original departments resulted in high professionalism. Some research (e.g., Liu, 1999; Lin, 2013) indicates that the professional technical knowledge and specific professional language of divergent governmental departments contribute to higher 'technical barriers' among departments. The high professionalism made coordination more difficult in practice, especially in the absence of strong intervention from department leaders.

In the interviews, 5 out of 17 civil servants agreed that professional division was a significant challenge in the collaborative project delivery. Conflicts during collaboration, due to technical backgrounds, led to arguments about implementation issues. Specifically, an interviewee mentioned that the division of functions among departments resulted in 'inconsistencies in the goals of officials' (**IP01,** interviewed on 29th July, 2017) from these departments. An example of this was observed occurred in a regular meeting: three officials from different departments argued for hours about the location of transportation links in the Sponge City project, based on their specific but different professional considerations.

Furthermore, the divergent technical backgrounds caused that officials were not willing not collaborate with each other voluntarily. One interviewee (**IL07**) pointed out that two officials from two different offices of the same department were not willing to cooperate because their work was 'highly professional'. The official from the Planning Bureau (**IL10**, interviewed on 2nd September, 2018) said, 'two subordinate companies of the same department do not even

understand each other, not to mention two large divisions'. In the Mount Tai project office, two members, both from the Land and Resources Bureau, would not exchange information with each other, because they 'only need to be a master in their own special fields' and should not interfere with other staff. In daily work, they attended the subordinate offices or companies in the districts and counties separately to meet with 'the right personnel'. However, the tasks if these two staff members were largely overlapping, and thus such strict work distribution delayed the overall progress in the project implementation. In this regard, if they could share information, experiences, and human resources in their work at the lower levels, the project delivery could be much easier and more efficient.

From another angle, it was the professionalism that helped officials find their place in cooperation and gave officials the confidence to speak up in collaborative project delivery. Michael McGuire (2009) agrees that 'professionalism is associated with greater levels of collaborative activity' (p.85). In the observations of the collaboration activities of both the Sponge City project and the Mount Tai project, although members did not communicate with each other fluently in the daily work, they were more likely to speak in the meetings. As one interviewee mentioned:

> '(We) do our own work, the tasks assigned by the directors. I think it is unimportant that (colleagues) do not communicate. What is more important for us is to do our own job well. Once we have communicated thoroughly with the leaders and specific people, we can better come up with ideas and discuss problems at the joint meeting.' (**IL12**, interviewed on 10th July, 2017)

It seemed that the professional skills and knowledge improved officials' commitment to their daily work to some extent.

The majority of the actors interviewed believed that functional division was necessary in joint project delivery, and thus the professional division of officials was inevitable. For this reason, it was impossible for officials to be proficient in their non-professional areas. However, the non-governmental actors did not regard this situation as a professional difference but an insufficiency

of ability. In the interviews, the non-governmental actors frequently mentioned that the lack of specific professional skills made collaboration 'fraught with peril'. One non-governmental member of the Mount Tai project office recalled difficult moments when he had tried to help the governmental members understand 'the difference between discount rate, annualised interest rate, and financial internal rate of return'. He said in the interview:

> 'The difficulty is that the professional *abilities* of government personnel are uneven. I mean management issues within the government, which directly influence the communicative efficiency in the collaboration. Without a *professional background*, we can hardly understand each other. To take the financial issues as an example, it is so hard to make them (governmental officials) understand the difference between current rate, annualised interest rate, and financial internal rate of return. They generally only understand the concept of the interest rate on deposits and loans, so we have to set up a simple model to compare other concepts with the one they are familiar with, and then build a financial model of the whole project and convert all relevant indicators into interest. In this way, they can understand profitability of the project better.' (**IP07**, interviewed on 2nd March, 2019)

2) Information sharing

Strong normative commitment to the mother departments prevented the implementing officials from sharing information due to the duties and accountability issues. The hidden information resulted in a low-level normative commitment to the new collaborative organisation in return.

Governmental officials are more likely to feel an ethical responsibility to serve the public and are more duty-driven (Houston, 2000, also see 2.2.3). Perry and Wise (1990) agree that 'norm-based employees' are more enthusiastic in governmental affairs. Therefore, strong normative commitment to the collaborative institution is crucial especially in intergovernmental collaboration.

In the case of Tai'an, information means power for departments in the long-standing departmental competition and jurisdiction battle (also see 5.2.1). As employees had a normative commitment to their original departments, they felt a sense of responsibility and moral obligation to the original departments. Therefore, they kept information from officials who originated from other departments. However, some officials found that their identifications were 'awkward' (**IL05**, interviewed on 7th August, 2018) in the collaborative office due to hiding information.

The strong normative commitment in terms of information-sharing also links to the accountability setting. At the time of the study, the accountability setting in the collaborative setting was still unclear for the members, while the accountability system of the original governmental departments had been strict. Therefore, officials worried more about being held accountable by their original departments than by the collaborative office. In the participant observation, most of the officials of the Mount Tai project office showed their discomfort and concern about information sharing, especially in terms of legal permissions to share and the unknown usage and influence of the information in the project delivery. In the interviews, 7 of 17 governmental officials (6 were normal officials rather than leaders or directors) mentioned that they could not decide what information should be shared in the collaboration organisation. 3 interviewees specifically expressed their anxiety about accountability issues. As Interviewee **IL08** points out:

> '…some projects are not well-suited to the functions of the departments, which creates difficulties and uncertainties in the project audits later, so some members are afraid to let their original departments take the responsibility and risks of potential misguided actions in project delivery and thus are cautious and not so enthusiastic (in the collaboration).'

Some civil servants insisted that limited information could also be useful in collaboration (**IL07**, interviewed on 7th September, 2018). They believed that, without collaboration, they would not be able to access the limited resources and information in a timely manner. However, the researcher disagrees with this opinion. The private actors in Tai'an case observed that although governmental members had a clear scope of responsibilities and duties individually in the project

office, they did not realise that they also had overlapping responsibilities due to hiding information (**IP01**, interviewed on 29th, July, 2017; **IP05**, interviewed on 19th, August, 2018). In the meantime, when information sharing was blocked due to the normative commitment issues, the 'horizonal' functions of collaboration were severely restricted, constituting 'a huge waste of resources' (**IL04**, interviewed on 10th, September, 2018). Therefore, collaboration with limited information might only function in a vertical manner (collaboration among different institutional levels). However, researchers have also pointed out that such vertical collaboration can even lead to more 'coordination dilemmas', 'perceived ineffectiveness', a 'lack of democratic legitimacy' (Termeer, Dewulf and Lieshout, 2010), and the creation of new layers in governmental systems (Schaap, 2005). This researcher adds that such 'vertical collaboration' could further solidify the functional scope division among these departments at the same level.

5.3.3 Lack of Continuance Commitment to Collaborative Institution: Temporariness

The low continuance commitment to collaboration was mainly due to the temporary feature of these collaborative organisations and thus the uncertainty of the effectiveness of the novel work mechanism.

In the interviews, almost all officials expressed the thought that they always bore in mind that the project office would not exist forever (see 4.4.2), and they would eventually return to their mother department. In a casual conversation, one official said that 'this kind of project office would disappear no matter whether the project is complete or not'. Another official then nodded to show his agreement, and added that:

> 'Our project office is supposed to last for three years. After three years, no matter whether the project goals are achieved or not, the office will be withdrawn…' (According to participant observation records from 7th September, 2018)

Although some of the officials showed their willingness to transform the Mount Tai project offices into a permanent organisation, they also emphasised that they understood that their role in the office was only temporary. One of them said in the same conversation that

> '…by then (when the project office is gone) we'll just go back to where we came from and will not need to care about whether the project is going well or not. I mean, it will be not our business, right?'

Their careless and indifferent attitude to the temporary office contributed to their distrust of the effectiveness of the project office and thus to the low continuance commitment level in the collaborative project development.

In fact, the upper management level had realised that a permanent project office could enhance the commitment and collaboration of the members, but some institutional factors were considered more important. As a leader, Interviewee **IL01** mentioned in the interview that:

> '... the initial plan to set up the office was to establish a formal government agency, and it was expected to be merged with the Ministry of Land and Resources in the long run. However, due to the current strict control over the establishment and size of permanent government agencies, our hands are tied. As a result, we eventually set up it as a temporary office.'

5.4 Influence of Current Institutional Design: Difficulties in Collaboration and Communication

Governmental employees' technical skills and professionalism were the key drivers to bring civil servants from different departments together in project delivery. They were closely associated with the functional division of departments. However, the new collaborative setting imposed additional demands of collaboration and communication skills on civil servants, bringing huge challenges to collaboration.

5.4.1 Shared Motivations

It was found that shared motivation through policies, rather than by negotiation, was more suitable for intergovernmental collaborative governance in small cities of China.

Collaborative governance highlights 'shared motivation', though is difficult to achieve. Shared motivation is believed to be the foundation of collaboration and cooperation (Ansell and Gash, 2008) and one of the most important issues in the collaboration process (Emerson et al., 2012; Emerson, Nabatchi and Balogh, 2011; Newig et al., 2017; Ulibarri, 2015). The researcher also agrees that establishing or exploring a shared motivation, formally or informally agreeing on the purpose of the collaboration, is an indispensable starting point in local collaboration.

However, the researcher does not agree that negotiating for a shared motivation was the only way to maximise collaborative benefit (e.g., Donahue, 2004; Kastan, 2000) when it related to environmental projects in China.

First, governmental officials and other stakeholders were not accustomed to sitting together to discuss a shared goal in China's political context. However, this did not mean that collaborative governance was not possible in China, but rather meant a different political culture.

Besides, policy incentives were not only a hindrance but also a benefit to the collaborative project delivery process at the local government level in China as the researcher mentioned in Chapter 4. Stakeholders did not need to 'completely agree on a shared purpose' (Huxham and Vangen, 2005, p.61) to move on to the next step in collaboration, because their shared purpose was often established in policy documentation in China.

For example, in the Mount Tai project, a shared goal was put forward in the 'Implementation

Opinions on Promoting the Ecological Protection and Restoration Project of Mountains, Waters, Forests and Lakes in the Mount Tai Region' (referred to as 'Opinions'), that is to establish and perfect the 'trinity' mechanism for ecosystem restoration, protection, and management (the General Office of the Shandong Provincial Government, 2017). This 'shared goal' of Mount Tai project frequently appeared in documents, and was generally accepted to be the main trigger for collaboration according to social media (Li, 2018; Mnr.gov.cn, 2019; Zhang, Chen and Wang, 2019). Furthermore, the 'shared goal' was only mentioned once by the mayor in the interview (as they had to show their familiarity and agreement with the central governments' wording) and never appeared in members' regular meetings and daily discussions. In this regard, the 'shared motivation' was only a starting point but not a determent factor in the collaboration in China's small cities.

5.4.2 Communication Skills for Collaboration

Communicative skills and other collaboration-related skills are sometimes more crucial than professional skills, particularly in collaborative project delivery. Communication is not casual conversation or simple information provision in the collaboration process. It requires skills and experience to achieve effectiveness and avoid flawed conversation (Stone et al., 1999). It is these skills upon which new collaborative relationships are built. This research conducted an in-depth study on the role of communication skills in collaboration, and made up for the simplicity and limitations of the current literature (see 2.3.3).

1) The awareness of communication's importance

One observable phenomenon was that in the collective office environment, officials gradually became aware of the importance of communication.

Many officials stated that 'communication is the most important' (**IL03,** interviewed on 7th September, 2018) in interviews. At least formally, the establishment of the collaboration office,

via gathering officials in one place, provided a better platform for communication. Participants believed that communication became 'more convenient under this collaborative mechanism' (**IL09**, interviewed on 2nd September, 2018), compared with the traditional form. This mechanism 'made communication smoother' (**IL03,** interviewed on 7th September, 2018), thereby 'reducing communication costs, saving manpower and material resources' (**IP04**, interviewed on 18th August, 2018), facilitating 'resource integration' and 'summarising the opinions of all parties in the shortest possible time' (**IL05**, interviewed on 20th July, 2017). It also increased communication channels, by 'providing a new platform for various departments to communicate' (**IL03**, interviewed on 7th September, 2018).

However, the long-established bad communication behaviour and habits had a serious impact on current collaboration efforts. As one interviewee explained:

> 'Because most of the communication between departments is temporary, and does not form a regular collective behaviour, coupled with tedious things in the department, the communication between departments did not receive enough attention before, which is causing a series of problems at present, such as delaying, coping, lack of rigour, and shirking responsibility.' (**IP02,** interviewed on 27th July, 2017)

2) Authority's influence on communication performance

Satisfactory upward and downward communication is essential for successful coordination in the collaboration process. It can close the gap between directors and members via increasing trust and support and creating a sense of mutuality in collaboration.

The influence of hierarchical *authority* on upward communication was particularly apparent in intergovernmental collaboration. Hierarchical relationships affected the way and content of conversation among governmental officials, even forming a unique set of 'bureaucratical communication skills' (Zhu, Ye, Tucker and Chan, 2015). One official (**IP06**, interviewed on 2nd, September, 2018;) mentioned the different way of communicating with members at different administrative levels (during a business trip on 25th August, 2018):

> ‘When talking to the leaders, I try to make it simple, direct and also try to stand in the shoes of leaders. When talking to the colleagues in counties, I try to make it as comprehensive as possible.’

In order to make a good impression on superiors and build a good *guanxi* with superiors (see 5.2.1), subordinates tended to avoid quarrels when communicating.

It was also difficult to communicate between officials who had the same administrative status but were in different administrative positions. On the one hand, these officials expected to be favoured by leaders rather than colleagues. They supported each other’s opinions in the meeting not because they agreed with each other, but because they could use this to ‘show goodwill to their leaders’ (**IL09**, interviewed on 2nd September, 2018). What they valued more was their performance in front of their leaders, rather than the content of communication and the support and collaboration of colleagues. Thus, it was difficult for them to truly influence and collaborate through communication. On the other hand, the power between these officials at the same administrative level was not balanced, and especially the young civil servants often felt the uneven benefits due to differences in income and welfare (according to observation of daily work in Mount Tai project office). Therefore, such unfair feelings made them not want to communicate.

This research also found that the effective channel for upward communication was not opened, though downward communication (mainly directors’ orders to members) was relatively effective in intergovernmental collaboration. The ‘command-execution’ relationship between the superior and subordinate led to a ‘report-approval’ communication method. In the interviews, almost all interviewees mentioned that they would ‘absolutely obey the orders from leadership’ and ‘respect the will of leaders’ (**IL03,** interviewed on 7th September, 2018; **IL06,** interviewed on 2nd September, 2018; **IL08,** interviewed on 7th September, 2018) to acquire ‘the support of the leaders’ (**IL09,** interviewed on 2nd September, 2018; **IL08,** interviewed on 7th September, 2018; **IL15,** interviewed on 25th September, 2017). As Interviewee IL15 pointed out:

> ‘It (the implementation) still depends on the instructions of the leaders... As to the communication between superiors and subordinates, the will of the leadership is basically

absolute domination.' (**IL15**, interviewed on 25th September, 2017)

The communication between upper and lower administrative levels was almost unilateral rather than bilateral.

5.5 Conclusion

This chapter has identified and analysed how the main factors i.e., power and resources, *guanxi* and institutional settings influenced the robustness of intergovernmental collaborative environmental project delivery.

Power and resources are the basic elements of intergovernmental collaboration in the delivery process of collaborative environmental projects, and they are interdependent. They can affect all aspects of intergovernmental collaboration. The benefits brought about by the pursuit of power and resources are the real inner connection between people in the governance network. In real life, the completely equal distribution of power and resources in the synergy theory does not exist. The imbalance of power and resources had both positive and negative effects.

Power in intergovernmental governance is divided into authority power and resource power. The control of power and the management of resources are first dominated by the authority, which is determined by administrative status. In small city, actors believed more in authority power. This made upper-level authorities more powerful, while lower-level authorities powerless and even gradually decreased in intergovernmental collaboration. Nevertheless, the use of collaborative models and the emphasis on collaboration in policies shook the dominant position of authority power to a certain extent. The collaborative form changed the attitudes and work modes of rulers. The emphasis of collaboration in policies forced the ruler to perform some of the collaborative responsibilities and decentralise power.

Obtaining resources was the main purpose of collaboration. Resource power had the most obvious

dominant position in information sharing and fiscal expenditure. Information and funding unique to certain government departments gave these departments privileges, and the privileges allowed them to rewrite the rules of collaboration. This created a greater power and status gap in intergovernmental collaboration as a result.

Benefits and interests were the main driving force for collaboration. Actors tended to obtain more power and resources through collaboration to maximise their benefits. However, the increasing gap in power status led to extremely uneven distribution of benefits, and the phenomenon of exclusivity and marginalization in coordination was thus obvious.

Power change reworked the collaborative networks. It brought policy changes due to the shift in the emphasis of the project. In addition, the imperfection of initial policies also increased the space and probability of policy changes. Policy changes solved difficult problems to a certain extent, but brought the collaboration process dynamics.

The original institutional setting had more serious impacts on officials' commitment to collaboration. This related to the resources, trust and *guanxi* of officials' mother organisation and their original leaders.

Government officials showed low commitment to collaboration due to short involvement period. They were more loyal to their mother departments and original leaders. They had built belief systems in mother departments and established long-term robust *guanxi* with colleagues of mother departments. This led to distrust with the new leadership, organisation and colleagues.

The level of trust in a leadership is affected by the features and behaviour of the leadership and *guanxi*. The strong leadership in Tai'an case had a negative influence on the trust issues in collaboration as they did not put members' interests over their own. Frequent changes in leadership also contributed to the low trust in leadership. Leaderships of old organisation used

resources, interests and *guanxi* to improve officials' commitment to old organisations, decreasing their commitment to new organisation as a result. In addition, closer interpersonal and official-department *guanxi* in small cities also enhanced the trust in mother departments and lowered the trust in the new organisations.

A strong normative commitment to the collaborative institution is crucial, especially in intergovernmental collaboration. The strong normative commitment to mother departments were affected by professionalism, the sense of responsibility and accountability issues, and affecting information-sharing in collaborative process. The expertise and professionalism justified the contribution of the governmental members to the collaboration but simultaneously created problems. Different technical backgrounds led to different opinions in regard to technical issues and decreased the willing to collaborate.

Continuance commitment affected officials' trust in the newly established collaborative organisation. The low continuance commitment to collaboration was mainly due to the temporary feature of these collaborative organisations and thus the uncertainty of the effectiveness of the novel work mechanism.

The collaborative institutional setting raised new requirements in terms of collaboration and communication capabilities. It required shared motivation through negotiation, but shared motivation through policies was found more suitable for intergovernmental collaborative governance in China. Communicative skills and other collaboration-related skills were another new requirement, sometimes more crucial than professional skills, particularly in collaborative project delivery but had not been explored in-depth in the literature. This research found that officials were aware of the importance of communication, but their long-established bad communication behaviour and habits had a serious impact on current collaboration efforts. The communication between upper and lower administrative levels was almost unilateral rather than bilateral, mainly due to authority power.

CHAPTER 6

COOPERATION BETWEEN GOVERNMENTAL AND NON-GOVERNMENTAL SECTORS IN ENVIRONMENTAL PROJECT IMPLEMENTATION:RESOURCE INTERDEPENDENCE

6.1 Introduction

Problems related to knowledge and financial resources input are often identified during the cooperative processes in environmental project delivery. Thus, new networks between governmental and non-governmental sectors have formed principally in response to resource interdependence.

Due to differences in involved actors, power relations and resources allocation (Paterson, 2005), networking between governmental and non-governmental sectors is analysed separately from intergovernmental collaboration in this research. This chapter concentrates on the scarcity and power of knowledge resource and financial resource and their roles in the cooperative environmental project delivery process.

This chapter first differentiates the types of knowledge and knowledge providers. It then analyses the reasons, approaches, forms and depth of the participation of consultants and scholars, and discusses how these elements influenced knowledge resource input through governance arrangements. It also concentrates on key aspects of the private sectors' participation, starting from the institutional and strategic issues to the networking between the public and private sectors. In this way, the researcher tries to identify whether the scope for PPP in small cities in China has

been expanded to include PPC.

6.2 The Scarcity and Power of Knowledge Resource

Knowledge is an essential factor that influences both policy and decision making (Lasswell, 1971; Simon, 1976) and collaborative actions behaviour (Ansell and Gash, 2007; Buuren, 2009; Emerson et al., 2011, also see 2.3.3). It determines how skilled and professional personnel comprehend, behave and interact within the networking process. The interaction between leaders, governmental actors, and knowledge providers, as well as the differences in the knowledge capacity, could influence the results of collaboration.

6.2.1 Knowledge of Scholars: Knowledge as a Scarce Resource

In the projects under study, scholars were independent of consulting companies and they were selected by the local government from the Expert Database[14] or invited from universities and research institutes to provide scientific knowledge in the implementation process of the project. Therefore, the knowledge supply of scholars is discussed separately from consulting companies in this research.

Research by Yang and Wu (2009) reveals that scholars, acting as information providers, can deliver knowledge and information that is more useful than those from other actors. The participation of scholars addresses highly professional issues under certain contexts. In the meantime, Edelenbos et al. (2011) argue that science has been acknowledged as 'public property' (Bernstein, 1991) and has been suspended in collaboration now due to public awareness of the

[14] The bid evaluation expert database is a talent database comprised of various engineering management and engineering technology, economics and related professionals with a high theoretical level and rich practical experience. The purpose of establishing an expert database is to provide appropriate experts for transaction subjects.

'deficiencies of science-based appraisal' (Pielke, 2007). However, this research argues that the value and significance of scientific knowledge, especially social scientific knowledge, and the supporting and corresponding longitudinal research in environmental policy and project process, are essential to success of the project. The two factors were not fully realised by local authorities in China's small cities.

1) Low amount, quality and participation time of natural scientists and inadequate natural scientific knowledge

Technology related knowledge required the involvement of experts in a wide range of disciplines, and the conditions of dynamic project construction required the active participation of those experts. However, there was not enough inclusion of natural scientific knowledge in Tai'an case, although the situation was gradually corrected and improved. The lack of scientific perspectives yielded unclear visions and aims (Sabatier and Mazmanian, 1980), thus vacillating the certainty of environmental policies.

The information from the investigation indicated that the level of scientific knowledge inclusion was extremely low in the Sponge City project prior to 2015. The rapid development and implementation of the Sponge City projects resulted in failure to involve an adequate number of experts of reasonable quality. Only two professionals had been invited by the government to the Sponge City PPP project and only one expert was cooperating with the planning bureau over a lengthy period in both the project design and the construction process (see 4.3.3). This deficiency was reflected in the scope and number of the project, fuelling concerns among local officials at the time:

> 'Sponge City applies a multi-disciplinary, multi-scale and integrated approach, covering various theories, sciences and fields such as resource conservation, water system management, ecological system protection, urban hydrology, climate change, urbanisation and human activities. Lacking a valid research foundation can lead to unpredictable results.' (**IL03**, interviewed on 6th July, 2017)

The negative impact of this limited participation period of scholars was also revealed in the participatory observations. In order to fully comprehend and advise on the possible emergencies and contingencies associated with these complicated and dynamic environmental projects, longer term involvement by scholarly experts was essential. The construction of the Sponge City project took place from 2015 to 2017, problems resulting from the absence of experts' real-time involvement concentratedly exposed during the completion of the project in 2017. For example, some water-related technical issues were not anticipated and therefore were not dealt with during project construction. However, at the time of the field investigation of the Mount Tai project in August 2018, the Tai'an government still employed a strategy of predicting as many problems as possible before construction started, and seeking help after new problems arose. However, because of the absence of expert scholarly advice, problems were rarely identified in advance and as a result, unexpected emergencies occurred which were not adequately resolved during the implementation process.

Later in the case of the Mount Tai project, the situation changed slightly. The change began with *policy changes*. The central document highlighted that building a 'life community' (see 4.4.1) needed joint efforts and innovation by various experts from diverse disciplines (the State Forestry and Grassland Administration of the People's Republic of China, 2018). This policy change required the state actors to improve, supplement and manage the Expert Database for new management regulations and to revise the bidding requirements in these new situations. These measures resulted in an increase in the involvement of high-quality scholars from the natural sciences, as well as transformed the behaviour and attitude of local government when inviting experts.

However, the period and consistency of scholars' participation were not significantly improved due to the manner of their participation. Thus, the participation level of scientists remained limited. In the Sponge City project, the project office 'invited authoritative experts from different

academic fields to on-site investigation (before the construction of the project) and post-assessment (after the construction plan had been finished)' (**IL14**, interviewed on 25th September, 2018). In the Mount Tai project, scientists were still only involved in three stages of the project delivery process, i.e., the preliminary feasibility studies, plan optimisation and evaluation stages (based on the observations and application documents provided by **IL02**, on 18th, September, 2018).

This problem of the absence of scholarly input into the projects was in part because scientific knowledge is mostly developed in scientific research institutions (**IL05**, interviewed on 7th August, 2018), which, in small Chinese cities, are independent from local government. Local government sectors have traditionally demarcated their administrative affairs from scientific expertise. For governmental actors, scientific knowledge was merely a small part of the policy process, and a serviceable tool to help validate the certainty of the policy and the feasibility of the project.

2) Ignorance of social scientists and underestimation of social scientific knowledge

The social sciences are like the natural sciences in that high-level expertise requires in-depth research by the scholars. The natural sciences can provide essential technical support, while social sciences can deliver adequate causal theories, which is an important factor in policy delivery (Sabatier and Mazmanian, 1980; Sabatier, 1991). Social scientific professionals can contribute to environmental project delivery by adopting social science theories and methods to address the collective action dilemma. Specifically, actors often spend a great deal of time on policy-related topics during the policy implementation process, such as the magnitude of the problems involved, the relative importance of various factors affecting those problems, the possible impacts of past policies, and the probable future results associated with policy alternatives (Heclo 1974; Derthick 1979; Nelson 1986; Greenberger et al. 1983). All these policy-related issues require social scientists to bring precise and sufficient social scientific knowledge into well-defined areas.

However, potential inputs from the social sciences, as well as social scientists themselves, were

almost invisible in the environmental project delivery in small cities, such as Tai'an. The usefulness of the social sciences has long been underestimated in China's academic and administrative activities. Fewer social scientists than natural scientists were listed in the Shandong Expert Database (2020), which added to the problem. Zhou and Leydesdorff (2006) point out that the development of social sciences in China has been slower than in the natural sciences. According to Zhou, Thijs and Glänzel's (2009) database analysis, social science publications from Mainland China were extremely limited in the international community prior to 1999. Consequently, the influence of social scientists in China has been more limited than that of natural scientists.

In addition, the application of the social sciences has strong geographical limitations. These limitations are seen as benefits in the social sciences. As social science is place-related, rulers could foresee local peculiarities and the link between their local situation and other research cases through social science reports. As Sabatier (1991) points out, the public policy process 'requires knowledge of precisely when and where to intervene, as well as the ability and willingness to sustain that intervention over many years'. However, this feature also led to the outsiders' (such as governmental officials') conclusion that the social sciences were unreliable and a less professional domain, limiting the adoption of social sciences knowledge in practice. In interviews during July, 2017, two officials commented that the social sciences 'sometimes could not solve anything, nonsense and troublesome' when some social scientists made suggestions to the authorities based on controversial policies. The officials' perspectives might be based on bias and lack of familiarity with the field, but also reflected their underestimation of social scientists and their work.

Besides, the lack of emphasis and misunderstanding of the social sciences led officials to believe that social scientists were not needed in collaborative environmental project delivery. Unlike the natural sciences, which impressed the local government officials with their precision, the recommendations of the social scientists seemed too close to their own political and societal life.

Authorities, and even other stakeholders, often feel too familiar with social science conclusions to value their importance in project delivery. During observations in August, 2018, a department leader showed contempt for social science in a casual talk: as 'social sciences are highly related to political ideology', he himself felt like a 'master of public governance'. However, the fact was that no officials in either the Sponge City project team or the Mount Tai project office majored in public management, governance or other related branches of social sciences. The official's view was apparently due to his assumption that knowledge of environmental governance and environmental project delivery could easily be mastered and learned from daily work in government.

The barriers between academic institutions and the lack of cross-border academic exchanges also led scientists from other disciplines to consider the participation of social scientists as unnecessary. Interviewer **IA01** (interviewed on 10th, August, 2017), a natural scientific expert, agreed with the department leaders that the participation of social scientists was not essential. This opinion was based on institutional issues at the national level. There are two main organisations in China's research and development system (R&D). The Ministry of Science and Technology (MOST) is responsible for R&D in the natural sciences and technology, and the National Planning Office of Philosophy and Social Sciences (NPOPSS) is for the social sciences. They are two independent institutions and barely communicate with each other and rarely cooperate. This phenomenon has resulted in the disciplinary gap and lack of academic exchange between natural and social scientists at the local level. Interviewer **IA01** also mentioned that, he had cooperated with Tai'an and other local governments frequently on project assessment and evaluation but never with social scientists, either in business or academia.

Lack of involvement and knowledge of social scientific theories caused several problems. After the construction of the Sponge City project, some societal problems were exposed. For example, the development and management of the neighbourhoods around the project site were not taken into consideration in the original plan. The management of the Panhe subproject surrounding

areas was entrusted to a private company along with the construction of the Panhe project plot. This area used to be an abandoned Previously Developed Land (PDL). At the time of the Sponge City project, as no relevant experts pointed out the necessity of comprehensive management, the designers and implementers only paid attention to the project plot but neglect this neighbouring land. Therefore, this area was still heavily polluted during the project delivery process between 2017-2018 and the pollution also affected the environment of the main project area. This situation not only greatly reduced the project's supposed positive landscape environmental effects, but also brought serious hidden dangers from the flood discharge of the Panhe River and to the safety of citizens in Tai'an (Mount Tai Evening News, 2020).

This situation might be improved in the Mount Tai project because the Mount Tai Project is a national-level project and social scientists are involved in policy-making at the national level. The proposal of the 'life community' included the provision that the project implementation should pay attention to the impact on the surrounding plots. However, by 2019, the implementation process at the local level still had no signs of the participation of social scientists, and the response to this national requirement is still unknown.

3) A need to extend participation period of scholars

As shown in 2.3.3, the literature has raised a need of longitudinal studies (e.g. Bulkeley and Mol, 2003; Bäckstrand, 2003; Bäckstrand, 2004; Newig and Fritsch, 2009). Some research has pointed out that a whole-process participation of experts can 'strengthen risk management and process control of environmental engineering' (Deng, Chen, Wang, 2014; Shi et al., 2018). Goggin (1986) proposed a strategy of pooled cross-sectional, longitudinal designs as part of the policy implementation process but to date, the information requirement, which relies largely on the participation level of scholars and the collaboration of other stakeholders, remains the greatest obstacle to this strategy.

Without longitudinal research on local conditions and specific implementation strategies, local

authorities need to learn from successful cases and copy their project plans. It was difficult to identify that whether such prerequisites in the plans were appropriate and suitable when examined under uniquely local considerations. The sub-project green roof and pavilion issues mentioned in 4.3.2 are examples.

The researcher would argue that professionals should even participate for a longer time than other stakeholders, beyond the period of the project delivery process. To achieve this, an extended collaborative mechanism between professionals and other actors should be established. In the establishment of the mechanism, corresponding longitudinal studies are essential. On one hand, the constantly changing socio-economic conditions and environmental issues pose an urgent requirement for the continuing input and update of knowledge. On the other hand, 'the enlightenment function' (see 2.3.3) of longitudinal studies is crucial to the implementation of pilot environmental projects. The experience of the Mount Tai project provided by longitudinal studies can benefit more future similar projects, especially in small cities.

6.2.2 Knowledge of Consultants: Knowledge as Power

Edelenbos, van Buuren and van Schie's (2011) believe that third-party stakeholder involvement influences the dominance of expert knowledge. Yet this researcher suggests that consultants' knowledge and expert knowledge supplemented each other in the context of Chinese small cities, as the consultants' knowledge focused on finance, engineering technology, law, the relevant policy of consultant organisations and PPP, and experts' knowledge focused or should focus on planning, scientific foundation, feasibility studies, management issues of the environmental projects. Consultants' participation was adequate when compared with experts, but they were not treated appropriately by decision makers in collaboration.

1) The changing role of consultants

The role of consultant companies has hardly been discussed in collaborative literature, but the

high importance and necessity of consultant companies were observed in the field investigation of both the Sponge City project and the Mount Tai project.

Consultant organisations have played a mandatory role in environmental project delivery in China since 2012. In the beginning, their function was merely technical in terms of cooperation, and consultants were treated as technicians by governmental officials.

At the time of Sponge City project, the roles of consultant companies are primarily twofold: the advice providers of concrete technical methods and the establishment of the PPP project. The long-term involvement of consultants was considered as 'unnecessary' due to the company's technical background, according to a financial officer (**IL18**, interviewed on 20th July, 2017). In the Sponge City project, local government and consultants jointly formulated the project strategy in the early stages, and then consultants took on the responsibilities of construction. Consultants undertook the work of water treatment and ecological environmental protection at scenic sites, and led construction and management work in wetland parks, greatly improving the efficiency of the project. They also helped local governments locate private partners (Company A) from corresponding PPP projects.

It was not until 'A life cycle project construction consultation' was raised in February, 2017 (Office of the State Council, 2017), highlighting the importance of the consultant companies, that the consultant company became long-term partners in the Sponge City project and took on the role of supervision. The document suggested the following roles:

> 'Encourage investment consulting, survey, design, project supervision, bidding agency, project cost and other enterprises to adopt the joint operation, mergers, acquisitions and other methods to develop the life cycle project construction consultation. Cultivate a group of first-rate life cycle project construction consultation enterprises. Formulate consultation service technical standards and contract models. Government investment projects should take the lead in implementing life cycle project construction consultation, and encourage

non-government investment projects to entrust life cycle project construction consultation services. In civil construction projects, give full play to the leading role of architects and encourage the provision of life cycle project construction consultation service.' (Office of the State Council, 2017)

In the Mount Tai project, the consultation work became a team effort of two or more consultant organisations. This change suggested a better resources allocation in project delivery. It was found (by the researcher via attending regular meetings) that members from consulting companies were always the first to make presentations about policy analyses and investment suggestions. In a sub project, company C and organisation D (an official project-related commission) jointly participated in the project. Compared with the dogmatism and conservatism within local governments, third-party organisations seemed to be more open and willing to engage in collective activities:

> 'The organisation D (the NDRC) apparently has more experience in government work, so their staff have a better understanding of central policies; and we are old-fashioned central enterprises with a good reputation, so we (company C, China Metallurgical Group Corporation) have first-rate technology and professionals. As a result, local governments trust us as a combination…' (**IP08**, interviewed on 2nd March, 2019)

Consultant companies considered themselves as 'employees' (**IP08**, interviewed on 2nd March, 2019) or 'functional departments' (**IP07**, interviewed on 2nd March, 2019) of local governments. They defined their role as a 'butler, managing all the other private participants and sometimes helping coordinate different departments' (**IP07**, interviewed on 2nd March, 2019). Therefore, they were more confident as 'formal partners' in collaboration with other governmental departments and felt more motivated to collaborate.

Specifically, consultant companies were always the interpreters of PPP policies. In the Mount Tai project, consultant company B 'assisted the government in designing the transaction structure for

the PPP project' (**IP07**, interviewed on 2nd March, 2019). Due to their professionalism in the PPP area, consultants from the company B were also the initial maker of the overall project investment plan of the PPP contract. In this case, consultant companies also regarded themselves as 'rule makers', and thus the speaking power of company B was even more during the cooperation.

With the requirement of 'life cycle consulting', consultant companies participated more actively, and took more responsibilities. Lifecycle consultancy services refers to consulting services involving planning, design, organisation, management, economy and basic technological issues (not research-based technological knowledge provided by experts) in the early stages of project construction, project research and decision-making, and the latter stage of project implementation and operation as well. According to Interviewee **IP08** (the employee of the involved consultant company, interviewed on 2nd March, 2019), 'life cycle project construction consultation' was 'a kind of collaboration'. It meant that 'this project needed consultants' follow-up participation from beginning to end'.

As a result, consultant companies were involved in almost every part of the Mount Tai project (**IP07**, interviewed on 2nd March, 2019), and were close to both local governments and private sectors in practice. Their roles expanded to include consulting, coordinating, monitoring and regulating throughout the whole process of project planning and delivery. Based on the observation, consultant companies, instead of local governments, took on the role of the 'main coordinators' of stakeholders in the project (**IP08**, interviewed on 2nd March, 2019). Quoting from an interview with **IP07** on 2nd March, 2019,

> '…we (the staff from the consultant company) mainly speak with competent authorities like the leading group and the Finance Bureau, in terms of development, environmental protection, planning, land, justice, auditing, etc. We discuss key indicators and operational procedures together'.

This changes in the roles of consultant companies improved their status and impact in the cooperation with local governments.

2) The contribution of consultants' knowledge

Consultant companies provided enough policy knowledge to support project delivery by providing lifecycle consultancy services. The existence of consultant companies reduced local government's anxieties concerning the unfamiliarity of the new concept in policies (e.g. 'life cycle project construction') and avoided 'the traps or disadvantages of PPP policies' (**IL15**, interviewed on 25th September, 2017).

The consultant companies on the Mount Tai project were the first national pilot institutions for lifecycle consultancy services. Compared with local authorities, they were more familiar with relevant policies and information on the lifecycle consultancy services. Consequently, in cooperation with local governments, they showed greater confidence in the concept and implementation of 'life cycle project construction consultation'.

Besides, the consultant companies were expert at communication and coordination skills. Their participation supplemented the poor communication situation between governmental officials (see 5.4.3).

Moreover, consultant companies made up for local authorities' shortcoming in financial and PPP knowledge. Project office members were not proficient in the financial aspects, especially of the comprehensive environmental projects like Sponge City and the Mount Tai project. It was impossible for officials from Municipal Land and Resources Bureau (key decision-makers in the project office) to master adequate financial and investment knowledge. The financial officials could also hardly become adept at managing PPP overnight. The consultant company easily overcame this difficulty and remedied local officials' deficiencies 'in the fields of finance, and law and policy of PPP' (**IP07**, interviewed on 2nd March, 2019).

Despite the sufficient knowledge of consultant companies, the substantial 'employment

relationship' between consultant companies and local governments caused the lack of real power of consultant companies and put consultant companies in a lower position than the government. The power imbalance led to different attitudes between local government and consultants. During the observation period, staff from the consultant companies constantly complained about the unprofessionalism of and tough interference from local officials in their collective activities. This unprofessionalism derived from ignorance of knowledge and policymaking by local officials, and the tough interference showed the unwillingness of local authorities to learn from consultant companies. As Edelenbos, van Buuren, and van Schie (2011) observed, governmental officials were sometimes 'not receptive or responsive to' (p.682) the knowledge provided by consultant organisations. Such an attitude, instead, lowered the enthusiasm of the consultant companies to cooperate. Knowledge limits were understandable and acceptable but the negative attitude to mutual learning should be avoided in collaboration.

6.3 The Scarcity and Influence of Financial Resources: From PPP to PPC?

In China, to acquire financial resources is another key reason for the involvement of non-governmental sectors in project delivery. Budgeting and fiscal policies and operations have long been indispensable tools that policy makers and implementors have at their disposal. They are used for resourcing and achieving goals in environmental project implementation by incorporating environmental dimensions into fiscal frameworks.

PPP as a specific implementation method of budgeting (Merk et.al., 2012) in China provides a cooperative solution to financial issues in environmental governance. In the context of local networking, where the implementation and the procurement of PPP projects occurred, the PPP model closely linked government, private capital, and public product supply through contractual relationships. The intense conflicts of price, profit and risk allocation between the PPP contract partners differentiated the PPP relationship from intergovernmental collaboration as well as the cooperation between governments and knowledge providers.

However, the introduction of a contractual-based PPP model was not adequate for environmental project delivery. A Public-Private-Collaboration (PPC) measure with more equal and dynamic networking arrangements is believed to be more appropriate for the whole project budgeting process in cooperative environmental project delivery (Chowdhury, Chen and Tiong, 2011). PPC is expected to enrich understanding of environmental governance and allocate more power and discretion to private entities. Aside from the financial support provided by PPP, PPC is believed to offer more effective management methods to overcome the financial constraints and the problems associated with integrating the old system for large-scale environmental projects in small cities. However, cooperation between the public and private sectors was faced not only with the *institutional* and *strategic* complexities, but also with *local specific* complexity of small cities to achieve this goal from PPP to PPC.

6.3.1 Institutional Aspects

1) Contract-based relationship

The relationships between the local government and private sectors in the Sponge City and Mount Tai projects were based on contracts, instead of cooperative partnerships, according to relevant archives and observations. In this sense, actors were more likely to be contract-bonded than partnership-related.

Under this relationship, key players (e.g. the government officials in the Tai'an case) were 'formally involved in the process and/or interact on the substance and process of the project' (Klijn and Teisman 2003, p.141). They were usually more committed and dominated, and saw private actors as staff or employees. In contrast, the 'peripheral actors', i.e. the private sectors, were not systematically included in the cooperation. This meant that they did not build deeper connections with key players and were 'not part of the institutional context' (Klijn and Teisman 2003, p.141) in which cooperation was embedded.

According to the observations, the private sectors participated in the project delivery only after the PPP contracts had been signed. Staff from private sectors were not regular members of the collaborative office, but only attended regular meetings if 'the discussion was relevant' (**IP07**, interviewed on 2nd, March, 2019). Indeed, whether the discussion was relevant depended on the leader of the collaborative office, and the private actors would only attend meetings 'if they were notified' by the collaborative office (**IP07**, interviewed on 2nd, March, 2019). In other words, if the leader of the office would like to prevent private partners from acquiring certain project information in the meetings, the private partners would not be notified. According to the observation, staff from private sectors only attended one of the four regular meetings from July to September, 2017 in the Tai'an Sponge PPP project process.

2) Lack of effective long-term risk management mechanism

Environmental project delivery through PPC requires 'long-term fiscal sustainability' (OECD, 2019, p.5), and a PPC relationship often requires a lengthy involvement that extends beyond the duration of contracts. The goal of risk management is to obtain maximum security at minimum cost. An effective risk management protocol can, thus, promote the communication of information, make full use of resources, reduce the mistakes associated with decisions cooperatively (Zou, Wang, Fang, 2008; Carbonara et al., 2015), as well as avoiding unpredicted losses and increasing the added value of the project itself relatively (Iyer and Sagheer, 2010). Thus, risk control is vital to guarantee future benefits and the continuous efforts of both public and the private parties, and to trigger the transformation from PPP to PPC

In particular, effective risk management should be 'context-specific' and 'long-term' (Carbonara et al., 2015, p.162). However, the research found that there were few comprehensive appropriate risk mitigation strategies for each risk embedded in PPP projects of the Tai'an case. In the Sponge City project, local governments introduced the PPP model to transfer financial risks, without drawing attention to the 'new problems that may arise in government debt along with the new model'. This was 'short-sighted and unprofessional' (**IP10**, interviewed on 30th, July, 2019). SPV employees also pointed out that the government often 'only focused on the current debt situation, rather than a long-term debt management' (**IP04**, interviewed on 18th, August, 2018). In this way, the *hidden debts*[15] of local government might damage the cooperation due to a shortage of funds and payment failure occurring in the later stages of the project.

In addition, private sectors were excluded in the process of formulating risk management rules. In the Sponge City and Mount Tai projects, the principles of risk allocation and sharing were determined between governmental members and consulting organisations, and private capital parties did not participate in the process. Moreover, the private partners adopted a strategy of 'winning the bid first and then negotiating' (**IP06**, interviewed on 28th, August, 2018) in the Mount

[15] Also referred to the 'local implicit debt'. It is a disguised government purchasing services, issued LGFVs debt or other type of illegal debt adopted by the local government in PPC, when local government cannot achieve the previous commitment of fixed income and repurchase, or bear the loss of principal in PPPs.

Tai project. As a result, the local government and private sectors 'went through a relatively long and difficult negotiation period' before real implementation (**IP11**, interviewed on 17th, November, 2019).

6.3.2 Strategic Aspects

1) Power imbalance

The uneven statuses in cooperation led power to be further concentrated in governmental sectors. Different roles, statuses and perspectives of partners generated from different duties and capacities, causing power imbalance (Simon, 1990). The government, as a task organisation, receives and fulfils an assignment, while market organisations are client-oriented and accustomed to following contracts and initiatives. In this way, governments were always devoted to political achievements and public fulfilment and tended to commit to principles rather than their partners. Private actors were concentrated with contract fulfilment rather than partnerships with the governments.

2) Resource independence

The exchange of information and skills between actors were the basis of the relationship. The knowledge, techniques and management skills required to operate complex environmental projects were the purview of a limited number of private actors, such as financiers and developers (Scharpf, 1978). These led to the dependence of the government actors on private partners.

In the Sponge city project, private actors did not care that they were 'peripheral actors' in the PPP (see 6.4.1), since they believed that they were indispensable to the local government. The ignorance of unequal status resulted in a lack of communication and ruined transparency in information sharing. As a result, the exchange of information and skills lacked adaptability to crises. For example, at the beginning of many Sponge City PPP projects, governmental and the private partners confirmed the transaction price and details without extensive communication,

which created high risk for future implementation. This was also a side effect of the contract system's 'transmission effect' (see 2.3.4).

Making good use of resource independence, on the other hand, increased equal opportunities for cooperation and trust between participants. It prevented the project delivery process from becoming fragmented and incomplete and promoted the establishment of deep-level partnerships. The Mount Tai PPP project had a lengthy duration and required a large amount of investment. If it were not for an increase in the depth and frequency of cooperation, the actors would face more serious consequences from the transmission effect of the contract system (see 2.3.4). Fortunately, this possibility was prevented by the efforts of the private actors. The company had enough financial resources to adapt to the changes in project delivery. The performance of the Mount Tai PPP project 'had a huge impact on the future opportunities in the field of environmental protection projects PPP' (**IL08**, interviewed on 7th, September, 2018) of Company R (the large SOE, one of the bidding winners). Thus, the Company R voluntarily asked to prolong the project construction to ensure the results of the project delivery. During the period of construction, staff from the Company R always concentrated on the project progress and kept communicating openly with both the Tai'an government and the project office. As a result, the construction was not delayed but was completed ahead of schedule. The government therefore commended them and helped them publicise their strengths and capacity in environmental projects in the media.

3) Trust

The concealment of information in risk management caused mutual distrust and created additional hidden risks, preventing the establishment of PPC.

The local government considered the local debt as the main risk in PPP. In order not to increase hidden debts and to better attract private companies, they used various methods to hide information related to the financial situation. For example, a private partner said he doubted that the local government would utilise an incompatible budgeting system to hide their true debt status and potential financial risks in project delivery. Such assumption on hiding of information reduced

the trust of private sectors as well as the credibility of the government. The reduction of trust would bring many uncertain risks to cooperation.

6.3.3 Specific Aspects of Small Cities

The financial resources of small cities were not sufficient (see Chapter 4). Therefore, facing large SOEs with strong financial resources and small private enterprises with insufficient financial resources, small cities played different roles and the PPP faced different challenges.

1) Low profits and trust: Cooperate with small companies:

The high-price and low-profit features of environmental projects in smaller cities excluded small private companies in the cooperation.

When private companies invested in public projects, their priority was to ensure return on investment (ROI). However, the government regarded environmental projects as a responsibility to guarantee public welfare and treated private partners as primarily funding resources. When cooperating with small private capital, local governments, as the powerful partner, would not prioritise the needs of the small companies. They adopted a fixed price and payment model which failed to cope with the changes caused by price fluctuations. In addition, 'there were certain disadvantages in borrowing from the banks' for small private enterprises, (**IP05**, interviewed on 19th, August, 2018), and thus the investment cost was even higher and the surplus was lower. As a result, private enterprises might struggle to protect their investments and experience a higher risk of losing money rather than profiting in the process (Zhang, 2017), and local governments also would 'take unclear future risks' (**IL14**, interviewed on 25th September, 2017). When no clear results could be seen, negotiating parties would have low continuance commitment (aforementioned in 5.3.2) and be more likely to withdraw from cooperation.

In the case of the Sponge City PPP delivery, the cooperation between the Tai'an government and

the small company was not completely successful. The price and payment methods were relatively idealistic and not very practicable, for both local government and potential stakeholders from small enterprises. The income from the rental fees of landscape and entertainment facilities in the wetland park was the main payment method. It was rather simple and inadequate according to the participatory observation, and so it was hard to guarantee the adequate return. If the 'poor financial ability or low credit caused the government to fail to pay' (**IP02**, interviewed on 27th, July, 2017), private companies would take greater risks. Therefore, many small companies that wanted to bid for the Sponge City PPP project at the beginning chose to withdraw from the competition.

Besides, low trust level between governmental and small private sectors made power tilt more to government departments. Governmental officials 'did not trust small private capital' (**IL05**, interviewed on 20th July, 2017), and so they did not share power with private capital. They were worried that 'the arbitrariness and the qualifications of small companies (because they are not large companies) would result in slow project implementation and failure to produce the expected profits' (**IL05**, interviewed on 20th July, 2017). As implied in the contract, if profit targets were not achieved, local government would need to 'take all the responsibility and pay all the loss of private sectors' (**IP02**, interviewed on 27th, July, 2017). Therefore, they would not take the risk but chose not to cooperate with small companies.

2) Reputation and policy interventions: Cooperate with large companies

The high-price and low-profit possibility did not stop large companies choosing to cooperate with small cities. This was because the financial resources and abilities of the large investors (i.e. the large SOEs) were much more abundant than those of local governments (especially governments of small cities). For large government-led SOEs and other large SOEs, profits were not the only and primary consideration of cooperative surplus, as their financial pressures were easily alleviated. As **IL04** (interviewed on 10th, September, 2018) explains,

'Under current circumstances, (the government) would increase government debt almost as

long as an investment is made. All enterprises would confirm the source of government repayment and whether the government has a relatively complete financial budget arrangement or fund budget arrangement before investing.'

Reputation, rather than fiscal profits, was the preferred cooperative surplus for SOEs, given their considerable financial and resources capacity. According to **IP10** (interviewed on 30th, July, 2019), these large SOEs aimed to improve their reputations 'by demonstrating the results of these projects (e.g., the Mount Tai project) to more potential partners (more local governments)'.

In such cases of cooperation, the dominant characteristic of government of small cities was no longer prominent, and the participation initiative of enterprises was also stronger. The government in Tai'an was 'very happy to cooperate and negotiate with large SOEs' (**IL04** (interviewed on 10th, September, 2018). Both sides were willing to input greater effort to achieve in-depth cooperation.

Nevertheless, policy restrictions appeared as the major obstacle, when return on investment was no longer a problem. Staff from a SOE mentioned that the company 'wanted to invest into the (Mount Tai) project, but the policy suddenly began to tilt towards small businesses, which was very detrimental to the PPP in environmental projects of small cities.' (**IP11**, interviewed on 17th, November, 2019). The governmental officials admitted and further explained:

'Originally, they (large SOEs) could use investment to help us improve the environment, and the government offers them land as profits. However, it will not work under the existing policy environment. At present, as soon as the government invites bids, the government needs to show the actual and current sources of repayment rather than long-term sources of repayment, such as land transfers. (The Ministries) also stipulates another fixed government financing and repayment channel, which is to issue bonds.' (**IL04**, interviewed on 10th, September, 2018)

These policies were designed to prioritise the needs of small private companies, but failed to take the financial difficulties of small cities into consideration.

Comparing the PPP process in the Sponge City and Mount Tai projects in Tai'an, it was apparent that different actors with great disparity in financial resources played different roles in the PPC. Large SOEs, compared with smaller private firms, were less focused on their ROI and were more motivated to participate to enhance their public profile, because they had fewer difficulties regarding resources and loans. However, policy change formed a powerful intervention in cooperation between small local governments and large SOEs under such favourable conditions.

6.3.4 Influential Factors in the way from PPP to PPC

Factors that influenced the cooperative process from PPP to PPC are listed in Table. 6.1. In this table, the main actors (public actors and private actors) and their expected responsibilities and benefits, values and principles for cooperation and opportunities for cooperation are demonstrated individually. It confirms that the roles and standpoints of the partners and the cooperative surplus pursued by partners had a significant impact on the cooperative relationship and project delivery process, in terms of trust, profits and management of potential risks.

Table 6.1. Relations between the responsibilities and benefits, values and principles, and opportunities of public and private actors.

	Public Actors	**Private Actors**	**Influence on project delivery**
Responsibilities and Benefits in PPP Contracts	Public services and products; Political achievements (e.g. local debts)	Investment, construction or/and operation; Realizing profits	Contract-based cooperation
Values and Principles	Commitment to higher administrative level; Devoted to public achievement; Responsible to the public; Financial risk avoidance	Profit- and customer- directed; Market values; Loyalty to contract and shareholders	Different starting point and understanding of PPC; Cooperation or not

Opportunities	Law and policy deficiency; Key members of collaborative office; Dominant roles due to power imbalance; Hidden debts	Law and policy deficiency; Peripheral actors; Knowledge; Resources; System	Repeated discussion; Short-sighted; Short-term cooperation; Power imbalance; High risks; Low trust

Source: Author

It can be seen that the cooperative partnership, within a strict contract and policy context does not necessarily bring about a collective result, due to the different roles and perspectives of players; and meanwhile, the partnership built by partners from divergent roles and standpoints does not necessarily result in conflicts, due to preferred cooperative surplus. Instead, the researcher would argue that the cooperative relationship between local government and private actors was influenced heavily by the roles and standpoints of partners and the cooperative surplus those partners pursued. These conflicts and differences in cooperative surplus led to hidden cooperative risks, while some also turned into motives for building PPC. The result was determined by the level of resource interdependence.

6.4 Conclusion

This chapter has reviewed the nature and level of resources flowing in cooperative environmental project delivery in Tai'an. The twofold interactions that existed between three types of stakeholders, i.e., civil servants, knowledge providers and private stakeholders, were analysed here. It was argued that effective cooperation between these parties relied largely on the interdependence of resources. Power and resources affected the role, position and behaviour of stakeholders.

Scholars were selected by the local government from the Expert Database or invited from universities and research institutes to participate in the implementation of the project, therefore, their participation channel was limited. Poor quality, few numbers and limited participation time of natural scientists led to an inadequate natural scientific knowledge input. Ignorance of social scientists brought about underestimation of social scientific knowledge. On the other hand, the cooperation between consultants and local government was relative successful, compared with the cooperation between scholars and the local government. This was mainly due to the adoption of life cycle consultant system (a long-term participation system), and that the PPP and financial knowledge held by consultants were needed more urgently from the perspective of the local government in small cities.

In the shift from PPP to PPC, the cooperative partnership, within a strict contract and policy context, did not necessarily bring about a collective result due to the different roles and perspectives of players. Meanwhile, the partnership built by partners from divergent roles and standpoints did not necessarily result in conflicts, due to preferred cooperative surplus. Instead, the researcher would argue that, the cooperative relationship between local government and private actors was influenced heavily by the roles and standpoints of partners and the cooperative surplus those partners pursued. These conflicts and differences in cooperative surplus led to hidden cooperative risks, while some also turned into motives for building PPC. The result was determined by the level of resource interdependence.

CHAPTER 7

DISCUSSION: THE IMPACT OF RESOURCES CONDITION AND THE ROLE OF *GUANXI* IN SMALL CITIES' ENVIRONMENTAL GOVERNANCE

7.1 Introduction

This chapter addresses the meaning, significance and relevance of the research, by explaining and evaluating key findings to reflect on the overall research aim and the literature review.

The chapter first discusses the 'ambition-action gaps' and the learning processes in the evolvement of governance models. Then it points out three key influential factors, i.e., power, resources and *guanxi* exposed in the gaps and processes, and discusses how these factors affected the networking in the whole process of collaborative and cooperative project delivery especially in China's small cities. At last, this chapter emphasises the particularity of small cities in environmental governance.

In this way, the research is expected to identify implications it has for environmental governance in small cities.

7.2 The Ambition-Action Gaps

In the beginning of the research, the researcher proposed the phenomenon of 'ambition-action gaps'. Subsequent in-depth research also confirmed that despite the diversity and standardised collaborative and cooperative institutional settings, there were still 'ambition-action gaps' in joint environmental project delivery. Thus, before demonstrating key findings, it is necessary to explain clearly what 'ambition-action gaps' existed in small cities' project delivery.

This research identified three types of 'ambition-action gaps' in the small city's environmental project delivery process, in terms of technology, intergovernmental collaboration and cooperation between governmental and non-governmental partners.

7.2.1 Technical Ambition-Action Gap

Technical ambition-action gap refers to the gap between the objectives listed in project plans and the construction in practice. Implementation studies highlight the importance of clear project construction goals (Ferman, 1990; Goggin et al., 1990; Ingram, 1990; Matland, 1995; O'Toole, 2000) and both the Sponge City and Mount Tai projects clearly marked the project goals in project plans after constant revisions. However, some concrete objectives failed to be achieved due to unrealistic time limits and lack of in-depth locally-specific studies. On one hand, the time set for the implementation of the policy was too fixed and too short, which left less time for the implementers to deal with unexpected issues appearing in the construction of the project. On the other, local authorities tended to learn from successful cases and copy their experiences without considering local conditions and specific implementation strategies in some cases (e.g., the Sponge City project); and some projects (e.g., the Mount Tai project) had no prior experience to learn and there was no pre-investigation based on local conditions. These led to the formulation of many goals that were too general to guide local construction.

Obviously, the clarity and execution of the goal did not necessarily guarantee the result of the construction. The implementation deficits in project construction were not only due to poor execution or inadequate technical supports, but also related to the lack of research resources, which is discussed in 7.3.

7.2.2 The Ambition-Action Gap in Intergovernmental Collaboration

The ambition-action gaps in intergovernmental collaboration included multiple aspects.

Local authorities established a 'joint meeting system', an 'advisory and coordinating group system' and a 'collaboration office' in multiple administrative levels to promote intergovernmental collaboration. Such settings were borrowed from the concept of 'teams' and various simple conceptual collaborative frameworks in the literature (Ansell and Gash, 2008; Gibson, 2011). In the 'teams' literature and related documents, people are expected to meet at a higher level to build new networks of departments and officials, take synoptic views of the project, and resolve conflicts if necessary, in order to promote coordination and cooperation through these forms (Schout and Jordan, 2008). These forms often simply indicate direct interactions and communications between all the individuals and organisations involved in the collaboration activities through regular meetings, and an inclusive and stable system for negotiation and communication between a plurality of organisations and groups from state, market and community (Mayntz, 1991, 1999; Kickert, 1993; Rhodes, 1997).

However, the collaborative governance settings are endemic to countries, and often far more complicated in form and more changeable in practice. The introduction of collaborative governance in China was expected to make some bottom-up changes in the process of environmental governance. For example, various government officials should be able to speak freely, through discussion and communication, to simplify complex environmental problems and draw more comprehensive and professional solutions. Nevertheless, no substantial changes

occurred in China. There was a paradox between the theories of collaborative governance and the Chinese institutional system. Under China's current governance model, China's intergovernmental collaboration could only be in a top-down form. The leaders were mostly powerful decision-makers and it was almost impossible for them to act as a coordinator in project implementation. The introduction of those collaborative settings was more of a policy response, instead of a way of building consensus. The settings were easily affected by policy changes and reflecting power changes. As a result, the new collaboration model was still following a 'command-implementation' method and a 'leader centric approach' (Susskind and Cruikshank, 2006), an effective 'report-approval' upwards communication system did not form (Liberman, 2010; Canary and McPhee, 2011).

The implementation deficits in intergovernmental collaboration also led to the underestimation of the importance of governmental actors' personal interests. In governance literature, even though some researchers have regarded personal interest as an indicator of diversity in collaboration (Plummer and Armitage, 2010), the emphasis on the importance and influence of diverse personal interests was not adequate. However, this research found that the pursuit of personal and department interests caused actors hiding information in the collaboration of environmental project delivery. For example, departments and individuals wanted to win in political competition, so they concealed information from each other and developed small groups or mini-bureaus through *guanxi* and power relations.

The literature also suggests that institutional changes could cause instability of collaboration (Skocpol, 1992; Steinmoet al., 1992; Orloff, 1993; Weaver and Rockman, 1993; Pierson, 1994; Immergut, 1998; Lecours, 2005), but these changes were not detailed and specified. In small cities, personnel changes in governmental departments are rare, and thus departmental belief systems are deeply rooted. The deep-rooted connection between civil servants and their mother departments made officials hardly adapt to frequent changes in collaborative offices and caused negative impact such as low trust and commitment and poor *guanxi* in collaboration. It was

common in small cities that more informal activities were also going on in addition to some formal collaboration activities. These informal activities were connected through *guanxi* and played positive or negative roles in the formal collaborative governance networks, which is discussed in depth in 7.4.

It is worth pointing out that the application of the collaborative governance model stimulated the evolution of China's top-down governance model to a certain extent. This was reflected in the learning of some key members. For example, due to policy pressure and desire for promotion, leaders had to conform to the requirements of collaborative governance in form. In this way, at least other members had the opportunity to fully understand and witness the process of project implementation, which is a prerequisite for real collaboration.

7.2.3 The Ambition-Action Gap in Cooperation Between Governmental and Non-Governmental Partners

'Diversity' (Bodin, 2017; Healey, 2003; Bache, Bartle and Flinders, 2016) and 'multiple stakeholders' (Stoker, 2004; Kapucu, Yuldashev and Bakiev, 2009), especially third-party and private stakeholders, have long been emphasised in multifarious implementation and governance theories. The participation of non-state partners is expected to bring adequate knowledge and financial resources (e.g., Smith, 1998; Connick and Innes, 2003; Ansell and Gash, 2007; Bulkeley and Mol, 2003; Bäckstrand, 2003; Bäckstrand, 2004; Newig and Fritsch, 2009) and 'strengthen risk management and process control' of environmental project delivery (Deng, Chen, Wang, 2014; Shi et al., 2018). Non-governmental stakeholders always try to affect policy implementation based on their own resources. Previous research believes that these stakeholders have reasonably used certain resources to become key participants in the project delivery process, and ultimately affect project implementation seriously (Barandiarán, 2018).

However, the power and influence of non-government members were not as great as that was

stated in the literature (e.g., Barker and Perters, 1993; Millstone and Zwanenberg, 2001) and in the policy documents in the environmental governance of small cities. The in-depth cooperation required in the governance and PPC theories were not actually realised. There was an 'endogenous logic' (Zhu, 2012) between the participation of non-governmental departments and policy changes in China. Therefore, non-governmental participants exhibited different participation modes and had different powers and positions in cooperation under different policy and leadership backgrounds.

1) Involvement of knowledge providers

There were two kinds of knowledge providers participating in the environmental project delivery in China, i.e., the consultant companies and the experts.

a. Consultant companies

Cooperation between local governments and consultant companies was based on employment relationships. The advantage of this relationship was in the clarity of rights and responsibilities. A reliable consulting agency should provide the local government with many valuable policies, document interpretations and suggestions, and also share management responsibilities with the government.

In fact, the cooperative relationship between the government and consulting agencies was not so effective from the beginning, and there was also a learning process. The reason for the initial inefficient cooperation was mainly due to the government's distrust of consulting agencies and unclear recognition of consultants' roles, as well as the lack of qualifications and capacities of the consulting agencies. With the improvement of the institutional settings, e.g., the adoption of 'life cycle project construction consultation' (see 6.2.2), and the increasing resource sharing among participants, the deficits in the cooperation gradually decreased. The improvement enabled the long-term participation and stable knowledge input of consultant companies; at the same time, governmental actors relied more on the consultant companies and improved their recognition,

trust and respect of their partners, in the long-term cooperation.

b. Experts

Expert participation was the most underestimated and despised part of existing governance research. The participation of experts was very low in environmental governance practice at the local level, especially in small cities that lacked research institutions and resources (Zhu, 2008).

The purpose of experts participating in the implementation of environmental projects should be to improve the legitimacy and adaptability of decision-making and to balance the interests of all parties (Zhang, 2013). However, most expert participation systems were based on rigid decision-making procedures, such as a provincial-level bid evaluation expert database at the local level. In this way, on the one hand, the number, depth, and type of expert participation were insufficient. On the other hand, experts lacked independence and their right to speak was limited, and so they could not provide targeted assistance based on project implementation process. As a result, expert participation in practice was formalised, and could not contribute to project delivery effectively.

2) Involvement of private investors

The ambition of state actors to introduce the private sector in environmental governance was not only to use contract-based PPP to reduce local financial pressure, but also to form a life-cycle PPC model in which the government and private companies could be mutually beneficial and share risks (Kumaraswamy et al., 2010; Chowdhury, Chen and Tiong, 2011). However, such a cooperation model was not reached in practice.

Laws, regulations and project goals are the basis for avoiding ambition-action gaps. However, at the beginning of the case in 2017, China's PPP was in its infancy, and small cities had only introduced PPP for two or three years. The imperfection of the relevant legal and policy systems led to unclear objectives for the PPP project, and an unfair risk sharing model of PPP contracts. At that time, governmental actors had absolute power, but the roles of private sectors were not

proper, namely the ‘peripheral actors’ (Klijn and Teisman 2003). They were not systematically included in the cooperation and were excluded in the process of formulating risk management rules. As a result, the participation enthusiasm of private companies was very low, and the public-private communication was rare.

These conditions were improved when powerful private sectors weighed in. In fact, the active participation of powerful private sectors stimulated the evolvement of public-private cooperative model from the contract-based PPP model to an immature PPC (with effective communication as the sign). Powerful large SOEs’ good reputation and adequate financial resources earned more the trust of local government. Their strong financial resources allowed them to change the dominance of the government and gave them the confidence to communicate with the government on an equal footing. A better communication situation can greatly improve the situation of cooperation (Das and Teng, 1998; Booher, 2004).

However, no matter how powerful private enterprises were in terms of financial ability, they could hardly resist the impact of central government’s policy intervention. Some policy interventions in the mid-term implementation of the project were biased towards small private enterprises, without considering the poor economic conditions and high government debt of small cities. As a result, private participants lacked fair access to PPP projects. The most basic financing needs of small cities were difficult to meet, not to mention the deeper cooperation between public and private parties.

7.3 Essential Resources in Small Cities’ Networking

This research first confirmed the importance of essential resources in environmental governance: the interdependency of inadequate resources triggered collaboration and cooperation. The findings reflected the opinion that the resource condition is crucial to both policy implementation (Vanmeter and Vanhoren, 1975; Sabatier and Mazmanian1979 and 1980) and environmental

governance (Pfeffer and Salancik, 1978; Rhodes, 2000).

At the same time, the findings exposed that the asymmetry of resources allocation could not be avoided in collaboration and cooperation. This was because resource allocation was more closely connected with the power relations among actors in small cities, and power relations were differentiated mainly by the administrative levels and authority power.

Specifically, the research focused on the poor financial conditions and research resources of small cities as well as the complexity of the environmental projects delivered in small cities. It specified that funding and knowledge resources were two essential factors in the environmental project delivery process of small cities. It showed that the actors' resource condition could still change the power relations in the cooperation to some extent, despite of the key influence of policy. Large SOEs and qualified consulting companies had a higher status in cooperation, and their cooperation with the local government had also made better progress, compared with experts and small enterprises. This was because they had more sufficient resources and also had the ability to transform some resources into power.

7.3.1 The Interdependence of Inadequate Resources

As a precondition, the research indicated that resource interdependency was the primary driver of the collaborative and cooperative environmental project delivery mechanism.

In general, there was a network of resource interdependency among critical stakeholders that informed collective environmental project delivery. These state-, market-, and community-based resources were built on the perceived strengths of particular social actors and arenas: the policy-related resources and regulatory capacity held by state authority; the mobilisation and financial resources through market exchanges; and the deployment the time- and place-specific knowledge (Ostrom, Schroeder and Wynne, 1993) embodied in communities and other involved stakeholders.

This network is applicable in the context of both large and small cities in most countries.

This research, however, emphasised that resource interdependency was crucial, especially in small cities where financial resources and research resources were relatively insufficient, and in environmental projects which required resources from multiple disciplines and departments (e.g. Brown, 1999; Doberstein, 2016). This finding directly supported that of the RDT (Pfeffer and Salancik, 1978) and the opinion that public policy is a product of limited resources (Young, 1981), as all the stakeholders (including actors and organisations involved) require resources to participate and function, and the new collaborative and cooperative mechanism aims to achieve balance through alliances and pooling resources, which makes stakeholders and organisations more dependent on one another. The existing literature, which discussed resource interdependency, either only focused on nongovernmental organisations (Pfeffer and Salancik, 1978) or placed too much weight on the policy-related resources of formal organisations (e.g., Sabatier and Mazmanian, 1980). Consequently, this research concentrated on resource interdependency in both intergovernmental collaboration and public-private cooperation, and in both the formal and informal (i.e., *guanxi*, see 7.4) domains against the background of small cities.

1) Funding resources

Nonetheless, considering the relatively mediocre financial ability in small cities, this research specifically highlighted the supply of financial resources through market exchange. Due to a difference in power relation and resources allocation (Paterson, 2005), resource interdependency, presenting in cooperative investment process between the government and the market, was analysed separately from intergovernmental collaboration.

This research observed that resource dependency determined the types of stakeholders involved in financial cooperation in small cities. Different actors with great disparity in financial resources played different roles in the PPC. Small enterprises were almost excluded in the cooperation due

to their potential difficulties in borrowing and the funding chain; while large SOEs were more favoured by local governments of small cities and more active in the cooperation due to their adequate financial resources.

In the cooperative relationship between local governments (of small cities) and large SOEs, inadequate resources led to the two parties' different expectations of cooperative surplus: reputation and project performance replaced profits (which are agreed as preferred in PPC, e.g., Tang et al., 2010; Jing-Feng et al., 2010; Kao et al., 2010; World Bank, 2011) in the Tai'an case. For local governments, project performance was their concern. For large government-led SOEs, which often involved in the cooperation with small cities in China, reputation which could benefit their future development became their preferred cooperative surplus. Generally, small cities relied on SOEs to provide financial investment, while large government-led SOEs expected to receive enhanced reputation as a result of satisfactory project performance.

Such resource interdependence caused the change in the cooperative mechanism. Local government was no longer in control of the overall PPC situation. Financial resources, instead of hierarchical issues, informed the power of private players in the context of cooperation, and had transferred the relationship and position between local governments and private sectors. As the local governments in small cities were desperate to access substantial investment due to policy restrictions and local debt conditions, they showed a willing attitude and kept a lower profile in cooperation with private stakeholders. At the same time, for large government-led SOEs, the cooperation with local governments in small cities was no longer limited to the government-dominated contractual relationship, given their considerable financial and resources capacity. Although the research showed a true PPC has not achieved in Tai'an, the attitudinal changes and the weakening of local governments' dominance suggested a sign from purely PPP to PPC.

Meanwhile, power struggles brought risks to the benign resource interdependence, hindering the achievement of PPC. In order to regain some control, local governments counted on financial

information as their power ‘over’ private partners. They hid local debt information in the allocation of financial resources, ruining the follow-up guarantee of the resource investment.

2) Knowledge resources

This research indicated that the condition of knowledge resources in networking showed a positive correlation with the supportive level of relevant stakeholders, including scholars, consultants and qualified practitioners. The condition of ‘supportive stakeholders’ is one of the determinant elements in the implementation process (Sabatier, 1988), and environmental governance also requires a precise, comprehensive and constant knowledge base from these stakeholders (Emerson, 2011). Thus, knowledge resources, affecting the supportive level of stakeholders is crucial to the discussion of joint environmental project delivery.

Knowledge providers’ supportive level in cooperation first resulted from the attitudes of local governments. In knowledge-related cooperation, governments held power over the whole knowledge input process, as knowledge providers had minimal decision-making power. In this regard, although knowledge was an essential resource, the role and position of providers were still restrained by local governments in joint environmental project delivery. As there was less interdisciplinary cooperation in small cities, the local governments’ attitude towards knowledge providers was limited and affected by their inherent thinking about different knowledge. They respected the natural scientists, underestimated and misunderstood social scientists, and trusted and relied on consultant companies.

At the same time, the power and position of the knowledge providers also affected the condition of the knowledge resource, which was influenced heavily by the length and depth of knowledge providers’ participation. Specifically, the consultant companies’ ‘life cycle’ participation attained the trust of local government and speaking power in cooperation. Conversely, the low participation level and powerlessness in participation reduced the supportive enthusiasm of scholars, decreased the knowledge input level and reasonableness of the project delivery process.

7.3.2 The Asymmetry of Resources Allocation

As was found in most other studies (e.g., Pfeffer and Salancik, 1978; Clarke and McCool, 1985; Zhang, 2014), if collaboration could not apply in conditions where all stakeholders had equal resources, it would be easily exploited by stronger powers. However, the research showed that equal resource allocation, could not be realised because resource allocation in small cities was closely connected with the power relations among organisations and stakeholders, and power relations were determined by the administrative levels and authority power. This finding suggested that powers and resources could not be discussed separately in terms of their influence on the collaborative and cooperative project delivery process.

Although Ansell and Gash (2007) have indicated that leadership becomes more important where power and resources are asymmetrically distributed and there have been studies of this type of leadership (Frame, 1954; Wu, 2016), there was still a blank in the literature regarding the interaction between leadership and collaborative project delivery (Erakovic and Jackson, 2012). This research fills this blank, demonstrating that strong leadership played a particularly critical role in reallocating the limited resources available in small cities. Particularly, formal and robust leadership was of great importance in the context of collaborative environmental governance in small cities of China. Although they did not act as the 'mediating leaders' (Boswell and Cannon, 2018), the influential and formal leaders served as 'committed sponsors' (Crosby and Bryson, 2005) at the local collaborative level, and could access and protect both personnel and financial resources needed in collaborations.

The research highlighted that the dynamics of power and resources could be the most influential elements in environmental governance of small cities, but the powerful intervention of policy could not be ignored. Frequent policy changes and leadership changes disrupted the established interpersonal and inter-organisational networks and thus influenced previous resource allocation,

causing new problems in the environmental governance. In this way, future research should concentrate on changes in the implementation process, involving collecting following-up data on the performance of project implementation.

7.4 Informal Networks in Small Cities: *Guanxi*

This research found that informal networks affected almost all aspects of the networking process and thus *guanxi* should be a key influencing factor involved in the small cities' governance frameworks. Besides, *guanxi* did not always bring negative effects in environmental governance.

Guanxi, as an unwritten code of conduct solidly anchored in Chinese civil society, is essential when explaining individuals' behaviour (Mol and Carter, 2006), and thus plays a crucial role in structuring the actions and interactions of stakeholders in collaboration and cooperation. The diversity of stakeholders can result in complicated networks (Bache, Bartle and Flinders, 2016), including *guanxi*, but *guanxi* was barely mentioned in diversity studies of Western countries. The political literature has evaluated the influence of *guanxi*, but mostly concentrated on the negative aspects (Arias, 1998; Guthrie, 1998). The effects of non-formal rules have also been observed in the literature concerning the environmental governance of China (such as Ma and Ortolano, 2000; Mol and Carter, 2006; Yang and Wang, 2010). These studies stated that informal interpersonal relationships are particularly significant and influential in environmental programmes and dispute resolutions. Unfortunately, Chinese studies often simplify or even ignore *guanxi's* effect as it is too common in China and too well-acknowledged in governance research in China. Moreover, knowledge of the role of *guanxi* in environmental governance of small cities is particularly inadequate. On the one hand, the dynamics of *guanxi* make it not function 'either in the same way or with equal strength' (Mol and Carter, 2006, p.163) in rich modern metropolitan cities as it does in poor small cities (Mol and Carter, 2006); on the other hand, how small cities' closer *guanxi*' correlates with top-down environmental governance mechanism is unclear.

The findings suggested that *guanxi* was deeply connected with the flow of and power and resources, the most important influential factor in cooperation and collaborations. The closer *guanxi* in small cities had multi-faceted and divergent roles in environmental project governance, and their roles should not be discussed separately from other influencing factors, such as institutional design, time span, power relations, resources and personal abilities. In this way, the research included informal interpersonal networks and their influence on the existing literature, in which research mostly focused on the interlinks between resources and formal institutional settings (e.g., Sabatier, 1988; Brown, 1999; Ansell and Gash, 2007; Kim, 2010; Scott, 2015; Chamchong, 2016; Baird, 2019; Waardenburg et al., 2019).

Most of the key findings of this research were closely interlinked with the *guanxi* in small cities, and demonstrated the six complicated and different roles of *guanxi* influencing collaboration and cooperation: *guanxi* as a facilitator in the selection of governmental actors, *guanxi* as an incentive to collaboration and cooperation, *guanxi* as a tool for information and resources acquisition, previous independent *guanxi* as an obstacle for trust and commitment in collaboration, mutual influence between *guanxi* and communication, and *guanxi* with a less critical role in the cooperation between governmental and non-governmental actors.

7.4.1 *Guanxi* as a Facilitator in the Selection of Governmental Actors

Closer *guanxi* in small cities allowed official members to understand each other's capabilities better. Such in-depth understanding first affected the selection of actors in the collaboration. According to the case study, some members at the project office were appointed directly or recommended by upper-tier officials, as closer *guanxi* allowed upper-tier officials to understand the abilities of their selected members better. In addition, in-depth understanding of each other's capacity also benefited both cross-administrative-level communications between actors and public-private communications. In terms of cross-administrative-level communications, when local officials were assigned to tasks, they could quickly reach to the right person (on the

administrative level) for assistance, or the appropriate executor (lower level official) through established networks.

Concerning public-private communications, familiarity might allow local governments to understand a companies' financial capability better, and enable some pre-negotiation before PPP contracts were officially signed. However, unlike in intergovernmental collaboration, *guanxi* could neither influence the selection of non-governmental actors in public-private cooperation so profoundly, nor truly help private companies to win bids. In contrast, the competent financial capability of these actors ultimately determined their involvement.

The choice and function of leadership were also influenced by *guanxi*. Personal networks had been a significant consideration in the selection of strong leadership in collaborations organised by small cities. According to the case studies, high-level directors, i.e., mayor and vice mayors of Tai'an, had more personnel resources to facilitate project delivery. Specifically, local leaders' relationships could bring about communication and negotiation at the provincial level, especially in terms of information and funding acquisition, and were thus beneficial to collaborative teams.

This finding sided with leaders' interpersonal networks that could facilitate such 'communication' or 'negotiation' in environmental project delivery, as they benefited collaboration and cooperation. Implementation researchers (such as Kaufman, 1973; Vanmeter and Vanhoren, 1975) have suggested interpersonal and inter-organisational communication can affect the implementation process and thus policy and project results; governance researchers (such as Ansell and Gash, 2007) have also noted that the negotiation process is decisive in the area of resources allocation during collaboration.

7.4.2 *Guanxi* as an Incentive to Collaboration and Cooperation

For both governmental officials and non-governmental actors, after being selected, *guanxi* could

be an essential incentive to participate in joint environmental project delivery.

In this research, career promotion proved to be the main incentive informing governmental actors' participation in collaborative project delivery, and strong interpersonal *guanxi* was a powerful weapon that helped actors pursue promotion (Choi 2012). This research confirmed that as the formal boundary between politics was unclear under the civil service system in China, strong *guanxi* with upper-tier authorities brought about more promotion opportunities (Ma, Tang and Yan, 2015). Although building an interpersonal network took time and effort (Choi 2012), Chinese officials still tended to build *guanxi* with powerful hands to attain career benefits (Ma, Tang and Yan, 2015), especially in small cities where personal networks were relatively tense and concentrated.

This research further exposed the view that such promotion opportunities, which could be possibly acquired through *guanxi*, were the most powerful incentive for governmental officials seeking to perform better in the context of collaboration.

7.4.3 *Guanxi* as a Tool for Information and Resources Acquisition

This research also found that interpersonal networks acted as a tool to acquire essential information and resources, and to achieve personal interest through collaboration and cooperation.

The case study suggested that long-term *guanxi* with an ex-leader and mother departments facilitated information and resources acquisition, although it also prohibited the operation of a new collaborative office to some extent (as will be discussed in the next section). The secure connections with mother departments and close relationships with original leadership brought about benefits when acquiring resources, thereby creating a possibility that a top-down intervention would benefit collaborative project delivery.

However, the dynamics of interpersonal networks were rooted in institutional transitions and associated with changes that took place alongside a power shift. With the transformation of power statuses and power holders, previous personal connections were readily broken, and the convenience brought about by the previous relationship, in terms of acquiring power and resources, also disappeared. The time taken to re-establish the relationship negatively affected enthusiasm for the collaboration and the efficiency of work during the project delivery process.

From the aspect of non-governmental actors, direct contact and preliminary negotiation with local leaders, brought about by *guanxi*, allowed them to acquire more information beforehand compared to their competitors, and felt more powerful and motivated at the bidding stage.

7.4.4 Previous Independent *Guanxi* as an Obstacle for Trust and Commitment in Collaboration

In small cities, trust between actors and organisations was associated with in-depth long-term relationships. Under the new collaborative mechanism, robust belief systems from old networks, as well as the visible temporariness of new networks, reduced officials' trust in new organisations, new leadership and colleagues, preventing officials committing to the collaboration. In short, the tight *guanxi* within mother departments brought about governmental officials' low commitment to the new collaborative organisation.

Guanxi, like all other informal social norms, ran through the entire institutional design (Luo, 1997; Tsui and Farh, 1997; IEES, 2006), and could be seen as the starting point and a precondition for enhanced commitment in collaboration for successful implementation (Cáceres et al., 2005). However, officials were accustomed to traditional single-institution working mechanisms, and had built in depth long-term connections with their mother departments. Such connections had shaped their belief systems (Sabatier, 1988; Sabatier and Jenkins-Smith, 1993) which were hard

to change; and the short involvement period weakened the bond between actors and the collaborative office. Therefore, old networks with mother departments and ex-leaders catalysed the 'habitual departmentalism', bestowing strong trust in the previous leadership and co-workers. This precipitated the condition that officials gave priority to the interests of their mother departments and did not commit to collaborative organisations.

7.4.5 Mutual Influence Between *Guanxi* and Communication

According to the research, actors often used communication to build *guanxi* into collaboration, and the results of their communication depended heavily on their existing interpersonal networks.

Communication is the first step to bridging networks (Stone et al., 1999), and in return, building new personal networks is vital to conducting efficient communication in collaboration (Choi 2012). The outcomes of this research provided evidence to support Grover's (2005) argument that hierarchy and the consequent authority power could have a significant impact on the communication, and stressed that the impact was often negative.

This research clarified that authority-related communication gaps between new leaders and members of newly established collaborative organisations led to failure to build new *guanxi* and thus weakened outcomes and the impact of environmental governance. While some officials had tried hard to connect with their new leaders in collaborative organisations, the differences in status and position between the lower-tier officials and upper-tier leaders created communication gaps before they became familiar. Some actors also attempted to build new networks with their new colleagues at the same administrative level in the offices, but poor communication skills often costed the efforts in vain. The original isolated institutional design and dividing governmental officials in the collaborative setting failed to equip officials with strong communication skills. It was challenging for officials without necessary initiative and skills to create new *guanxi* with colleagues in temporary organisations.

7.4.6 *Guanxi* as a Less Important Role in the Cooperation Between Governmental and Non-governmental Actors

Differing from the intergovernmental collaboration, in which personal links were vital, cooperation with non-governmental actors in the small cities of China placed far less emphasis on prehistoric *guanxi* between actors. Nonetheless, this researcher still confirmed that *guanxi* could affect cooperation between governmental and non-governmental actors to different extents.

According to this research, the private *guanxi* of scholars and third parties with governmental actors influenced their modes and levels of participation. The institutional and functional gaps between knowledge providers' organisations (e.g., universities, research institutions and consultant companies) and project-related departments resulted in governmental officials' overlooking the approaches of knowledge providers, destroying the *guanxi* between actors. Poor personal relationships dampened knowledge providers' enthusiasm in cooperation with local government. Meanwhile, in terms of the PPC process, contractual relationships, instead of private networks, tightened the bond between governments, private capitals and public product supply.

7.5 The Influence of City Size

The limitation of resources and the closeness of *guanxi* in small cities contributed to the particularity of the environmental governance of small cities.

The behaviour of state actors had a huge impact on small cities, but the behaviour of local governmental actors in small cities had almost no impact on state actors. Small cities could not participate in policy formulation and predict policy changes, so they were more sensitive and

vulnerable to policy influences. Research agrees that the situation and needs of small cities have a weak influence on the formulation of central policies, unlike those of big cities such as Beijing and Shanghai, or provincial capitals such as Jinan (Zhao and Timothy, 2015). From a national macro level, the role of small cities' government is only the executor and coordinator of national policies, responsible for land acquisition, maintaining social stability and receiving visitors from higher-level governments (Zhao and Timothy, 2015). Therefore, in small cities, the governance models were firstly regarded as a policy implementation method, and secondly as collaborative and cooperative mechanisms.

The shortage of resources in small cities were particularly significant in the implementation of large-scale environmental projects, but different resources had completely different effects on environmental governance.

The urgent need for financial resources gave small city governments a strong willingness and incentives to cooperate with large state-owned enterprises, and also caused the resistance to small enterprises. This situation caused unfairness in PPC. However, when policies were biased towards small enterprises, there was a conflict between the willingness of small cities to obtain financial resources and the willingness to strictly implement central policies. This is one of the common dilemmas of environmental governance in small cities.

The different needs for knowledge resources produced different cooperative modes. Due to the continuous updating of PPP policies, the central government had gradually raised the requirements for the implementation of PPP policies. In order to better implement the central policies, small city governments became more dependent on consulting companies. Conversely, due to less stringent regulations on expert participation, along with less experience and a shortage of research resources in small cities, local leaders did not fully realise the urgency of knowledge resources and the importance of interdisciplinary cooperation in environmental governance. Their attitude of expert participation was not active, and the participation of experts was, as a result,

also very low.

In addition, studying the intense impact of *guanxi* in small cities provided an unusual way of framing the problem of top-down environmental project delivery. The research finds that the relationship between the exercise of *guanxi* and environmental governance was both indirect and nuanced. Adherence to regulations in small cities of China often depended on the strength of *guanxi*, as *guanxi* reinforced common interests especially of governmental stakeholders. Top-down regulation worked on the individual through a process of monitoring, incentives and punishments, while *guanxi* seemed to be a more effective means of creating and maintaining common benefits of specific groups (such as a group of members from the same mother department) in small cities. These common interests guided individual behaviours. While poorly regulated localism—particularly where the leaders were dominant in governance, led to uneven collaboration, the development of *guanxi* may offer opportunities to encourage stakeholders' participation.

7.6 Conclusion

This chapter has discussed the governance dimensions of environmental project delivery by identifying the major roles and resources of stakeholders in small cities of China. In this way, the major research aim was achieved, that is to explore why and how overarching intervening factors affected environmental project delivery, and to show the significance and problems associated with collaboration and cooperation processes at the local level, especially with regard to environmental policy delivery in China's small cities.

The chapter first summarised the three types of 'ambition-action gaps' in the small city's environmental project delivery process, in terms of technology, intergovernmental collaboration and cooperation between governmental and non-governmental partners.

The implementation deficits in project construction were not necessarily due to poor execution or inadequate technical supports, but might relate to the lack of research resources.

The collaborative governance settings were endemic to countries, and often far more complicated in form and more changeable in practice. This research contributed to the literature by detailing and specifying the 'changes'. Changes in policy and authority power influenced the governance settings and mechanism heavily in China. In China, the introduction of those collaborative settings was more of a policy response, affected by policy changes and reflecting power changes, instead of a way of building consensus. The deep-rooted connection between civil servants and their mother departments also made officials hardly adapt to frequent changes in collaborative offices and caused a negative impact such as low trust and commitment and poor *guanxi* in collaboration. Besides, the implementation deficits in intergovernmental collaboration also resulted from the underestimation of governmental actors' personal interests. The pursuit of personal and department interests caused actors to hide information during collaboration. Therefore, although some bottom-up changes were expected in the process of environmental governance, no substantial changes occurred in practice.

The in-depth cooperation required in the governance and PPC theories was not actually realised. The power and influence of non-government members in cooperative practice were not as great as stated in the literature and policy documents. The policy makers expected non-state partners to bring adequate knowledge and financial resources and thus to strengthen risk management and process control of environmental project delivery. However, there was an 'endogenous logic' (Zhu, 2012) between the participation of non-governmental departments and policy changes in China. Non-governmental participants exhibited different participation modes and had different powers and positions in cooperation under different policy and leadership backgrounds.

Nevertheless, there was a learning process in the networking, reflected in the governmental actors' attitudinal changes towards intergovernmental collaboration and cooperation with consultant

companies. The learning process and its corresponding changes in governance form and mechanism stimulated the evolution of China's top-down governance model to a certain extent. The changes in intergovernmental institutional settings continued to introduce new governance concepts and elements into intergovernmental collaboration. The development enabled leaders to develop a working mode of sharing some information and resources. Besides, the improvement of cooperative institutional mechanism enabled the long-term participation and stable knowledge input of consultant companies. In the long-term cooperation, governmental actors relied more on the consultant companies and improved their recognition, trust and respect of their partners. On the other hand, the relative fixed government-dominated mechanism disabled expert participation and limited the experts' knowledge input. Moreover, the active participation of powerful private sectors stimulated the evolvement of public-private cooperative model from the contract-based PPP model to an immature PPC. The strong financial resources of SOEs changed the dominance of the government and made these private companies communicate with the government on an equal footing, thus greatly improved the situation of cooperation.

The learning process and ambition-action gaps confirmed that power and resources, as well as *guanxi*, were vital in collaboration and cooperation in the process of environmental governance, and as such should be combined and discussed as among the most influential factors involved collectively in the environmental project delivery process.

The core of governance, power and resources determined the participatory patterns of stakeholders and thus the very nature of governance mechanism. The research focused on the poorer financial and research resources of small cities as well as the complexity of the environmental projects delivered in small cities. It divided essential resources in environmental project delivery as funding and knowledge resources. The interdependence of inadequate resources was the primary driver of cooperation and collaboration, especially in small cities where there was a shortage in funding and knowledge resources. The specific conditions of small cities determined the special roles of and power shifts in the cooperation between local governments

and private sectors.

The actors' resource condition changed the power relations in the cooperation to some extent, despite of the key influence of policy. Different knowledge input levels related to different supportive levels of relevant stakeholders, including scholars and consultants. Besides, large SOEs and qualified consulting companies had a higher status in cooperation, and their cooperation with the local government had also made better progress, compared with experts and small enterprises. This was because they had more sufficient resources and also had the ability to transform some resources into power.

The research also emphasised that asymmetry of resources allocation could not be avoided. However, collaboration and cooperation models still needed to be continuously developing and adapting to the changes and dynamics in policies and leaderships, which had a severe impact on resource reallocation in networking.

Apart from power and resources, as demonstrated up the political hierarchy, *guanxi*, as an invisible dimension and informal power relations, and a social trade model in China (Wang, 2013), interlinked with power and resources to have an impact on environmental project delivery. It was also a key influential factor in collaborative and cooperative environmental governance in Chinese small cities. The *guanxi* network was coordinated with top-down governance networks, and its role was not always negative. While poorly regulated localism—particularly where the leaders were dominant in governance, led to uneven collaboration, the development of *guanxi* might offer opportunities to encourage stakeholders' participation.

The closer interpersonal networks in small cities had multi-faceted and divergent roles in environmental project governance, and could not be discussed separately from other influencing factors. This finding highlighted the importance and complexity of informal interpersonal networks, and filled the gaps in the existing literature focusing mostly on the connections between

resources and formal institutional settings (e.g., Sabatier, 1988; Brown, 1999; Ansell and Gash, 2007; Kim, 2010; Scott, 2015; Chamchong, 2016; Baird, 2019; Waardenburg et al., 2019).

CHAPTER 8

CONCLUSION

8.1 Introduction

This research has investigated the process of collaborative and cooperative environmental project delivery in the local tier of small cities, i.e., Tai'an, China, contributing to academic debate and practice. Collaborative governance and other cooperative governance instruments have been used in the environmental project implementation process in response to increasingly challenging ecological and environmental issues, especially in the world's rich metropolitan cities. In contrast, some China's small cities had entered into collaboration and cooperation by the time of the research. Hence, there is little evidence of the applicability (Newig et al., 2018) and effectiveness (Provan and Milward, 2001) of collaboration and cooperation during environmental project delivery in the context of China's small cities.

Scholars have discussed the environmental governance process from divergent networks at every single stage; including the formulation (e.g. Brown, 1997), decision-making (e.g. Newig and Fritsch, 2009), implementation (e.g. Lieberthal, 1997), and evaluation stage (e.g. Dee et al., 1973). This research analysed the process of overlapping networks in the environmental project delivery process, including implementation, governance and instruments at the local level and the interactions and dynamics between local and other ties and arenas, in environmental project delivery, closing the gaps in the overlapping decision-making networks (Liu, 2014; Zhang, Mol and He, 2016) discussed in the literature.

By establishing and adopting an analytical framework to apply to two environmental projects in

Tai'an, this research has produced useful explanations of the roles, ideas and behaviour of stakeholders in the institutional setting of environmental governance from case-based evidence. The researcher achieved the initial research aim, which was to explore why and how overarching intervening factors affect environmental project delivery and the significance of collaboration and cooperation in the process of local-level environmental policy delivery in China. In this regard, the research can help both policymakers in central government and practitioners in China's small cities successfully develop and operate the collaborative and cooperative arrangements in environmental project delivery.

In the process of realising the aims, this research has also addressed five research questions, through conducting three-layered case studies of the Sponge City project and Mount Tai project in Tai'an. The initial data analysis of the first case study reflected on the diagrammatic representation of major facets of the anticipated framework. The longitudinal analysis of both cases, drawing on sources and information from documents and the pilot interviews, then laid out a descriptive narrative of each case and corresponding PPP projects before primary data collection, using following-up interviews, observations and a targeted documentary review, and providing a contextual policy foundation for thematic analysis across the two cases, as discussed in the next section. The thematic analysis of both cases was adopted to analyse the data systematically and generate key research findings.

This chapter primarily summarises the key findings with respect to the research questions, applying the integrated analytical framework to the present empirical evidence in the case studies. It then discloses the contribution of this research and makes recommendations with regard to collaboration and cooperation in environmental project delivery in China's small cities. In the end, a brief evaluation of this thesis is provided, including a description of the limitations of the research and the need for future research in this area of study

8.2 Reflections on Research Questions

In the beginning of the research, the researcher proposed the phenomenon of 'ambition-action gap'. Based on the phenomenon as well as the research aims, the initial research questions were raised. Thus, before answering the research questions, it is necessary to clarify the three types of 'ambition-action gaps' existed in small cities' project delivery.

Technical ambition-action gap referred to the gaps between the objectives listed in project plans and the construction in practice. The ambition-action gaps in intergovernmental collaboration were identified in institutional settings, consensus building and bottom-up interventions. The ambition-action gaps in cooperation between governmental and non-governmental partners were found in the power and influence of non-government members. All these gaps were found to be strongly correlated with policy interventions.

The gap bridging process suggested there was a learning process in the networking, reflected in the governmental actors' attitudinal changes towards intergovernmental collaboration and cooperation with consultant companies. The learning process and its corresponding changes in governance form and mechanism have stimulated the evolution of China's top-down governance model to a certain extent.

When reviewing the debates in the existing literature on implementation and governance, an analytical framework indicating possible influential factors from various governance forms and implementation models was established. Relying on this framework, the researcher analysed the particular environmental governance forms adopted by Tai'an and the rationale behind that adoption. The research findings highlighted the changing and adaptive characteristics of the formal mechanisms, but also the complexity of the informal networks, i.e., *guanxi*.

The research then examined the specific impact factors summarised in the analytical framework.

Starting from the conditions, the research analysed the geographical, environmental, financial and political aspects of these conditions. The focus of research then shifted to analysis of the projects' context and relevant policies, the institutional settings and the diversity of stakeholders and how this affected the projects. The stakeholders' roles, characteristics and divergent motivations to participate (either external or internal), as well as the causal factors behind these motivations, were discussed, resulting in an assessment of the power relations and resources independence in the networking of stakeholders. Finally, key site-specific evidence was employed to analyse and discuss how these factors affected the initiation and processing of small city's collaborative and cooperative environmental project delivery process.

Research Question 1:

> *What forms of governance measures have been used in environmental project delivery at the local level in China and why?*

In general, top-down collaborative governance, life cycle consultant system and public-private cooperation through partnerships were the main forms of governance adopted as part of environmental project delivery in China's small cities.

The two projects examined in the research study in Tai'an both started with concepts and policies derived at central government level. In terms of intergovernmental collaboration at the local level, joint-working project offices were established by Tai'an local government, in accordance with the requirements of the central government, to facilitate intergovernmental collaboration and promote PPC in environmental project delivery processes in both cases. This collaborative format involved multiple actors from various relevant departments, echoing the joint '*teams'* concept (Challis et al., 1988; Ansell and Gash, 2007; Schout and Jordan, 2008) relative to collaborative governance. However, what is rarely discussed in the existing literature is that the top-down bureaucratic setting, the temporary features and particular intensive interpersonal networks within the project offices in the small cities, and how they have influenced the collaborative

characteristics and function of the offices in both positive and negative ways.

As for public-private cooperation forms, the PPP model was employed in both cases. At this stage, cooperation between the local government and the private sectors in Tai'an was mostly contract-based and not transformed into a real 'PPC mechanism' (see Schaeffer and Loveridge, 2002; World Bank, 2018).

Research Question 2:

> *For what exogenous reasons do local governments in China's small cities start to collaborate and cooperate in the environmental project delivery process, and how do key actors conventionalise collaboration and cooperation under such governance arrangements?*

Analysis of the empirical data identified the basic exogenous conditions for environmental policy implementation in Tai'an, i.e., the special geographical as well as the critical and relevant environmental conditions. These conditions triggered the adoption of governance tools for application in small cities' environmental project delivery. The analysis of these external conditions exposed the tensions in small cities' environmental governance, including poor financial conditions and a more complex job promotion mechanism (merit- or *guanxi*- based) faced by local leaders.

The research also showed that the primary external reason for local authorities to conduct collaboration and PPC activities was to adhere to policy trends. This conclusion reflected the 'top-down' nature of collaborative and cooperative governance in China's small cities, and at the same time supported the contribution of this study to combining implementation and governance theories.

Overall, policy incentives benefited intergovernmental collaboration but also restricted the PPC

process. In joint environmental project delivery, policies replaced the incentive functions of 'shared motivation' (e.g., Ansell and Gash, 2008; Huxham et al., 2000; Emerson, Nabatchi and Balogh, 2012) at the beginning of collaborative activities. It suggested that, in China's small cities, a shared motivation, needing to be explored by all involved actors during the collaborative process, was unnecessary, while physical incentives and particularly policy guidelines with a fixed purpose (set by the central or upper-tier governments), seemed to be a more time- and energy-saving instrument.

Particularly in terms of PPC, the emergence and changes of relevant policies made cooperation with the private sectors through a PPP model more than just simple market behaviour in China. On one hand, there were constraints arising from various policies targeting local financial ability and debts, resulting in the birth of PPC, whilst making PPC a passive partnership. On the other hand, the cooperative partnership under incomplete (e.g., in terms of incomplete and impractical price and profit return models) and changing PPP policies did not necessarily bring about a collective result but rather introduced opportunism, due to the roles and expected cooperative surplus of different players.

The actors' interpretations of collaboration and cooperation were mainly divided into three types: 'a policy requirement', 'a necessity of environmental project delivery' and 'a challenge to environmental project delivery', depending on their values and motivation to participate.

Research Question 3:

> *Why do some key actors hold different perspectives towards collaboration and cooperation, and how do these perspectives shape their behaviour with regard to joint environmental project delivery?*

The diversity of the stakeholders, in terms of their backgrounds, societal positions, power relations and allocated resources, was a fundamental contributor to the divergent perspectives

towards collaboration and cooperation.

In terms of intergovernmental collaboration, most actors from governmental sectors, could be encouraged more to develop a direct relationship between their input (in collaborative offices) and concrete, tangible political achievements or effective policy outcomes. In contrast, enthusiasm and commitment concerning collaboration would decline if participants failed to see material benefits to their political careers, or struggled to build trust in collaboration. This finding emphasised the importance and influence of diverse personal interests in the analysis of diversity in collaboration, closing the gap in the literature (e.g., Healey, 2003; Plummer and Armitage, 2010).

Leaders of local governments in small cities viewed collaboration and cooperation in a contradictory manner, although their roles started to change from a centric type to a facilitative one. In fact, the traditional 'leader-centric' leadership model (under which leaders' personal interests dominate team interests) (Susskind and Cruikshank, 2006) still affected both leaders themselves and their subordinates seriously in terms of their behaviour, attitudes and aims; whilst, leaders had to emphasise collaboration (by involving various departments and private companies and deciding together) to follow the policies and bring more labourers and potentially more investments and funding resources to projects. However, as political interests, including both the desire for promotion and worries about punitive consequences, were the most salient motivation for leaders to conduct collaborative activities, the role of local leaders was still as an executive officer of central government's policies. Hence, conflicts between leaders' interests and the interests generated from novel modes of problem-solving were expected to gradually reshape collective project delivery.

Moreover, normal officials also viewed working jointly in project offices as opportunities to pursue career advancement, but in a different way. Loyalty, trust and *guanxi* to leadership and trust and commitment to project delivery were vital to career promotion. Therefore, in terms of

collaboration, their commitment to collaborative organisations relied more on the attitude of leaders and their *guanxi* with leaders.

The private sectors expected to acquire an enhanced company reputation (large SOEs) or profits (small companies) through PPP, according to their social status and financial capability. Considering small cities' financial condition and project implementation capability, PPP was an opportunity for large SOEs but a risk for small private companies. As a result, large SOEs actively applied for PPP projects in small cities but the small companies withdrew. This situation led to a toleration of opportunism among local government and resulted in higher potential risks from cooperation.

Research Question 4:

> *Why and how do intervening factors create or prevent the 'ambition-action gap', after governance tools are employed in environmental project delivery process of small cities?*

Aside from the intervening factors mentioned above, i.e., local conditions, policy background and diversity and motivations of stakeholders, there were also intrinsic factors, including power relations, authority-/funding-/knowledge-related resources and institutional settings implicated in collaboration and cooperation. These intrinsic factors were the underlying causes of the ambition-action gaps.

This research discussed the impact of the interlinked power and resources in collaboration and cooperation. Power and resources were the two interdependent basic elements in the delivery process of collaborative environmental projects. The benefits brought about by the pursuit of power and resources were the real inner connection between people in the governance network. In practice, the completely equal distribution of power and resources in the synergy theory did not exist. Nevertheless, the imbalance of power and resources not only brought negative effects, but also triggered the collaboration. This situation was amplified in the small cities' context.

The influence of power and resources asymmetry and interdependence was particular present during the changes and dynamics occurring between new and old institutional settings. The research not only analysed the impact of institutional changes (Sabatier, 1988), but also analysed the reasons behand its impact in small cities. In this way, this research included the impact of original institutions and *guanxi* into the existing studies on institutional changes. This research exposed the fact that changes in institutional settings affected environmental governance in small cities regarding the commitment and communication (Vanmeter and Vanhoren, 1975) between stakeholders in joint project delivery. In terms of intergovernmental collaboration, the research stressed the influence of *guanxi* between implementing officials and their mother departments. It concluded that the commitment level of governmental members in collaboration was initially strongly influenced by the values, functions, belief systems and *guanxi* of their mother organisations and original leadership. The resources and information they possessed, and the future of the collaborative organisation also influenced their commitment.

Cooperation with knowledge providers (including experts and consultants) was an essential way to provide knowledge resources and promote the whole process/life cycle management of environmental project delivery. However, the cooperative mechanism that existed between local government and knowledge providers did not guarantee rational planning and implementation of processes across projects. It did not establish mutual learning between scholars and other stakeholders. This was mainly because scholars' knowledge was not needed urgently by the local government, or at least they did not recognise that they needed it. At the same time, the fixed participation model, i.e., the Expert Database, the short-term participation of scholars, the ignorance of the social sciences and lack of following-up research enhanced the local governments' contempt towards the scholars. These problems were raised due to the different standpoints, opinions and power positions of officials, experts and consultants, reflecting their deeply rooted belief systems, ambitions and values (Rinaudo and Garin, 2005). The research also found that of all the knowledge providers involved in the Tai'an case, the position of consultants

in the context of cooperation was relatively higher, as they possessed what rulers believed to be essential knowledge.

Regarding cooperation with the private sectors, PPP has not yet been transformed into a PPC relationship to benefit environmental project delivery. The current PPP mechanism built an 'agency by agreement' relationship (rather than a typical cooperative relationship tied by mutual trust, common sense, commitment) between the government and the private sector (Nyaga, Whipple and Lynch, 2010), In this regard, within all levels of government, the problems, i.e., unfair selection of private partners and hidden risks, caused by different expectations of cooperative surplus, were more easily amplified. In addition, the institutional setting excluding private stakeholders from whole process participation would further generate information asymmetry and thus opportunism in cooperative environmental governance. Fortunately, the private sectors' active intentions *vis à vis* communication (often more active than that of governmental and any other actors) became the silver lining on the way to PPC.

Regardless of the problems observed, this study confirmed the effectiveness and significance of current intergovernmental collaborative mechanisms, but doubted the reliability and comprehensiveness of the public-private cooperative mechanism in small Chinese cities.

Research Question 5:

To what extent do guanxi influence environmental governance in small cities?

It was found from the research that informal networks affected almost all aspects of the networking process. In environmental governance of small cities, *guanxi* had multi-faceted and divergent influences, and did not always bring negative effects as suggested in the literature (Arias, 1998; Guthrie, 1998).

In fact, the relationship was both indirect and nuanced between the exercise of *guanxi* and

networks for environmental project delivery. On the one hand, policy implementation in small cities of China often depended on the strength of *guanxi*, as *guanxi* reinforced common interests especially of governmental stakeholders. The top-down system worked on the individual through a process of monitoring, incentives and punishments, while *guanxi* seemed to be a more effective means of creating and maintaining common benefits of specific groups (such as a group of members from the same mother department) in small cities. These common interests guided individual behaviour. While poorly regulated localism—particularly where the leaders were dominant in governance, led to uneven collaboration, the development of *guanxi* may offer opportunities to encourage stakeholders' participation. On the other, from the perspective of collaboration, *guanxi* was vital as a way of building trust and thus, influence power relations. Researchers have emphasised the necessity of trust building for successful collaborations (Das and Teng, 1998; Gray, 1985; Huxham et al., 2000; McGuire, 2006; Vangen and Huxham, 2003). A low trust level could make actors resort to pursuing and exerting power as a substitute mechanism to coordinate their interactions with others (Bozaykut and Gurbuz, 2015).

Therefore, the influences of *guanxi* on joint environmental project delivery was complicated and contextualised, and intimately connected with the flow of power and resources. They were divided into six aspects: *guanxi* as a facilitator in the selection of governmental actors, *guanxi* as an incentive to collaboration and cooperation, *guanxi* as a tool for information and resources acquisition, previous independent *guanxi* as an obstacle for trust and commitment in collaboration, mutual influence between *guanxi* and communication, and *guanxi* with a less critical role in the cooperation between governmental and non-governmental actors.

To sum up, *guanxi* could positively encourage information exchange, resource acquisition and diversity through enhancing communications and power exercise in environmental governance, especially in terms of intergovernmental collaboration, while some *guanxi* also caused the loss of some collaborative advantages and the excessive risks taken by stakeholders, leading to distrust, low commitment and lack of communication.

8.3 Contributions of the Research and Recommendations for Practice

This research has made significant contributions to knowledge regarding collaborative and cooperative environmental project delivery at the local level in China's small cities.

8.3.1 The Combined Analytical Framework

In terms of theoretical implications, this study started by combining network-related elements from both implementation and governance theories, to build the necessary conceptual and analytical framework to guide the research throughout. The framework itself improved upon existing frameworks for networking in several ways. It distinguished the governance process from the results and impacts of project delivery. This provided a possibility to cope with the 'collaborative process challenges' (Ansell and Gash, 2007). The innovative framework also highlighted the dynamic character of the situation and refined other influential factors in the broader and specific context.

In addition, although several frameworks acknowledged the complex and dynamic nature of collaboration, this research more explicitly built that vibrant nature into the governance process and construction of networks. Policy changes were found linked with power changes, and institutional changes included the impact of the mother departments. Networking was sensitive to these changes in the policies and institutions. These changes affected the activities of stakeholders and their ability to access and generate networks. The new networks developed by local authorities not only created opportunities for developing new forms of cooperation and collaboration, but also affected previous relationships between actors and organisations, causing new problems in the environmental governance.

In this way, future research should concentrate on changes in the implementation process, involving collecting follow-up data on the performance of project implementation.

8.3.2 Refining the Influential Factors and Scale of Environmental Governance

The research extended relevant governance theories to include the myriad of collaborations initiated in the public, private, and academic sectors. Current political trends and academic research increasingly attempts to achieve more sustainable and effective environmental governance through collaborative and cooperative measures. However, the empirical findings and conceptual studies from different academic fields are still ambiguous or unilateral about the content of this process (Newig and Fritsch, 2009; Evans, 2012). As Bodin (2017) and Gunningham (2009) pointed out that governance theories appear to blur the familiar sharp boundaries that separate 'the state' from civil society, yet scholars still know very little about exactly what this blurring of public and private added up to, and what the relationships between new and old governance and its implications are. Especially, PPC has challenged the notions of the 'public sector' and the 'private sector' (Farrand and Carrapico, 2013). Therefore, the research examined the architecture of these governance initiatives, the role of the actors, power relations resources, trust building and the importance of collaborating in 'the shadow of hierarchy' as well as the influence of formal and informal networks, contributing to the literature.

The term 'stakeholder' in this research equated to any of the chief actors or players involved in the joint environmental project delivery process. In small cities, the number of stakeholders involved in such cases was limited, and thus they were investigated thoroughly and in-depth in this research.

This research defined a type of participant that was essential to environmental project delivery, namely the 'knowledge provider'. Based on the Chinese background, this research proposed that consultants should be analysed as key actors. The research also innovatively distinguished natural

scientists from social scientists. It pointed out that these two kinds of experts provided different knowledge, and their status was not the same in cooperation with the government in environmental governance process.

This research further explored both general and individual aspects of involved stakeholders: confirming the transformational role of state and local governments, and the growing power and control of large SOEs and consultant companies, as well as pointing to the low participation level of scholars. It found that the initial motivations of stakeholders to participate were driven by external factors, but ongoing incentives more derived from intrinsic and personal reasons.

According to the different roles of stakeholders and the resources the stakeholders possessed, this research further refined the concept of environmental governance into several parts: intergovernmental collaboration and cooperation between governmental and non-governmental actors, including scholars, consultants and private investors.

The research also situated the environmental governance in the broader context with which it interacted, as the environmental governance process was influenced by surrounding conditions and initiated by specific drivers. The research suggested that power, especially authority power, and resources, were both primary elements in collaboration and cooperation and specified three kinds of resources, i.e., authority resource, knowledge resource and funding resource. These factors were interlinked and associated with trust, commitment and communication in collaborative and cooperative project delivery. Thus, this research analysed the interactions of the three resources and their relations with power, linking the fragmented areas in literature.

In terms of the institutional setting, another key intervening factor, the research stressed the importance of formal leadership, changes and solid cooperative mechanisms with private sectors and knowledge providers. It added the ‘long-term’ characteristic into the scholar participation setting.

This research also refined the 'trust' with *guanxi* and power. Power, *guanxi* and trust were treated as entangled elements rather than one causing the other. They co-existed in the formal and informal networks, generating complex interactions.

In this regard, the content of 'diversity' has been further refined, and environmental governance frameworks have involved both collaborative and cooperative modes of governance. Accordingly, this research further clarified the concept of environmental governance and extended the scale of current environmental governance studies.

8.3.3 The Top-Down and Contextual Approach

The research developed a top-down and contextual approach examining networking theories specifically in the environmental area. The empirical analysis of this research suggested the significance of a top-down and contextual approach within networking research. It specified the components of the environmental project delivery process in small cities and suggested some general and very specific causal linkages in the analytical framework.

The evidence of this research showed the high level of information flow, and financial and other informal support between governmental and non-governmental stakeholders via a top-down approach. 'Network' is an important and powerful explanatory concept for the social sciences. It is contextually based and describes the relations between actors (Pfeffer and Salancik, 1978). It is also related to institutional design and the political conditions. However, the research focusing solely on the democratic aspects and grassroot movements has reduced this explanatory power (Hjern et al., 1978; Hjern and Porter, 1981; Hjern and Hull, 1985). This research suggested that the bottom-up methods would have overlooked the level of inter-penetration of public authorities and other stakeholders.

Besides, a more contextual approach was believed to be essential to understand the ways of networking in practice. Specifically, the closer '*guanxi*' in small cities, have been frequently mentioned, but not afforded adequate emphasis in most studies concerning environmental project delivery in China. This research distributed the impact of *guanxi* networks across multiple intervening factors, and used it to pull together all the threads of collaborative and cooperative project delivery. Also, the case study of Tai'an showed no sign of community-level activities but suggested how formal structures, informal relations (*guanxi*) and the political context within the local authority affected the ability of different stakeholders to engage in environmental project delivery under the context of China's small cities. The research concentrated on the particular influential factors that influence environmental governance in China's small cities, i.e., the more insufficient, interdependent resource networks and closer *guanxi*.

Thus, this contextualised and top-down approach was more adequate in analysing the formal and informal networks in environmental governance. Purposive top-down initiatives can have a positive effect in the enhancement and creation of networks, while under some circumstances, poor government and poor institutional design may actually destroy reciprocal networks.

8.3.4 Contributing to Environmental Governance Practice of Small Cities

This study specifically addressed the lack of research on small cities' environmental governance and the lack of completed practical experience which made collective behaviour very risky in environmental project delivery in small cities.

From a practical point of view, this research explored the particularities of small cities and the special difficulties in the implementation of large-scale environmental projects. The universality of those difficulties makes research findings applicable to more small cities. Therefore, the findings of this study can be applied to guide the implementation of environmental projects in small cities, and help the government and other participants in small cities to predict and avoid

possible problems.

From policy making perspective, the researcher has also made some recommendations. First, the realisation of expert participation in environmental project delivery must rely on a long-term mandatory mechanism for expert participation to decide on major issues, as well as an expert accountability system. Firstly, more comprehensive regulations on expert participation should be published, considering the significant impact of policies and regulations on joint project delivery at local level. In particular, the research would recommend that professionals should participate for a longer time than other stakeholders, beyond the project delivery process. To achieve this, an extended collaborative mechanism between professionals and other actors should be established. In the establishment of the mechanism, corresponding longitudinal studies are essential. The experience of the Mount Tai project confirmed that longitudinal studies would benefit future projects of a similar nature, especially in small cities. On one hand, the constantly changing socio-economic conditions and environmental issues would pose an urgent requirement for the continuing input and update of knowledge. On the other, the enlightenment function of longitudinal studies could be crucial to the implementation of the pilot environmental projects. Second, in terms of the PPP, the current PPP policy favoured small private companies. This easily put small cities in a dilemma between the willingness to obtain financial resources and to strictly implement central policies. Future policy-makers should concentrate on this situation and hear more from the local governments of small cities.

8.4 The Limitations of this Research and the Need for Future Research

By adopting an established analytical framework to examine two environmental projects in Tai'an as case studies, this research has generated insightful explanations concerning the roles, ideas and behaviour of stakeholders in the context of institutional embedding of environmental governance from case-based evidence. It has shown why and how overarching intervening factors affect environmental project delivery, and the significance of and problems that affect collaboration and

cooperation in the process of local-level environmental policy delivery in small cities in China. Future research might find it fruitful to conduct a further case studies to examine the occurrence and operation of collaborative and cooperative environmental governance in other specified small cities from an intergovernmental perspective, potentially also widening the scope to include non-governmental aspects.

However, the research-based knowledge produced from the research findings would also have limitations when transferred into policy and project delivery in practice. This research concentrates on the process of collaboration and cooperation, but not on the output and outcome of relevant policies and projects. This was due to the aim of the research, and was also restricted by the time limitations of the case study. The collaborative project delivery process was perceived to be effective, while the cooperative project delivery process was found to be problematic by the people involved. Indeed, the process was not necessarily successful according to an external quantitative measure. Therefore, some of the research findings cannot be generalised to future cases. This limitation makes it essential for future research to explore what type of outcome a particular form of environmental governance produces.

Although the case studies examined the process of collaborative and cooperative environmental projects in practice for seven months from 2016 to 2018, this period can only represent the beginnings of an environmental governance system in small cities of China. For example, the Mount Tai project, and its corresponding PPP project will continue until at least 2032, and the changes and dynamics (which are highlighted in the research findings) associated with its governance will then be exposed and evolve further over time. Thus, there is plenty of scope for future and more extensive examination of both the evolution of collaborative and cooperative environmental governance, and its contribution to environmental project delivery in the two case study areas.

8.5 Conclusion

This chapter has summarised the main research findings, including the empirical evidence derived from applying a comprehensive analysis framework to the case studies, and explained the process of addressing the research questions. It showcased the main theoretical and practical contributions of this research, and provided suggestions regarding the collaborative and cooperative environmental project delivery process, especially in China's small cities. This chapter also indicated that the research still had limitations in terms of its scope, generalisability and research methods, which created scope for future studies.

APPENDICES

Appendix 1. List of Interviewees and Interview Dates

1-1 List of Interviewees

Table	List of Interviewees	
Interviewees	**Job Title**	**Sectors**
IL01	Vice Mayor of Tai'an, Chairman of the Advisory and Coordinating Group	Local Government
IL02	Secretary of Vice Mayor (IL01)	
IL03	Deputy Director of Finance Bureau, Deputy Director of the Advisory and Coordinating Group	
IL04	Deputy Director of Land and Resources Bureau, Deputy Director of the Advisory and Coordinating Group	
IL05	Senior Official of Finance Bureau, Head of Project Management Office in the Advisory and Coordinating Group	
IL06	Official of Funding Sector, Finance Bureau	
IL07	Senior Official of Land and Resources Bureau, Member of the Advisory and Coordinating Group	

IL08	Official of Land and Resources Bureau, Member of the Advisory and Coordinating Group	
IL09	Official of House and Urban-Rural Development Bureau, Member of the Advisory and Coordinating Group	
IL10	Official of Planning Bureau, Member of the Advisory and Coordinating Group	
IL11	Official of Landscape Bureau, Member of the Advisory and Coordinating Group	
IL12	Head of Project Construction Group	
IL13	Official of Project Management Office, Tai'an Government	
IL14	Official of Tai'an Government, involving in the earlier stage of project preparation	
IL15	Official of Environmental Protection Bureau, involving in the earlier stage of project preparation	
IL16	Leader of the Water Resources Bureau of Dongping County	
IP01	General Manager of Tai'an Financial Group	Private Sector
IP02	Manager of Financial Section, Tai'an Financial Group	

IP03	Senior Official of Tai'an Financial Group	
IP04	Official of Integrated Branch, Tai'an Financial Group	
IP05	Official of Investment Branch, Tai'an Financial Group	
IP06	Official of Capital Operation Branch, Tai'an Financial Group	
IP07	Project Manager, Employer of Shandong De Lin Enterprise Management and Consulting Co., Ltd.	
IP08	Project Manager, Employer of the private companies (Company R), large SOE, bid winner	
IP09	Staff from one of the private companies (Company B) that intending to sign PPP contract with local government	
IP10	Staff from one of the private companies (Company Y), bid winner that intending to sign PPP contract with local government	
IP11	Staff from one of the private companies (Company C), government-led SOE that intending to cooperate with local government in the M PPP contract	
IB01	Manager of Corporate Banking Section, Industrial Bank, Tai'an Branch	Bank
IA01	Planning Academy	Academic

1-2 List of Interview Dates

IL01, interviewed on 18th, September, 2018; interviewed on 18th, November, 2018

IL02, interviewed on 18th, September, 2018

IL03, interviewed on 6th July 2017; interviewed on 7th, September, 2018

IL04, interviewed on 10th, September, 2018

IL05, interviewed on 20th July, 2017; interviewed on 7th, August, 2018

IL06, interviewed on 2nd, September, 2018; interviewed on 2nd, January, 2020

IL07, interviewed on 7th, September, 2018

IL08, interviewed on 7th, September, 2018

IL09, interviewed on 2nd, September, 2018

IL10, interviewed on 2nd, September, 2018

IL11, interviewed on 7th, August, 2018

IL12, interviewed on 29th, July, 2017

IL13, interviewed on 22nd, August, 2017

IL14, interviewed on 25th, September, 2017

IL15, interviewed on 25th, September, 2017

IL16, interviewed on 5th, September, 2018

IP01, interviewed on 29th, July, 2017; interviewed on 6th, August, 2018

IP02, interviewed on 27th, July, 2017

IP03, interviewed on 17th, August, 2018

IP04, interviewed on 18th, August, 2018

IP05, interviewed on 19th, August, 2018

IP06, interviewed on 28th, August, 2018

IP07, interviewed on 2nd, March, 2019

IP08, interviewed on 2nd, March, 2019

IP09, interviewed on 4th, March, 2019

IP10, interviewed on 30th, July, 2019

IP11, interviewed on 17th, November, 2019

IB01, interviewed on 4th, September, 2018

IB02, interviewed on 4th, September, 2018

IA01, interviewed on 10th, August, 2017

IA02, interviewed on 3rd, August, 2018

Appendix 2. Interview Topic Guides

2-1 Pilot Interviews

The pilot interviews were designed to collect contextual information of contemporary cooperative and collaborative mechanism in Tai'an and of Sponge City project before June 2017, in order to test the research topic, the methodological tool of interview and the effectiveness of interview questions, as well as generating initial research questions to be answered in this research and potential research population to be interviewed.

1 What do you think is the main barrier in 'Sponge City' delivery?
2 Are you aware of the funding sources of 'Sponge City' project?
3 Is 'Sponge City' project attractive to private sectors? Why?
4 Have you heard of PPP mode? What do you think of it? How does this work in practice?
5 How can we encourage the private sectors? What are the benefits and main barriers?
6 Do you think it is necessary to integrate 'Sponge City' into planning system? Why? What is the current situation?
7 What are the main difficulties to achieve the integration?
8 Are there any effective ways to achieve this?
9 What do you think of the role of planners? Are there any changes of the role in recent years?
10 What do you think the planners should do in 'Sponge City' delivery?
11 How is the relationship between your department and other relevant institutions and organizations?
12 Do you need to exchange experiences or cooperate frequently in the delivery of 'Sponge City' projects?
13 Is this cooperation effective to the implementation of 'Sponge City'?
14 What are the main problems during the exchanges and cooperation?
15 What measures do you think that could facilitate the cooperation?

2-2 Follow-up Interviews

- This topic guide is to be used in interviews for the Sponge City and MTRLFFLGEPRP cases.
- The purpose of the questions is to gain more understanding on the formation, forms of collaborative and cooperative environmental project delivery process, as well as the factors that promote and inhibit collaboration and cooperation.
- The respondents would be local leaders, committee/board members or government officers, private sectors, bank employees and scholars who have been involved in or knowledge of collaboration and cooperation.
- Interviewers should be explained that:
  1. Notes will be made of the interview/ the interview will be recorded by audio recorder.
  2. Your responses will be confidential. We will not name anyone in our study.
  3. Your answers will be analysed in an anonymous and all data will be stored securely.

Respondent's personal situation

1 First of all, what department are you in? What is the main content of the current work? (Other related, such as administrative level, etc.)

Overall status of collaboration and cooperation

2 Do you think collaboration between departments is important to the project? why?

3 Is it difficult for your department to collaborate across departments? What are the main difficulties?

4 Does the efficiency of cross-department collaboration work affect the efficiency of work? How to influence?

5 What do you think is the most important factor in promoting collaboration among departments? (Such as orders from superiors, motivation to solve problems, good relations between various departments, ideas of department leaders, promotion of public opinion, attention and supervision of public experts, etc.)

6 What do you think of the current collaborative work? Are you facing big challenges? What

challenges do you think have the greatest impact? (Such as leaders, departments compete for dominance, reach consensus, trust, communication, time, energy, financial resources, policy restrictions, department traditions, department goals, responsibility assignment, etc.)
7 What do you think are the main factors for the success of department cooperation? why? (Such as superior support, common interests, departmental leadership relations, financial resources, etc.)

Impact of collaborative cooperation on environmental governance

8 What is your evaluation of the effect of collaborative activities in the project? Are there any specific cases?
9 In your opinion, what kind of positive impact does collaborative cooperation have on environmental governance? (Such as reduced economic costs, high management performance, shortened time, smoother communication, and successful problem solving, etc.)
10 What about negative effects?
11 After the current 'departmental joint meeting system' has been launched for more than a year, are there any changes and progress? Do you think it is effective? Do you have any other comments?
12 Can you describe the process of your participation in the meeting/or the impact of the meeting results? (Degree of participation, meeting atmosphere, meeting results and impact on follow-up work)

public participation

13 What do you think of the strengthening of community governance mentioned in the new document?
14 Is there any communication with the public in your work? Do you think the public's views have played a positive or negative role in the project? why?
15 Do you think that the entire process of the project, including later maintenance and management, needs to communicate with the public? What aspects of communication?

Expert participation

16 Has this year brought in experts or scientific research institutions to join the project? If so,

what are you involved in?

17 Are there any intersections with experts in your work? What are your main communication methods? What are the main contents of communication?

18 What do you think of the attitude and participation of experts? What positive or negative roles did experts play in the project?

Private capital

19 Does your job overlap with the social capital side of the project? What is the intersection?

20 Are you smooth in your cooperation with social capital? Have you encountered any difficulties? Can you talk about it specifically?

21 What is the main difference between your cooperation process with social capital and the previous cooperation with government procurement departments and finance departments?

22 How do you think the introduction of social capital has affected the project?

（尊敬的 xxx 先生/女士，感谢您在百忙之中同意参加这次采访，这次采访是学术性的采访，目的是了解环境治理中政府间、政府与专家民众间多方协调合作的相关情况，您提供的信息，将对研究非常重要，采访后您的个人信息将不会被泄漏。）

受访者个人状况

1 首先请问您所处的部门科室是？目前工作的主要内容是？（其他相关，如行政级别等）

协同合作的总体状况

2 您认为部门之间的协同合作对项目重要吗？为什么？

3 您所在的部门开展跨部门协作困难吗？主要困难是什么？

4 跨部门协作工作的效率是否影响到工作的效率呢？如何影响？

5 您认为促进部门协作的因素中什么是最重要的？（如上级的命令，解决问题的动力，搞好各部门关系，部门领导的理念，社会舆论推动，民众专家的关注和监督等）

6 您认为目前协作工作进行的如何？是否面临很大的挑战？您认为什么挑战影响最大？（如领导者，部门争夺主导权，达成共识，信任，沟通，时间，精力，财力，

政策限制，部门传统，部门目标，职责分配等）

7 您认为部门合作的成功因素主要有哪些？为什么？（如上级支持，共同利益，部门领导关系，财政资源等）

协同合作对环境治理的影响

8 您对项目中协同合作活动的效果的评价是怎样的？有没有什么具体的案例呢？

9 您认为协同合作对环境治理工作具体产生了什么样积极的影响呢？（如经济成本降低，管理绩效高，时间缩短，沟通更顺畅，成功解决问题等）

10 消极影响呢？

11 目前的'部门联合会议制度'经过一年多的开展，有什么转变和进展吗？您认为是切实有效的吗？您是否有其他意见？

12 能否描述一下您参与会议/或者收到会议结果影响的过程？（参与程度，会议氛围，会议结果以及对后续工作的影响）

公众参与

13 在新的文件中提及的加强社区治理，您对这方面是怎么认为的呢？

14 您的工作中是否有与民众交流的事务吗？您认为民众的观点对项目起到了积极还是消极的作用？为什么？

15 您认为项目的整个过程，包括后期的维护、管理，需要与民众进行沟通交流吗？哪些方面的沟通交流呢？

专家参与

16 今年是否有引入专家、科研机构加入项目呢？如果有，是参与哪些方面的工作？

17 您的工作中与专家是否有交集？您们的沟通方式主要是什么？沟通的主要内容有哪些？

18 您认为专家的态度、参与度如何？专家对项目中起到了哪些积极或者消极的作用？

社会资本方

19 您的工作与项目中的社会资本方是否有交集呢？是怎样的交集？

20 您在与社会资本方的合作中是否顺畅？是否遇到了困难？可以具体谈一下吗？

21 您与社会资本方合作的过程，同以往与政府采购部门、财政部门合作的主要区别是

什么?

22 您认为社会资本方的引入对项目起到了怎样的影响

Appendix 3 List of Other Sources

3-1 List of Other Sources Related to the Sponge City Case Study

1. Direct Observation

1) Type of Source: direct observation of the Mount Culai and Dawen River New District Administrative Committee (the Cuwen Committee)
2) Purpose: to observe stakeholders' behaviours and daily discussions, and to experience the atmosphere and joint meeting system
3) Participants: leaders and members of the Cuwen Committee and the researcher
4) Time & Place: 17th July, 2017—1st September, 2017, mainly the meeting room and accountant office in the Cuwen Committee, auditing Sponge City directors' meetings on 19th July, 2017 and 4th August, 2017

2. Site Visits

2.1 Trips to another city

1) Type of Source: direct observation for the trip
2) Purpose: to observe the office members' behaviours and activities during the official trip to Dongying
3) Attendant: 3 members in the Cuwen Committee responsible for Tai'an Sponge City project
4) Time & Place: 19th—21st July, 2017, in Dongying Sponge City project office

2.2 Site Visit-1

1) Type of Source: direct observation for the site
2) Purpose: to observe the Tai'an Sponge City project area generally and to get documents
3) Attendant: vice mayor, director of Financial department, some staff in the Cuwen Committee responsible for Tai'an Sponge City project
4) Time & Place: 10:30-12:30, 26th July, 2017, in and around the Sponge City area

2.3 Site Visits-2

1) Type of Source: direct observation for the site
2) Purpose: to observe the Tai'an Sponge City project area accurately and to get documents
3) Attendant: leader and main implementer in the Cuwen Committee responsible for Tai'an Sponge City project
4) Time & Place: 14:30-15:30, 3rd August, 2017 and 16:30-17:00, 14th August, 2017, in and around the Sponge City area

3. Accessed Official Documents

1) Special Plan of Tai'an Sponge City Project
2) Wenhe Wetland PPP Project Implementation Plan (reported to municipal government on 16.12. 2015)
3) Wenhe Wetlands PPP Contract
4) Self - Evaluation Report on Performance of Pilot Provincial Sponge City Project in Tai'an City
5) Cuwen District Financial Affordability Evaluation (reported to municipal government on 21.11.2015)
6) Cuwen District Value-For-Money Evaluation (reported to municipal government on 05.11.2015)
7) Tai'an Municipal Government Office on Accelerating the Implementation of Sponge City Construction Opinions (Copy, the East Office of the [2016] No. 44)
8) Report to Provincial Government on Sponge City Project Process (PPT)
9) Sponge City Inspection Report (accessed on 02.07.2017)

3-2 List of Other Sources Related to the Mount Tai Case Study

1. Participatory Observation

1) Type of Source: direct observation of the Mount Tai Project office
2) Purpose: to observe stakeholders' behaviours and daily works, and to experience the

atmosphere of stakeholder discussions

3) Participants: members of the project office and the researcher as an intern
4) Time & Place: 1st August, 2018—28th September, 2018, mainly the meeting room and planning section of the Mount Tai Project office, attending the two regular meetings on 19th August, 2018 and 14th September, 2018 and observing several informal conversations between officials and staff from private sectors

2. Site Visits

2.1 Construction Site Visits

1) Type of Source: direct observation for the site
2) Purpose: to observe the Mount Tai construction areas accurately and to get documents
3) Attendant: directors and members of the project office responsible for the Mount Tai project
4) Time & Place: 7th, 15th, 22nd and 28th August, 2018, in and around the subproject areas

2.2 Subproject Office Visits

1) Type of Source: direct observation for the office and review the documents with other office members
2) Purpose: to observe the collaboration and cooperation between members on different administrative levels accurately and to get documents
3) Attendant: directors and members of the Tai'an project office and subproject office in Dongping, who are responsible for the Mount Tai project
4) Time & Place: 23rd August, 2018, in Dongping subproject office

3. Accessed Official Documents

1) Projecting documents (accessed on 03.06.2018)
2) Tai'an Municipal Government Office on Accelerating the Implementation of MTRLFFLGEPR Project Construction Opinions (Tai'an Municipal Government Office, 2018, No.30)
3) Special Plan of Tai'an MTRLFFLGEPR Project (accessed on 17.12. 2018)

4) Tai'an Municipal Government Office's Notice on Establishing the Collaborative Office in Tai'an MTRLFFLGEPR Project Delivery Process (Tai'an Municipal Government Office, 2018, No.48)
5) MTRLFFLGEPR PPP Project Implementation Plan
6) MTRLFFLGEPR PPP contracts (accessed on 03.08. 2018)
7) MTRLFFLGEPR Project Annual Performance Evaluation Form (accessed on 11.04. 2019).

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