



THE HONG KONG
POLYTECHNIC UNIVERSITY

香港理工大學

Pao Yue-kong Library

包玉剛圖書館

Copyright Undertaking

This thesis is protected by copyright, with all rights reserved.

By reading and using the thesis, the reader understands and agrees to the following terms:

1. The reader will abide by the rules and legal ordinances governing copyright regarding the use of the thesis.
2. The reader will use the thesis for the purpose of research or private study only and not for distribution or further reproduction or any other purpose.
3. The reader agrees to indemnify and hold the University harmless from and against any loss, damage, cost, liability or expenses arising from copyright infringement or unauthorized usage.

IMPORTANT

If you have reasons to believe that any materials in this thesis are deemed not suitable to be distributed in this form, or a copyright owner having difficulty with the material being included in our database, please contact lbsys@polyu.edu.hk providing details. The Library will look into your claim and consider taking remedial action upon receipt of the written requests.

**EFFECTIVE URBAN NIMBY CONFLICT
MANAGEMENT MODEL FROM THE
PERSPECTIVE OF PUBLIC PARTICIPATION
AND GOVERNMENT ROLE**

SUN LINLIN

PhD

The Hong Kong Polytechnic University

This programme is jointly offered by The Hong Kong
Polytechnic University and Tongji University

2019

The Hong Kong Polytechnic University

Department of Building and Real Estate

Tongji University

Department of Public Administration

**EFFECTIVE URBAN NIMBY CONFLICT
MANAGEMENT MODEL FROM THE
PERSPECTIVE OF PUBLIC PARTICIPATION
AND GOVERNMENT ROLE**

SUN Linlin

A thesis submitted in partial fulfilment of the requirements for the
degree of Doctor of Philosophy

December 2018

CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

_____ (Signed)

SUN Linlin _____ (Name of student)

ABSTRACT

Since NIMBY (not in my back yard) conflicts first appeared in the late 1960s in the United States, along with the civil rights movement, environmental protection, public administration reform, and urbanization and urban renewal in cities around the world, NIMBY has been a controversial issue in the field of urban governance. Although NIMBY conflict severely tests the sustainability management capacity of urban managers, few studies have explored effective urban NIMBY conflict management models in the policy process. This study aims to explore effective NIMBY conflict management model from the perspective of public participation and government role in the policy process. The research was conducted by using multiple case studies in Shanghai and Hong Kong to: (1) examine the major issues between the stakeholders in the NIMBY conflict management process; (2) investigate the impact of public participation and environmental information disclosure (EID) on the NIMBY conflict management process; (3) analyze the impact of government role in the NIMBY conflict management process; and (4) examine NIMBY conflict management model between local government and affected residents.

Single-case and multiple-case studies are research methods in this thesis. Data were collected including in-depth and semi-structured interviews, materials from the interviewed residents, government documents, official websites, newspapers and the

Internet. Qualitative data analysis including within-case analysis and cross-case analysis was used to analyze the collected data. The main findings of this study are as follows:

(1) Public participation, EIA (environmental impact assessment), information disclosure, and the role of local government are the main issues between the stakeholders in the NIMBY conflict management process. (2) Public participation and EID have both positive and negative impacts on the NIMBY conflict management process. (3) The role of government has both positive and negative impacts on the NIMBY conflict management process. (4) This study confirms the consensus mode, compromise mode, policy failure mode and lose-lose mode of NIMBY conflict management. This study shows that higher effectiveness of the government role and higher effectiveness of public participation (including EID) is a recipe for reaching a consensus for NIMBY conflict management at the policy decision and implementation stages. Higher effectiveness of government role and lower effectiveness of public participation (including EID) could get a compromise for NIMBY conflict management at the policy decision and implementation stages. Lower effectiveness of government role and higher effectiveness of public participation could impact policy decision but get a policy failure outcome. Lower effectiveness of government role and lower effectiveness of public participation led

to project delay or cancellation. The results indicate that a government-oriented management model could provide effective urban NIMBY conflict management in the policy process.

This thesis contributes to the body of relevant knowledge by providing a government-oriented urban NIMBY conflict management model at the policy decision and implementation stages for sustainable development in China. In addition, based on the two-dimensional matrix of government role and public participation, this research has contributed to knowledge by providing a conceptual framework to evaluate and analyze NIMBY cases in other places of China and elsewhere.

LIST OF PUBLICATIONS

Journal Papers (Published)

Sun, L., Zhu, D., & Chan, E. H. (2016). Public participation impact on environment NIMBY conflict and environmental conflict management: Comparative analysis in Shanghai and Hong Kong. *Land Use Policy*, 58, 208-217.

Sun, L., Yung, E. H., Chan, E. H., & Zhu, D. (2016). Issues of NIMBY conflict management from the perspective of stakeholders: A case study in Shanghai. *Habitat international*, 53, 133-141.

Sun, L., & Zhu, D. (2014). The Causes, Status Quo, and Response Strategies for Urban MIMBY Events and the Directions of Their Future Research [J]. *Public Administration and Policy Review*, 2. (In Chinese)

Journal Papers (Under Review or to be Submitted)

Sun, L., Zhu, D., & Chan, E. H. (2018). Government performance and NIMBY conflict resolution and its impact on public acceptance of NIMBY facilities: An energy NIMBY conflict case in Shanghai. *Land Use Policy*. (Major Revision)

Sun, L., Zhu, D., & Chan, E. H. (2018). How does environmental information disclosure impact NIMBY conflict management at the project planning and operating stages? *Land Use Policy*. (Major Revision)

Sun, L., Zhu, D., & Chan, E. H. (2018). How does the role of government impact NIMBY conflict management at the policy decision-making and implementation stages? *Policy and Society*. (To be Submitted)

Sun, L., Zhu, D., & Chan, E. H. (2018). Effective urban NIMBY conflict management model from the perspective of public participation and government role.

Cities. (To be Submitted)

ACKNOWLEDGEMENTS

I would like to thank all those who have inspired me throughout my doctoral journey.

I am especially grateful to those who helped me overcome key obstacles, thereby enabling me to reach the higher level of research necessary to complete this thesis.

I would first like to thank the 'Joint PhD Program Leading to Dual Awards' from The Hong Kong Polytechnic University (PolyU) and Tongji University, which provided me with the opportunity to get research training and to broaden my international horizon.

A very special thank you is due to my chief supervisor at PolyU, Professor Edwin Chan, for accepting me to be his PhD student. I am grateful to him for his wise advice that guided my logical thinking and for introducing me to sources for my Hong Kong interviews. He also helped by leading walks in the hills at weekends, which increased my understanding of Hong Kong's urban development. I am also extremely grateful to my chief supervisor at Tongji University, Professor Dajian Zhu, for his insight, guidance, training and support throughout my doctoral studies and the dissertation process. I also wish to thank the research team in Tongji University for introducing sources for the Shanghai interviews.

My appreciation is also extended to Dr. Esther Yung at PolyU for her patience and constructive advice, as well as to the neighbourhood residents, urban managers and experts involved in this study for their precious time and insights.

Additionally, I would like to thank the two external examiners for their precious time and constructive comments.

Last, but not least, I would like to thank my parents. I am grateful that they respected my choice to undertake the Joint PhD Program and have provided me with spiritual encouragement and material support without reservation. I feel blessed by to have such wonderful parents.

TABLE OF CONTENTS

ABSTRACT	I
LIST OF PUBLICATIONS	IV
ACKNOWLEDGEMENTS	VI
TABLE OF CONTENTS	VIII
LIST OF FIGURES	XII
LIST OF TABLES	XIV
CHAPTER 1 INTRODUCTION	1
1.1 Research background and justification for the research	1
1.2 Research aim, research objectives and significance	6
1.3 Research method	8
1.4 Limitations of the study	9
1.5 Research structure	10
CHAPTER 2 LITERATURE REVIEW	13
2.1 Introduction	13
2.2 Literature review of NIMBY conflict management studies.....	13

2.3 Research perspectives and theoretical basis for the study's research questions...	45
2.4 The study's research questions	63
2.5 Chapter summary	72
CHAPTER 3 RESEARCH METHODOLOGY	74
3.1 Introduction	74
3.2 Research design and research methodology	74
3.2.1 Research design.....	74
3.2.2 Research method	77
3.3 Theoretical hypotheses and theoretical frameworks	81
3.4 Case study	101
3.5 Data collection	133
3.6 Data analysis	139
3.7 Chapter summary	142
CHAPTER 4 MAJOR ISSUES BETWEEN STAKEHOLDERS IN THE NIMBY CONFLICT MANAGEMENT PROCESS	144
4.1 Introduction	144
4.2 The role of each stakeholder in the NIMBY conflict management process	144
4.3 Issues between local government and residents during the dynamic interaction	148

4.4 Issues between residents and the Shanghai Electronic Company	160
4.5 Findings summary	162
CHAPTER 5 THE IMPACT OF PUBLIC PARTICIPATION AND ENVIRONMENTAL INFORMATION DISCLOSURE ON NIMBY CONFLICT MANAGEMENT	165
5.1 Introduction	165
5.2 Public participation activities in the conflict management process	165
5.3 Environmental information disclosure in the conflict management process	187
5.4 Findings summary	198
CHAPTER 6 THE IMPACT OF GOVERNMENT ROLE ON THE NIMBY CONFLICT MANAGEMENT PROCESS	201
6.1 Introduction	201
6.2 The role of local government in the conflict management process	201
6.3 Findings summary	232
CHAPTER 7 NIMBY CONFLICT MANAGEMENT MODEL	236
7.1 Introduction	236
7.2 Findings of the NIMBY conflict management model based on government role and public participation	236
7.3 Findings summary	250

CHAPTER 8 DISCUSSION AND POLICY IMPLICATIONS.....	252
8.1 Introduction	252
8.2 Summary of findings in this thesis.....	252
8.3 Discussion and policy implications.....	255
8.5 Chapter summary	282
CHAPTER 9 CONCLUSION.....	284
9.1 Study purpose and summary of the major findings	284
9.2 Significance and implications of this study	289
9.3 Limits and recommendations for future research.....	292
Appendix I: Interview guide for urban NIMBY conflict management in Shanghai	295
References	298

LIST OF FIGURES

Figure 2. 1 Evolution and historical background of NIMBY studies in the United States, Europe, and China (Source: complied by the author based on NIMBY conflict management studies research)	26
Figure 2. 2 Effects of NIMBY facilities in Shanghai (Mao, 2014).....	28
Figure 2. 3 Relationship between planning, SEA and EIA for construction projects (Data sources: HKEPD, 2015)	38
Figure 3.1 Research process and research methodology for this study	77
Figure 3.2 Location map of the Hongyang substation and the Zhengwen Garden II community in Shanghai	114
Figure 3.3 Location maps of the Shanghai-Hangzhou Maglev Shanghai Airport Connection Line Planning and Route Selection in Shanghai.....	115
Figure 3.4 Location map of the Jiangqiao Waste Incineration Plant, Yangguang Weinisi community and the Zhenjian Community in Shanghai	120
Figure 3.5 Electronic screen of flue gas emission data of Jiangqiao Waste Incineration Plant (photographed by the author of this thesis)	121
Figure 3.6 Location map of the proposed Yangpu substation and the Tongji Beiyuan community in Shanghai	125

Figure 3.7 Location maps of the SENT Landfill, the SENT Landfill Extension, and the LOHAS Park community in Hong Kong.	130
Figure 7. 1 Government-oriented NIMBY conflict management model and the management outcomes	246
Figure 7. 2 Comprehensive positive impact of public participation, EID, and government role on the NIMBY conflict management process in each case	247
Figure 8. 1 NIMBY conflict management model based on policy processes	277
Figure 8. 2 Analysis of the sustainability impacts of NIMBY projects in the selected cases from the perspective of project life cycle	278
Figure 8. 3 NIMBY conflict management modes based on the scores of common issues or shared key interests between government and public	280

LIST OF TABLES

Table 2.1 Statistical analysis results of NIMBY conflicts types.....	30
Table 2.2 Theoretical basis of each research question and related chapter of empirical study of each research question in this study.....	62
Table 3. 1 Research objectives, research method, data collection, and data analysis	79
Table 3. 2 Framework for analyzing the impact of public participation and EID on the project planning and operating stages	91
Table 3. 3 Framework for analyzing the impact of government role from a policy process perspective.....	97
Table 3. 4 Governance classification based on approaches to state-society relations (Sellers, 2011)	98
Table 3. 5 State classification based on democracy and governance (Zhu, 2011).....	99
Table 3. 6 Scenarios for different modes of governance and their impact on sustainable development policy outcomes (Evans et al., 2005).....	100
Table 3. 7 Framework for analyzing the NIMBY conflict management model	101
Table 3. 8 NIMBY conflicts caused by substations in the last decade in Shanghai	107
Table 3. 9 Backgrounds of interviewees in Shanghai	135
Table 3. 10 Background of Interviewees in Hong Kong	137

Table 4. 1 Process of the Hongyang substation NIMBY conflict between Zhengwen Garden II residents, government, and Shanghai Electric Company	146
Table 4. 2 Classification of major issues between the stakeholders in the NIMBY conflict management process	163
Table 7. 1 NIMBY conflict management mode related to the selected cases of this study	237
Table 8. 1 NIMBY conflict management modes based on the common issues or shared key interests between government and public	278

CHAPTER 1 INTRODUCTION

1.1 Research background and justification for the research

Since NIMBY (an acronym for the phrase ‘Not In My Back Yard’) conflicts first appeared in the late 1960s in the United States, along with the civil rights movement, environmental protection, public administration reform, urbanization and urban renewal in cities around the world, the NIMBY phenomenon has been a controversial issue in the field of urban governance.

NIMBY conflict refers to local residents’ protesting the siting of some unwelcome public facilities near where they live (Dear, 1992). These unwelcome facilities are known academically as NIMBY facilities. There are three main kinds of NIMBY conflict: 1) environmental NIMBY conflicts with more environmental impact than other impacts caused by waste treatment facilities (such as landfills, incinerators); 2) economic NIMBY conflicts with more economic impact than other impacts caused by energy facilities (such as substations, power plants) and public transportation projects (such as airports, highways); and 3) social NIMBY conflicts with more social impact than other impacts caused by social service facilities (such as hospitals, shelters). NIMBY facilities may have negative environmental, health, safety, economic, and social impacts on nearby communities, but are seen to benefit the wider public (Lake, 1993; Inhaber, 1998).

NIMBY conflicts severely test the sustainability management capabilities of urban managers. Based on the perspective of sustainable development, NIMBY conflicts reflect problems between social sustainability, environmental sustainability and economic sustainability. Urban NIMBY conflicts challenge sustainable urban development and sustainable community development. Since it was first defined in the Brundtland Report, “Our Common Future”, studies of sustainable development, which describe the interrelation between the economic, environmental and social dimensions of sustainability, have evolved from the parallel model (economic, social, and environmental systems are in a parallel relationship), the intersecting model (economic, social, and environmental systems are intersected, and the whole development is the synthesis of three aspects), to the including model (the economy is embedded in the society and the society is embedded in the environment). Sustainable economist Raworth (2017) provided the doughnut model, which can be seen as a deep study on the including model of sustainable development. The model emphasizes that between the social foundation and the environmental ceiling lies an environmentally safe and socially just space in which humanity can thrive. Sustainable development has been a strategic aim of countries to cities and cities to communities. In 2015, many countries adopted the 2030 Agenda for Sustainable Development, which included 17 Sustainable Development Goals (SDGs) (U.N., 2015); sustainable cities and communities is one of the goals. The

adoption of the New Urban Agenda (NUA) on 20 October 2016, and the coming into force of the Paris Agreement on Climate Change two weeks later, on 4 November 2016, are a strong first step toward the immediate implementation of Agenda 2030 for Sustainable Development, in urban-related and climate change related matters (Mayr et al., 2017). Cities have played a key role in economic growth and increasing populations (UNCHS, 1996; Habitat, U.N., 2016). The NUA has argued that well-planned and well-managed urbanization can be a powerful tool for sustainable development in both developing and developed countries (Habitat, U.N., 2016). Farr (2013) argued that NIMBY group should take more social and environmental responsibilities for urban sustainable community development.

Although some scholars state that public protest against NIMBY facilities are emotional, selfish and irrational (Smith and Desvousges, 1986; Mazmanian and Morell, 1990; Brion, 1991; Kraft and Clary, 1991), others maintain that the public are smart and rational and that not only can they identify the issues of the NIMBY facility, but they can also convey environmental, health and safety concerns related to the NIMBY facility to the technical experts (Matheny and Williams, 1985; Gregory et al., 1991; Altshuler and Luberoff, 2004; Porumbescu, 2015; Zheng et al., 2015). However, since public protests often lead to projects being delayed or cancelled, urban economists have been critical of the NIMBY movement. Glaeser (2011) argued that urban NIMBYism hiding under the cover of preservationism, takes someone else's rights and blocks urban public interest development. Florida (2017) argued that urban landlords and homeowners are

the biggest winners of NIMBYism, since by restricting what is built keeps the prices of their own real estate holdings high and allows them to share the economic output from the city. In addition, NIMBYism holds back the construction of public infrastructures, which restricts urban innovation and hinders urban economic development.

Public participation, EIA, information disclosure and government roles have been studied as strategies for NIMBY conflict management (Lam and Brown, 1997; Takahashi, 1997; McAvoy, 1999; Cowan, 2003; Tang et al., 2005; Lam et al., 2007; Johnson, 2011; Zhang et al., 2011; Zheng, 2011; Huang, 2012; Chen and Li, 2016).

The term 'not in my back yard' and the associated acronym of NIMBY were first proposed by British journalist Emilie Travel Livezey who reported on residents of a community in the United States protesting a nearby chemical waste plant in 1980 (O'Hare, 1977). NIMBY conflicts, particular those involving substations and waste incinerators, have increasingly occurred in Chinese cities since 2007 and have caught the attention of the Chinese media, experts and the public. In addition, private projects such as the PX (Para-xylene) projects, have frequently led to NIMBY conflicts in Chinese cities; these have become NIMBY conflicts with Chinese characteristics. China aims to reach 70% urbanization by 2030. Leung (2016) argued that compared with the past three decades, urban conflicts of interest will increasingly occur in urban renewal and urban redevelopment areas in China. Zhu (2011) argued that NIMBY conflicts in China would occur more frequently in the next decade.

NIMBY conflicts in China are now in the situation of “construct-protest-cancel”. The public are informed of the NIMBY facility siting before it is to be

built, which causes public street protests. In order to maintain social stability, the local government has to delay or cancel construction of the NIMBY facility.

NIMBY conflicts in China occur in the process of urbanization, affecting both China's urbanization development strategy and sustainable urban development strategy. Cities are facing rapid urban development, economic and demographic growth, climate change impacts, over-utilization of resources, and a variety of development challenges (ICLEL, 2017). At the end of 2017, China's resident population urbanization reached 58.5% (StatsPRC, 2018). The aim of China is to reach 70% of urbanization by 2030. In 2014, China adopted the National New Urbanization Plan for the next five years (2014-2020) (NDRCPRC, 2014). While some cities are still expanding their land for development, some fast-developing cities have already entered the development stage with reserved land rather than increasing new land use. Large populations entering into cities require urban infrastructure, municipal engineering and public service facilities. Based on the ideal of compact urban development, it is inevitable to increase the density of urban population and the requirements for scale systems such as infrastructures, municipal engineering projects and public service facilities. In the past, China's urban development was mainly economically oriented. Since at present urban development is sustainable development oriented, it needs to balance the relationship between environment, economy and society.

NIMBY conflicts have challenged China's urban government's social management capacity and smart management capacity (Zhu, 2011; Zhu, 2016a). The effectiveness of urban NIMBY conflict management can be used as an indicator for evaluating whether a city has transformed from economic oriented to people-managed. One of the decisions of the Central Committee of the

Communist Party of China with regard to comprehensively deepening the reform of some major issues was that: “Innovative social governance must focus on safeguarding the fundamental interests of the overwhelming majority of the people, maximizing the factors of harmony, enhancing the vitality of social development, improving social governance level, comprehensively promoting the construction of a safe China, safeguarding national security, ensuring peoples' quality of life, social stability, and maintaining an orderly society" (Third Plenary Session of the 18th Central Committee of the Communist Party of China, 2013). How to coordinate the interests of the whole city and the interests of the minority through urban space is a problem that urban managers need to resolve. The National New Urbanization Planning (2014-2020) promulgated in 2014 also mentioned “strengthen and train a group of expert-type urban officials to improve the level of urban management”.

However, compared with developed countries, there is a lack of systematic urban NIMBY conflict management model in China. Based on different academic backgrounds, scholars analyze how to address urban NIMBY conflicts from different perspectives (He, 2006; Johnson, 2009; Zheng, 2009; Li, 2016). However, few studies have explored effective urban NIMBY conflict management models, in particular those based on in-depth and multiple-case empirical studies (Johnson, 2009; Li, 2016).

1.2 Research aim, research objectives and significance

This study aims to explore effective urban NIMBY conflict management model from the perspective of public participation and the role of government. The research objectives and significance are as follows:

(1) To identify the issues between local government, affected residents and project developers in NIMBY conflict management. On one hand, the study fills the research gap of investigating the issues between local government, affected residents and project developer in NIMBY conflict management. On the other hand, it provides grounds for further study on the causes of NIMBY conflicts.

(2) To examine the impact of public participation and EID on NIMBY conflict management from the perspective of the project planning and operating stages. On one hand, the study fills a research gap by providing empirical evidence for the effectiveness of public participation and EID impact on NIMBY conflict management. On the other hand, based on NIMBY conflict knowledge from the Western experience, the study provides policy suggestions for tackling the problems of public participation and EID in China's urban NIMBY conflict management.

(3) To investigate the impact of government's role on NIMBY conflict management during the policy decision and implementation stages based on the relationship between policy process and public management. On one hand, the study fills a research gap by providing empirical evidence for the effectiveness and impact of government's role in NIMBY conflict management during the policy decision and implementation stages. On the other hand, the study provides policy suggestions for the managers of cities in China, and other cities with a similar context, with regard to NIMBY conflict management.

(4) To explore an urban NIMBY conflict management model from the perspective of public participation and the government's role. On one hand, this study fills a research gap by providing empirical evidence for identifying an urban NIMBY conflict management model from the perspective of public participation and the role of government. On the other hand, this study provides a conceptual framework to evaluate and analyze NIMBY cases in other places of China and elsewhere.

In summary, by investigating urban NIMBY conflict management model from the perspective of public participation and government role, this study provides empirical evidence for urban NIMBY conflict management model in Chinese cities for sustainable development. It also provides a conceptual framework to evaluate and analyze NIMBY cases in other places of China and elsewhere.

1.3 Research method

Case study method, including single case study method and multiple-case study method was used to examine urban NIMBY conflict management model from the perspective of public participation and government role. The research method for each research question was as follows.

Single case study method was chosen to examine issues between the stakeholders in the NIMBY conflict management process. The data sources include government documents, materials from the residents, newspapers,

Internet and in-depth interviews. Qualitative analysis of data received from the interview was conducted following the standard techniques of summarizing, coding, and pattern searching.

The multiple-case study method was chosen to examine the effectiveness of public participation, EID and the role of government on the NIMBY conflict management process and the NIMBY conflict management model. Besides semi-structured interviews, data were also collected from interviewed residents, government documents, official websites, newspapers, and the Internet (Internet media, Internet forums, weibo, and blogs). Multiple-case qualitative analysis of data was conducted following the combination of the variable-oriented approach and the case-oriented approach.

1.4 Limitations of the study

There are three delimitations in this study. First, despite the fact that NIMBY conflict is a topic of interest to many disciplines, including environmental science, geography, psychology, politics, sociology, urban planning and economics, this thesis is from the standpoint of public administration and urban studies. In addition, although it is possible that NIMBY conflicts also occur in rural areas, this study focuses on urban NIMBY conflict.

Second, subjects related to NIMBY conflict are local government, project developer, affected residents, scholars and experts. Local government is the main

urban manager. Project developer is the constructor of the NIMBY project; perhaps the investor and operator of the NIMBY project. The nearby residents are the main protest public and affected residents by the NIMBY facility. Experts and scholars are the think tank. For preventing and resolving urban NIMBY conflicts, this study focuses on conflict management and approaches for reaching a consensus or compromise between the stakeholders.

Third, although there are mainly three types of NIMBY conflicts, this study focuses on economic NIMBY conflicts caused by energy NIMBY facilities (500kV substations and 220kV substations) and transportation NIMBY projects (maglev transportation infrastructure), and environmental NIMBY conflicts caused by waste treatment facilities (landfills and incinerators).

1.5 Research structure

This thesis is divided into eight chapters for exploring effective urban NIMBY conflict management model: Chapter 1 an overview of the study, Chapter 2 is the literature review, Chapter 3 is the research methodology, Chapters 4 to 8 provide details of the empirical studies, and Chapter 9 is the conclusion.

Chapter 1 introduces the research background, provides justifications for the research, explains the research aim, research objectives, significance of the research, research method, delimitations of this study, and finally describes the structure of the thesis.

Chapter 2 reviews the literature related to NIMBY conflict management studies, provides the theoretical basis and theoretical frameworks for the research questions, indicates the research questions for the research aim, and finally proposes the conceptual framework for the research.

Chapter 3 elaborates upon the study's research methodology. The chapter introduces research design and research methods, theoretical hypotheses and theoretical frameworks, case study methods, and illustrates data collection and data analysis. The chapter highlights the single case study method, the multiple-case study method, the background of the selected five cases, and the background of the NIMBY conflicts in Shanghai and Hong Kong; the semi-structured interviews are also explained. In the data analysis part, the with-in analysis technique and the cross-case analysis technique are highlighted.

Chapter 4 analyzes the issues between the stakeholders in NIMBY conflicts through a substation NIMBY conflict case study in Shanghai. Specifically, it analyzes the issues between local government, affected residents and project developers.

Chapter 5 examines the impact of public participation and environmental information disclosure on NIMBY conflict management through multiple-case studies in Shanghai and Hong Kong. The chapter analyzes key stakeholders, the degree of participation, participation approach and participation time, the

disclosed EIA report and EIA procedures of EID impact on NIMBY conflict management.

Chapter 6 examines the impact of government role on NIMBY conflict management through multiple-case studies in Shanghai and Hong Kong. This chapter analyzes the impact of government role on the NIMBY conflict management process from the aspects of policy aim, government administrative processes and administrative procedures, government responses, government role as an organizer, a coordinator and a leader in the NIMBY conflict management process, and policy space and policy stage.

Chapter 7 summarizes the results from urban NIMBY conflict management model. The chapter presents analyzes of urban NIMBY conflict management model based on the two-dimensional matrix of public participation and government role, and summarize the study's findings.

Chapter 8 presents discussion and policy implications for NIMBY conflict management. Based on the summary of findings in this thesis, policy recommendations are provided for effective urban NIMBY conflict management.

Chapter 9 summarizes the main findings of the study, indicating its significance and implications, limitations and recommendations for future research.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

From the research background presented in the previous chapter, it is apparent that NIMBY conflict management has become a severe challenge for urban managers. Based on a review of the literature on NIMBY conflict management, this chapter provides the theoretical basis necessary for answering the research questions related to effective NIMBY conflict management model. By reviewing the literature related to NIMBY conflict management studies, research gaps are established for exploring effective NIMBY conflict management.

2.2 Literature review of NIMBY conflict management studies

This section provides an overview of the evolution and the historical background of NIMBY conflict management studies. It reviews the types of NIMBY conflict, the impact of public participation, the effects of EIA and information disclosure on NIMBY conflict management, and the impact of the government role in NIMBY conflict management in Mainland China and Hong Kong.

2.2.1 Evolution and historical background of NIMBY conflict management studies

NIMBY conflict studies have experienced three stages of development, from environmental protection, to social impacts, and then to sustainable development.

First stage: Studies on the technology-oriented environmental impact of NIMBY facilities

Because of suburban sprawl in the late 1960s and early 1970s, NIMBY conflicts firstly occurred in suburban areas in the United States (Rome, 2001; Altshuler and Luberoff, 2004). The economic development of NIMBY facilities led to environmental problems, such as ecological damage, environmental pollution, and negative health effects on nearby residents (Rome, 2001; Altshuler and Luberoff, 2004). At that time, academics in the field of environmental science mainly focused on assessment of the environmental impact of the NIMBY facility. Academics have argued that environmental impact assessment should be included as a part of NIMBY facility siting planning (Carmichael et al., 2012; Johnson, 2013; Naddeo et al., 2013; Daniels, 2008). However, few studies have examined the social impact of NIMBY facilities at this stage (Kraft and Clary, 1991; Dear, 1992; Hunter and Leyden, 1995).

There is an important relationship between NIMBYism and the environmental protection movement. Environmentalism is concerned with the relationship between society and nature (Pepper, 1996) and argues that human beings should protect the natural environment especially natural resources from destruction or pollution (Michaud et al., 2008). Environmental degradation caused by overuse of renewable resources and pollution result in the impoverishment of living space, which leads to environmental conflict (Libiszewski, 1991). Environmental conflict emphasizes environmental concerns for human beings. Burningham et

al. (2006) separated environmentalism from NIMBYism, with the latter being seen as selfish and irrational localized opposition to proposed development projects. Johnson (2010) judged NIMBY conflict and environmental conflict from the criteria of self-interest and environmental concerns for human beings. The political, social, economic, ethnic, religious or territorial conflicts, or conflicts over resources or national interests are the output from environmental degradation. However, in NIMBY conflicts, environmental concerns are for self-interest and are one of the causes leading to NIMBY conflict; environment conflict may lead to NIMBY conflict. Public protests caused by public environmental concerns for NIMBY facilities are defined as environmental NIMBY conflict (Sun et al., 2016a).

Environmental NIMBY conflict occurred against the background of the environmental protection movement. After World War II, in order to promote economic growth, the United States government implemented suburban sprawl and urban public project investment strategies. However, a large number of suburban house construction caused serious damage to the natural resources of local areas, and at the same time simple sewage discharge from houses caused serious water pollution (Rome, 2001). Moreover, highway construction, hazardous waste dumps, the local nuclear power plant, and exposures to toxic chemicals also caused environmental problems (Altshuler and Luberoff, 2003; Speth, 2007).

In his 2001 book *The Bulldozer in the Countryside*, Rome (2001) highlighted the relationship between the development of suburban housing and the rise of the environmental protection movement in the United States from 1945 to 1970. He argued that the environmental critique of suburban housing construction between 1945 and 1970 played an important role in the rise of American environmentalism.

In their book *Mega Projects* of 2001, Altshuler and Luberoff analyzed the political transition process of NIMBY conflicts and stakeholders' interactions caused by highway constructions, new airport constructions and old airports extensions, and urban rail transit projects between the 1950s and 1970s.

The time from 1960s to 1970s was a period of high frequency of urban environmental NIMBY conflicts in the United States. After World War II, as Americans became increasingly wealthy, secure, and optimistic, they started to care more about problems such as air and water pollution and the protection of the wilderness and open spaces. In addition, there was a rising demand for environmental amenity (Speth, 2007; Nordhaus and Shellenberger, 2007).

Urban environmental history scholars named the rise of environmentalism from 1962 to 1972 as the old environmentalist period. The increase in environmental protection campaigns plays an important role in environmental protection. In 1962, Carson's "Silent Spring" marked the beginning of the environmental protection movement. A series of environmental problems

emerged, which led to the adoption of the National Environmental Policy Act by the United States Congress in December 1969. This law imposes environmental constraints on the environmental impact of development projects from the highest government and legal levels in the United States. The first Earth day was in 1970, in 1972 the United Nations Conference on the Human Environment was held in Stockholm, and in the same year, the United Nations Environment Programme was launched. Since then, environmental NIMBY conflicts have entered the realm of good governance.

Second stage: studies on public motivations and behaviors on public acceptance of NIMBY facilities

At the second stage, from the 1970s to the 1990s, NIMBY studies mainly highlighted the social impact of NIMBY facilities, particularly focused on the impact of public motivations and behaviors on public acceptance of NIMBY facilities. From the perspective of urban planning, Dear (1992) argued that the attitude of the affected residents towards the NIMBY facility should be seen as a research objective, and thus indicated a direction for NIMBY conflict studies. Subsequently, there has been a plethora of research on the motivation and behavior of those who protest NIMBY facilities. Related studies are mainly based on social psychology theory and risk management theory.

There are three main stages in the studies of motivation and behavior of those who protest against NIMBY facilities.

(1) In the initial research phase of NIMBY conflicts, some scholars maintain that the public protests were because of their perception of risk, and because they are emotional, selfish and irrational (Smith and Desvousges, 1986; Mazmanian and Morell, 1990; Brion, 1991; Kraft and Clary, 1991). From the perspective of social psychology, He and Chen (2012) argued that the public's cognitive construction of NIMBY facilities is the main motivation for the public to protest. Huang (2012) argued that the public's psychological attitude is the main reason leading to conflicts.

Public risk perceptions of NIMBY facilities affect public acceptance of NIMBY facilities (Hunter and Leyden, 1995; Hampton, 1996). One character of the NIMBY syndrome is LULU (local unwanted land use). Chiou et al. (2011) stated that LULU comes about because the experts, public officials and host community have different values and motivation for the NIMBY facility. LULU is named for the involuntary negative externalities of the affected residents (Quah and Tan, 2002). Such negative externalities include environmental, health, safety, and economic impacts (Kunreuther et al., 1996; Takahashi, 1997; Lee and Lam, 1998; Chiou, 2005). Among these negative externalities, the public in Hong Kong is more concerned about the impacts on their living environment and health (CEPRM, 2007a). This finding is similar to the study of public concerns over a waste treatment NIMBY facility in Japan (Rahardyan et al., 2004). However, there are some differences in the order of public perception of NIMBY

facility risks in Taiwan where the descending order of public risk perception is, asset devaluation, health impact and fear of incinerators and nuclear power plants reducing land productivity (Fung et al., 2011). Chiou (2005) observed that public risk perception of power plants and waste incinerators in Taiwan is mainly about real estate depreciation, followed by health risks, and safety risks.

(2) However in the second phase of NIMBY conflicts studies, other researchers maintain that the public is smart and rational so that they not only indicate the issues of the NIMBY facility, but can also provide the environmental, health and safety concerns of the NIMBY facility to the technical experts of the facility (Matheny and Williams, 1985; Gregory et al., 1991; Altshuler and Luberoff, 2004; Porumbescu, 2015; Zheng et al., 2015). With regard to the second phase of NIMBY conflict studies, Wolsink (2007a, 2007b) stated that public opposition towards a NIMBY facility is not motivated by selfishness but the feeling of inequity and unfairness. Woo (2010) argued that trust and unfairness cause public opposition towards NIMBY facility siting in Hong Kong. The public are hindered rationally because transparent information for public consumption is limited. Porumbescu (2015) argued that the transparent information should include the substantive and accurate information the public required, rather than how much information is disclosed. Zhang and Tong (2013) argued that the public's economic rationality, scientific rationality and value rationality lead to different public reaction to a NIMBY facility.

(3) In the third phase of NIMBY conflicts studies, scholars have criticized the public for being selfish (Altshuler and Luberoff, 2004; Nordhaus and Shellenberger, 2007; Glaeser, 2011; Florida, 2017). However, there are two explanations for the selfishness of the public. One viewpoint argues that the public are selfish supporters who take responsibility for the project's technical organization; they say the public are selfish to support the smooth implementation of the project (Altshuler and Luberoff, 2004). The other explanation for a selfish public is that whatever the location, good or bad, there will always be NIMBY protests, which has blocked urban development (Nordhaus and Shellenberger, 2007; Glaeser, 2012; Florida, 2017).

Third stage: integration of sustainability impacts and governance

Since 1990, urban renewal has been implemented based on the ideal of New Urbanism and Smart Growth. In recent years, NIMBYism has resulted in a negative economic impact. Some scholars have criticized NIMBY conflicts for having hindered urban economic development under the guise of old environmentalism, so that whether a proposed local development project is good or bad, it would always be opposed by the NIMBY people (Nordhaus and Shellenberger, 2007; Glaeser, 2011; Calthorpe, 2010; Florida, 2017). Although the old conservative environmentalism plays a key role in environmental protection (Rome, 2001), it cannot balance environment and development. Sustainable development, which highlights socially, environmentally and

economically sustainable development, was established in United Nations Conference on Environment and Development (UNCED) at Rio in 1992. The new environmentalism emphasizes the meaning of sustainable development.

Due to unprecedented suburban sprawl after the Second World War, car-led suburban development in North America with low-density housing has brought traffic congestion, air pollution, land waste, inner city destruction, and weak neighborhoods. In the late 1970s, in order to bring industry, commerce and residents back to the city, cities in North America began to renovate their downtown areas. Since the 1980s, New Urbanism of high density, mixed land use, traditional neighborhoods, and low-cost housing, has been produced (Leung, 2008). But at the same time, new types of NIMBY facilities came about. Social service facilities, for example housing for poor, elderly or disadvantaged groups, started to cause NIMBY conflict. There are also NIMBYs against migrants who settle near their homes and resistance to new developments to protect their existing living places (Dear, 1992; Lake, 1993; Farr, 2013).

From the old environmentalism of conservatives to governance for new environmentalism, Nordhaus and Shellenberger (2007) argued that hiding under the cover of preservationism, NIMBY is both conservative and undemocratic. NIMBY is conservative to protest under the old environmentalism and is considered privileged because of living near the siting location. It is undemocratic to protect self-interest beyond the public interest. New

environmentalism focuses on how green contributes to economic growth. Although old environmentalism plays an important role in environmental protection, old environmentalism has a tendency to believe that both environment and development cannot be combined. Although the old environmentalism emphasizes the red line of growth, it argues that natural capital is completely irreplaceable and emphasizes the first environmental reductionism of the earth. Moreover, the old environmentalism argues for doing things right with technical reforms, but the effect of environmental governance is only partially improved, and the overall environment is deteriorating. The new environmentalism trend emerged in the 1980s and 1990s. The forerunners of the 1980s began to explore the integration of the environment and development. In 1987 the United Nations established the World Commission on Environment and Development. In 1992 the United Nations Conference on Environment and Development established the principle of sustainable development, and new environmentalists argued over its meaning. Twenty years later, in 2012, the United Nations Conference on Sustainable Development (Rio+20) launched a process to develop a set of Sustainable Development Goals (SDGs), and in 2015 adopted the 2030 Agenda for Sustainable Development. The Agenda includes 17 SDGs (U.N., 2015) with sustainable cities and communities being one of them. Rio+20 and the SDGs emphasize governance for sustainable development.

The purpose of public participation has changed. In the late 1960s, NIMBY conflicts came about as a result of environmental damage and pollution caused by the large number of houses being constructed in urban suburbs (Altshuler and Luberoff, 2004). For decades in the United States, the participation of nearby residents and environmental protection organizations have played an important role in the development of urban NIMBY projects (Altshuler and Luberoff, 2004). However, in recent years, environmental protection organizations, community organizations, and residents nearby NIMBY facilities have participated in project planning decision-making, making the pursuit of self-interests beyond the whole city's public interests (Florida, 2017). Leung (2008) argued that in the United States public participation in planning decisions is for freedom and self-interest. The result of public participation in North America encourages stakeholders to blame each other and invade each other, which stimulates the ugly side of humanity.

In recent years, because of the development of clean energy projects, European countries have mainly studied public acceptance of renewable energy facilities (Wolsink, 2000; 2007a; 2007b). American urban economists have criticized the culture of NIMBYism's self-interest. In his book *Triumph of the City*, Glaeser (2011) argues that there are status quo bias and impact bias behind the popularity of NIMBYism. Since the public have strong attachments to the current state of affairs, they hold status quo bias. At the same time, since people overestimate the impact that a negative shock will have on their happiness, they hold strong impact bias. In his book *The New Urban Crisis*, Florida (2017)

criticizes NIMBYism as coming from urban landlords and homeowners who are some of re-urbanization's biggest winners. They restrict what is built and in doing so keep the prices of their own real estate holdings high and share the economic output from the city, but damage the whole city's economic development. Calthorpe (2010) argued that in the early 1990s New Urbanism, with its proposals for alternative forms of growth, and NIMBYs with their desire to stop any and all growth near them, seemed to emerge at the same moment and have been battling ever since. Because of NIMBY conflicts, New York City began to dump and burn waste out of the city in 2001. However, in recent years the economic cost of long-distance transportation of domestic waste in New York City has been increasingly higher (Bloomberg and Pope, 2017). In summary, there are three stages in the study of NIMBY conflicts. Based on the evolution and historical background of NIMBY studies, it is found that the emergence of NIMBY conflicts in the first stage is mainly due to the development of suburbs where the economic development of NIMBY projects led to environmental problems. This stage therefore emphasizes research on the environmental impact of NIMBY projects. However, the technology-oriented environmental impact assessment of NIMBY facilities ignores the nearby residents' interests. NIMBY conflict studies then enter the second stage, which mainly emphasizes research on the social impact of NIMBY facilities. At the third stage, with urban renewal under the ideal of New Urbanism, NIMBY conflicts begin to hinder urban economic development.

Present research on urban NIMBY conflict therefore needs to integrate sustainability impacts and innovative governance tools. Urban NIMBY conflict studies need creative governance for sustainable development. Specifically, it is

necessary to balance the environmental, social and economic impacts of NIMBY projects, the innovation of government management capacities based on policy processes, and the coordination of the interests/values of stakeholders. In particular, management innovation is necessary to coordinate environmentally friendly actions and minimize negative social impacts and economic growth. At present, the research on NIMBY conflicts is in the third stage with further research sorely needed.

This study of urban NIMBY conflicts in China is significant since China is still in the process of urbanization. There is just over a decade before China realizes its goal of reaching 70% urbanization by 2030. However, there are simultaneous appearances of environmental problems, public participation problems, siting planning problems, and government role problems of NIMBY conflict management in China. Moreover, NIMBY conflicts are increasingly occurring in China city centers. The status quo of NIMBY conflict issues provides an opportunity for cities in China to strive for the leap-forward improvement for urban NIMBY conflict management, aiming for environmentally friendly, environmental information disclosure, minimal social negative impacts, positive government roles, and effective NIMBY conflict management. In the process of China's urbanization for sustainable development, it can reduce the obstacles that developed countries have had in urbanization and urban renewal.

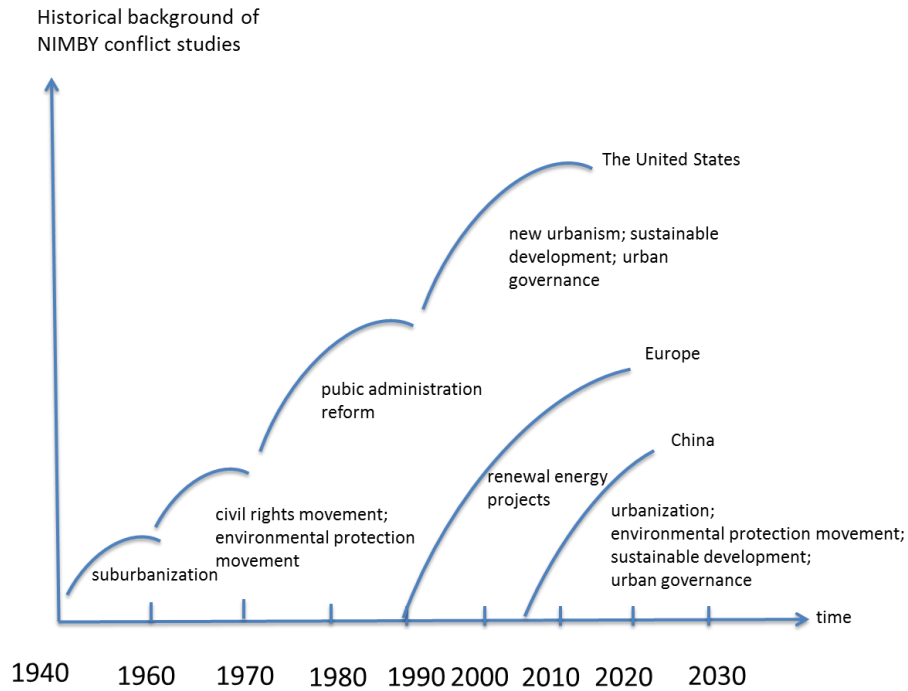


Figure 2. 1 Evolution and historical background of NIMBY studies in the United States, Europe, and China (Source: compiled by the author based on NIMBY conflict management studies research)

After overviewing related literatures of NIMBY conflict management studies, next subsection will review the kinds of NIMBY conflicts.

2.2.2 Kinds of NIMBY conflicts

As early as the late 1960s, NIMBY conflicts began to appear in the suburbs of American cities (Altshuler and Luberoff, 2004). The initial NIMBY conflicts were mainly caused by environmental problems. Public protest caused by NIMBY facilities such as airport projects (Altshuler and Luberoff, 2004), nuclear power plant projects (Lesbirel, 1998), waste incineration and landfill projects (Walsh, Warland, and Smith, 1993; Lober and Green, 1994). Later human service facilities (Takahashi, 1997) and prisons (Dear, 1992; Courtright et al., 2010) also led to public protests. Recently in the United States there is a trend that NIMBYism seems to oppose every public facility in their back yard. Glaeser

(2011) exemplified that NIMBYism opposed a contemporary art museum near their houses. In recent years, because of the development of clean energy projects, European countries have mainly studied public acceptance of renewable energy facilities (Wolsink, 2000; 2007a; 2007b).

Scholars have classified NIMBY facilities according to different research objectives. Takahashi (1997) divides NIMBY facilities into welfare facilities and environmental facilities from the perspective of facility function. From the perspective of sustainable development, Zhu (2011) divides NIMBY facilities into energy NIMBY facilities, waste NIMBY facilities, and social NIMBY facilities. According to the degree of nearby residents' feelings towards a NIMBY facility, Lee and Lam (1998) divided NIMBY effects caused by a NIMBY facility into: light NIMBY effects (such as schools, stations, medical centers), moderate NIMBY effects (such as nursing homes, mentally handicapped centers) and high-level NIMBY effects (funeral grounds, waste incineration plants, nuclear power projects, substations). Based on the degree of pollution to the environment, Li (2009) divided NIMBY facilities into polluting facilities, uncomfortable facilities, disgusting facilities, high-risk facilities, and NIMBY facilities. According to the scale and grade dimension and the hazard and risk dimension, Tao and Tong (2010) divided NIMBY facilities into polluting facilities caused by wind direction clustering effects, stigmatization facilities, and psychologically discomfort facilities. Sun and Zhu (2014) argued that since the public has different risk perceptions of different NIMBY facilities, the NIMBY effect is different.

According to the “Shanghai Municipal Technical Guidelines for Controlled Detailed Planning” issued by the Shanghai Municipal Planning, Land and

Resources Administration in 2011¹, Mao (2014) classified public facilities that may lead to NIMBY conflicts, and investigated public perceptions of these facilities. Mao found that gas pressure regulating stations, substations, high-voltage lines, sewage treatment plants, mental hospitals, chemical plants, PX projects, waste incineration plants, funeral parlors, and detention centers are public facilities with high NIMBY effects.

Figure 2.2 shows that, according to the facility function, NIMBY facilities mainly include urban infrastructures, municipal engineering projects, public service facilities, and PX projects. PX projects are NIMBY projects with Chinese characteristics. NIMBY facilities have different NIMBY effects on the public.

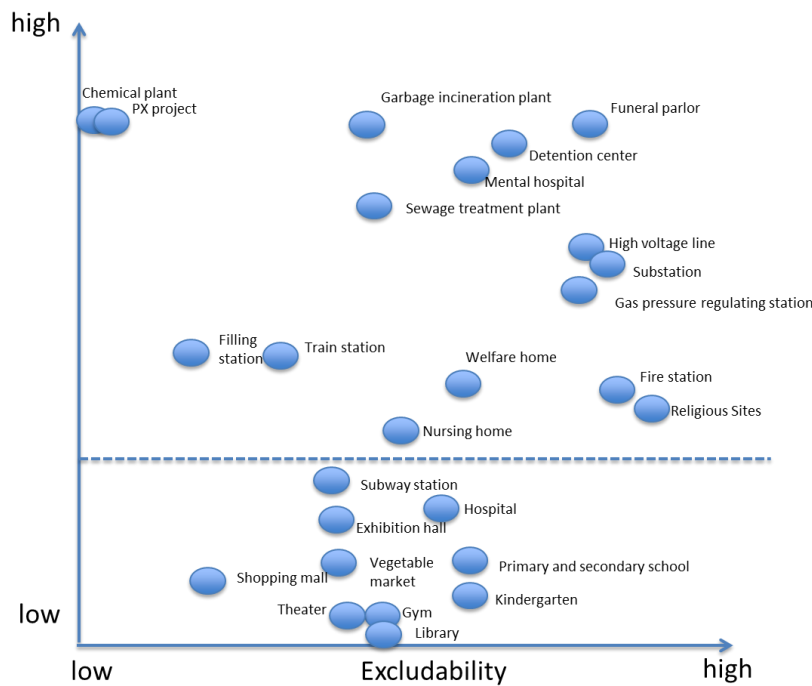


Figure 2. 2 Effects of NIMBY facilities in Shanghai (Mao, 2014)

¹ Shanghai Controlled Detailed Planning Technical Guidelines (2016 Revision), http://www.shgtj.gov.cn/zcfg/ghbz/201701/t20170111_707084.html, accessed on May 10, 2018.

Previous studies have divided NIMBY facilities based on their characteristics, NIMBY effects, and the risks of NIMBY facilities to the public. These classifications of NIMBY facilities are mainly from micro perspectives and only a few studies have integrated NIMBY conflicts with urban development. In addition, some conflicts caused by non-public facilities, such as Xiamen and Ningbo PX projects, also are considered as urban NIMBY conflicts in China^{2,3}.

Based on the synthesis of NIMBY facilities studies from the perspective of urban development, this study classifies urban NIMBY conflicts into three categories: 1) environmental NIMBY conflicts, which have more environmental impact than other impacts caused by waste treatment facilities; 2) economic NIMBY conflicts, which have more economic impact than other impacts caused by energy facilities and public transportation projects; and 3) social NIMBY conflicts, which have more social impact than other impacts caused by social service facilities. Table 2.1 shows the statistical analysis of NIMBY conflicts types. The table shows that the number of environmental NIMBY conflicts and the number of economic NIMBY conflicts is about twice that of social NIMBY conflicts. The number of waste treatment NIMBY facilities and the number of

² <https://ejatlas.org/conflict/controversy-over-planned-paraxylene-px-plant-expansion-in-ningbo-zhejiang-china>, accessed on November 26, 2018.

³ <https://www.mtholyoke.edu/~wang30y/xiamenpx/pages/victory.html>, accessed on November 26, 2018.

energy NIMBY infrastructure projects is similar, which is significantly higher than that of social service facilities and public transportation NIMBY projects.

Table 2. 1 Statistical analysis results of NIMBY conflicts types

<i>Type of NIMBY conflict</i>	<i>Type of NIMBY facilities</i>	<i>Number</i>
Environmental NIMBY conflict	Waste municipal engineering projects	32
Economic NIMBY conflict	Energy urban infrastructures	31
	Public transportation projects	5
Social NIMBY conflict	Social service facilities	16

Data sources: The number of statistics comes from papers including NIMBY cases by searching keyword "NIMBY", published in the database of Web of Knowledge from 1950 to 2012.

Thus, the previous studies show that there are mainly four kinds of NIMBY conflicts. They are environmental NIMBY conflicts caused by waste treatment facilities, economic NIMBY conflicts caused by energy facilities and public transportation projects and social NIMBY conflicts caused by social service facilities.

2.2.3 Impact of public participation, EIA and information disclosure on NIMBY conflict management.

With respect to impacts of public participation on NIMBY conflict management, McAvoy (1999) stated that public participation as a noneconomic factor can have a positive impact on NIMBY facilities. He argued that despite the democratic decision-making process being long and slow, it could change NIMBY to YIMBY (Yes In My Back Yard). Kuhn and Ballard (1998) evaluated four Canadian facilities siting processes from the perspective of public participation

and access to decision-making authority. They found that facility siting has transitioned from top-down approaches to increasing decentralized and pluralistic approaches. Cowan (2003) suggested that the public needs to be consulted in the decision-making process. Based on a national survey, Ibitayo and Pijawka (1999) argued that early and continuous public involvement in the siting and operating of NIMBY facilities are strategies for NIMBY conflict management.

Public participation, however, is not always effective for NIMBY project policy implementation. Take waste treatment NIMBY facilities as an example. Since public protests in the 1990s, waste incinerations and landfills have not been acceptable to the citizens of cities in the United States. Because of NIMBY conflicts, New York City began to dump and burn waste out of the city in 2001. To establish a cost-effective, reliable and environmentally friendly waste management system, the Fixed Waste Management Plan of New York City was adopted in 2006. However, waste transportation in New York relies mainly on land transportation. Under the management of the New York City Environmental Sanitation Bureau, the operation of the Fixed Waste Management Plan is smooth, but it is costly and truck transportation damages the environment. However, more importantly, the social lifestyle that New York City citizens are comfortable with has basically remained unchanged in the past few decades (Bloomberg and Pope, 2017). Urban economist Florida (2017) argues that NIMBY conflict has led to unnecessary high housing prices in the United States.

Therefore, some scholars of American urban studies argue that NIMBYism is the selfish behavior of the public that has blocked urban development (Glaeser, 2012; Florida, 2017).

In 1969, the United States promulgated and implemented the National Environmental Policy Act (NEPA) in response to public concerns about the environmental impact of renewable energy facilities (Li et al, 2010). Tang et al. (2005) argued that in order to protect the environment, the EIA system has been generally established and implemented in both developed and developing countries. Lam and Brown (1997) argued that EIA system not only can prevent NIMBY facilities from environmental problems but also can provide transparent EIA reports. Public participation in EIA is a hot topic in the field of EIA studies with scholars who support public participation in the site planning of NIMBY facilities suggesting effective and early public participation strategies in a project's EIA (Bond et al., 2004; Hartley and Wood, 2005; O'Faircheallaigh, 2010).

Previous studies show that information disclosure could help relieve NIMBY conflict. Residents have their own risk perceptions of NIMBY facilities (Lake, 1993; Inhaber, 1998). Takahashi et al. (1997) conducted a national survey of public attitude toward mental health care facilities in the United States. They found that residents' attitudes are dynamic, changing with regional context and the spatial location of the community. Based on a national survey for human

service NIMBY facilities, Takahashi (1997) found that compared to media information, the public prefer to accept information from experts. Johnson (2011) notes that information disclosure is used as a policy tool to respond to citizens' concerns over a NIMBY facility.

In summary, this subsection of the thesis has shown that public participation, EIA, and information disclosure have impacts on NIMBY conflict management. The following subsection reviews the legislative laws and regulations for public participation and EID in Mainland China and Hong Kong.

2.2.4 Legislative framework for public participation and EID in Mainland China and Hong Kong

In Mainland China there is no specialized law for public participation (Sun et al., 2016a). However public participation regulations are included in the planning laws and EIA laws. For instance, in the People's Republic of China Urban and Rural Planning Law, the People's Republic of China Environmental Protection Law, and in the People's Republic of China Environmental Impact Assessment. Cai (2009) asserted that without agreement of the Central Government, a public participation policy would not be written into law. Based on empirical studies, Li et al. (2012) and Zheng (2013) claimed that the participation subjects, the level of participation, and the participation approach are the issues for NIMBY conflict management. Zeng (2014) criticized public participation in EIA as ineffective since there are problems with EIA public surveys.

People's Republic of China Urban Planning Law (PRCUPL) was promulgated and implemented in 1990. In 2008 the People's Republic of China Urban and Rural Planning Law (PRCURPL) was promulgated and implemented to replace the PRCUPL. The PRCUPL did not include the requirement to solicit opinions from interested parties in the planned lots.

Article 26 of the new PRCURPL stipulates that “before the urban and rural planning is submitted for examination and approval, the organizing organ shall announce the draft urban and rural planning according to law, and shall use the argumentation meeting, hearing or other means to solicit the opinions of experts and the public.”

Article 48 of the new PRCURPL stipulates that “where the control detailed planning is revised, the organizing organ shall demonstrate the necessity of the modification, solicit the opinions of the interested parties in the planned lot, and submit a special report to the original approving authority. The revised plan may be prepared only after the approval of the original approving authority.”

In Mainland China, environmental protection and environment governance was once dominated by the state (Yan, 2011). In 1989, the Environmental Protection Law of the People's Republic of China (EPLPRC) was first established. As the basic laws in the system of environmental protection laws and regulations, the new EPLPRC was revised in April 2014 and implemented in January 2015. The EIA of the People's Republic of China (EIAPRC) was

established by the National People's Congress in 2003 to prevent the negative environmental effects of strategic planning and construction projects. Also, to improve the degree of environmental protection in decision-making, the Planning Environmental Impact Assessment Regulation (PEIAR) was published in 2009 by China's State Council. The Regulations indicate that planning EIA and project EIA should be considered separately.

The State Council promulgated the "Regulations on the Openness of Government Information of the People's Republic of China" on April 5, 2007, which took effect on May 1, 2008. Xia (2008) stated that in China the government monopolizes information about the environment, though Yan (2011) argued that transparency of information is crucial for citizens to enforce their environment rights in China. Article 15 of the Regulations on the Openness of Government Information stipulates that "the administrative agency shall disclose the government information to the public through government gazettes, government websites, press conferences, newspapers, radio, television, etc., in a manner that is easily accessible to public."

Measures for the Disclosure of Environmental Information (for Trial Implementation) was promulgated and implemented in 2007. Article 13 of the Measures stipulates that "the environmental protection department shall publicize the government environmental information through the government website, bulletins, press conferences, newspapers, radio, television, etc., in a manner that

is easily accessible to public⁴.” However, other than through governmental reports, the Chinese public has extremely limited access to information on policy making, construction projects and information on the environment (Yan, 2011). For example, one has to seek approval from the environmental monitoring authority about the results of any examination of pollution victims conducted by the environmental monitoring department.

In addition, although the new Environmental Protection Law (2015) indicates that, except for state or/and company secrets, the EIA report shall be fully disclosed to the public⁵, the EIAPRC (2003) only indicated that construction units should hold public hearings before applying for the EIA report, which has no regulations authorizing full public disclosure of the EIA report (Wu, 2015). Thus, Wu argued that the EIA report disclosure in EIAPRC lacks relevant regulations connected with EPLPRC. Guidelines for the Disclosure of Government Information on Environmental Impact Assessment of Construction Projects (Guidelines) were published for Trial Implementation in 2013, which indicated that the government should take the initiative of disclosing full EIA reports and the EIA table of projects. The Guidelines has detailed provisions for environmental assessment and requirements for accepting the EID of a construction project. To adapt to economic and social developments, satisfy the

⁴ http://www.qhepb.gov.cn/gkml/ml/201507/t20150722_366465.html, accessed on January 20, 2018.

⁵ http://www.gov.cn/xinwen/2014-04/25/content_2666328.htm, accessed on January 20, 2018.

objective needs of EIA management, and match the new environmental protection laws, a revised EIAPRC was implemented in 2016.

Compared with Mainland China, public participation in Hong Kong is relatively thorough (Ng et al., 2014). In Hong Kong, public participation is usually conducted by means of advisory committees, in which membership is restricted to a small group of government-appointed major stakeholders (Chan et al., 2007). In addition, large-scale public consultation is carried out with advisory committees for public policies (Chan et al., 2007). Although there is EIAs, the means of public participation, the long time for consensus to be reached and lack of well-designed engagement in the early stages of the policy process have been criticized by academics (Chan et al., 2007; Ng et al., 2014).

In Hong Kong, strategic environmental assessment (SEA) has experienced three stages of evolution since the late 1980s. Initially, SEA only applied to plans or programs but was broadened to include wider applications to strategies and policies. SEA also covers strategic follow-up, which is more sustainability driven⁶. Hong Kong's EIA Ordinance was enacted in 1997 and has been operational since April 1998. The transparency and openness of Hong Kong's decision-making is guaranteed by the Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China (Cai, 2010). Figure 2.3

⁶http://www.epd.gov.hk/epd/sc_chi/environmentinhk/waste/prob_solutions/msw_strategic.html, accessed on January 20, 2018.

presents the relationship among planning, SEA and EIA for construction projects.

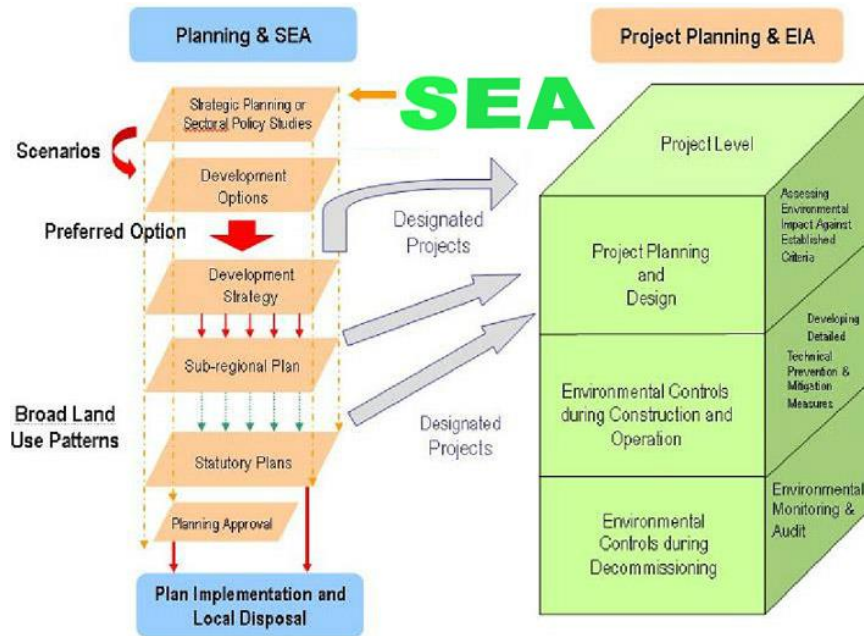


Figure 2. 3 Relationship between planning, SEA and EIA for construction projects (Data sources: HKEPD, 2015)⁷

Thus, this subsection summarises related laws and regulations of public participation and environmental information disclosure in Mainland China and Hong Kong.

2.2.5 Impact of government role on NIMBY conflict management

Based on the findings from a case study, Chen and Li (2016) argued that local government's decision-making approach and regulatory actions are causes of NIMBY conflict. Based on the empirical analysis of a waste treatment plant, Zhang et al. (2011) argued that public satisfaction with government performance, trust, and compensation significantly impact the NIMBY effect. Based on a case

⁷ <https://www.epd.gov.hk/epd/SEA/eng/interactive/p20610.html>, accessed on January 20, 2018.

study of the Panyu waste incineration NIMBY conflict, Huang (2012) argued that trust, fairness and justice of decision-making are the main reasons for NIMBY conflict. Lam et al. (2007) pointed out that the lack of trust in government management of NIMBY facilities has a significant negative impact on public acceptance of such facilities. From the perspective of urban planning, based on a case study of a maglev NIMBY conflict event, Zheng (2011) argued that the definition of public interest, interest protection issues, and procedural justice issues in planning the siting of facilities are the main reasons for NIMBY conflict. Based on the investigation of public protest against Dutch wind power projects, Wolsink (2000) argued that institutional capacity is the main reason for NIMBY conflict, which include the top-down policy, inefficient siting planning, limited institutional capacity of the public utility, and the DAD (decide-announce-defend) decision-making approach.

The earliest siting selection method used the least-cost technical standard, which included using criteria such as the existence of flat and stable terrain, the availability of cooling water, a relatively low population density, accessibility to transportation routes and proximity to major load centers, and then use scores to choose the least-costly site (Jopling, 1974). Technical standards is the key indicator for facility siting, especially for energy NIMBY facilities (Cotton and Devine-Wright, 2010). Based on a large number of empirical studies on public transportation NIMBY projects in the United States, Altshuler and Luberoff (2004) pointed out that the technocrats mainly took responsibility for NIMBY project planning, and the engineers adopted fixed decision-making criteria for siting the NIMBY facility. This approach meant that the facility siting strategies adopted in each place around the United States were always the same. Because of

NIMBY conflicts, urban managers have been gradually considering the social impacts of NIMBY facilities when conducting siting planning (Tang et al., 2008; Wolsink and Devilee, 2009). Lee and Lam (1998) found that the public has different environmental concerns for different kinds of NIMBY facilities. Based on an empirical study, Zheng et al. (2015) argued that the scientific method of facility planning is one reason for NIMBY conflicts.

An alternative facility siting approach is a strategy for preventing NIMBY conflicts (Fung et al., 2011). There are six main approaches for NIMBY facilities siting: (1) the DAD approach, which initially caused NIMBY conflicts; (2) the voluntary siting approach, which is intended to resolve the issue of equality; (3) the community governance approach, which emphasizes public participation and transparency; (4) the network governance approach, which is corporation-oriented and government involving; (5) the institutionalized deliberative approach; and (6) the comprehensive decision-making approach.

(1) The DAD approach for facility siting. Kunreuther et al. (1993) argued that government makes public decision alone through the DAD approach and the decision is technology-driven, leaving the public with an unfair feeling and prepared to protest against the NIMBY facility.

(2) The voluntary siting approach. For the LULU facilities in the United States, the market approach was used to achieve the consensus for conflict management (Inhaber, 1992). Through public auction, money was paid to the community making a bid (Inhaber, 1992). Gowda and Easterling (2000) argued that voluntary siting could address equity issues of NIMBY facility siting, allowing the community to make choices about the cost and benefit analysis of whether to accept the NIMBY facility. However, Pulido (1996) argued that voluntary siting

only emphasizes a form of equality, but ignores the issue of environmental justice.

(3) The community governance approach. After government single siting and market-led voluntary siting, community governance emerged as a third way. For the LULU facilities in the United States, the market approach was used to achieve a consensus (Inhaber, 1992). However it was difficult for developers with a technical rationale to address the residents' cultural rationale at the root of the NIMBY phenomenon. At the same time it was hard for developers to assess the cost and benefits to all affected parties (Dorshimer, 1996). McAvoy (1999) stated that public participation as a noneconomic factor can have a positive impact on NIMBY conflict management. He argued that despite the democratic decision-making process being long and slow, it could change NIMBY to YIMBY (Yes In My Back Yard). The American academics realized the significance of public participation. In fact, more and more siting practitioners and urban planners use the community governance approach to replace the voluntary siting approach. At the same time, in the process of involving local community in the facility siting in the United States, the researchers pay more attention to the preconditions of public participation, and have argued that transparency is a very important principle (Fung et al., 2011).

Community governance is a decision-making approach for local government, residents and project developers to achieve cooperation and reach consensus for NIMBY conflict management (Chiou, 2011). Sun (2015) argued that facilitating generation of local knowledge using a collaborative initiator between local government, residents and experts could help resolve NIMBY conflict. Hu et al. (2013) found that in the collaboration between local government and residents in

the planning of NIMBY facilities, the government winning public trust, recognizing the collaborative process, establishing common goals, preparing policy planning in advance, and involving a wide range of participants, has positive impacts on NIMBY conflict management.

(4) The network governance approach. For urban waste treatment NIMBY facilities management, the United States mainly uses a network governance approach of government-involved and enterprise-led. Local government assists and participates in the network governance. Take the New York City's waste disposal as an example. In the New York City waste treatment system, the municipality operates one part and private companies operate other parts⁸. The municipal system administered by the New York City Environmental Sanitation Agency (NYCESA) handles waste generated by residential, government buildings and non-profit organizations⁹. Private enterprises cannot use the free garbage collection service provided by the municipal government. It is necessary for the private enterprises to pay for private transportation companies to address the solid waste¹⁰. Therefore it forms a market system. In the twentieth century, NYCESA relied mainly on landfills to dispose of garbage¹¹. However, in December 2001, New York City closed its last landfill¹². Because of the NIMBY effect, New York City began to dump and burn waste out of the city in 2001¹³. To establish a cost-effective, reliable and environmentally friendly waste

⁸ http://m.sohu.com/a/191041922_465250, accessed on January 20, 2018.

⁹ http://m.sohu.com/a/191041922_465250, accessed on January 20, 2018.

¹⁰ http://m.sohu.com/a/191041922_465250, accessed on January 20, 2018.

¹¹ http://m.sohu.com/a/191041922_465250, accessed on January 20, 2018.

¹² http://m.sohu.com/a/191041922_465250, accessed on January 20, 2018.

¹³ http://m.sohu.com/a/191041922_465250, accessed on January 20, 2018.

management system, the Fixed Waste Management Plan was adopted in 2006 in New York (Bloomberg and Pope, 2017).

(5) The institutionalized deliberative approach. European countries emphasize creative procedures for managing NIMBY conflict and focus on the institution behind NIMBY conflicts. In European countries, NIMBY conflicts occur with clean energy development and practices. European scholars find that public attitudes affect NIMBY facility siting, but that the institution is the key factor. The public does not protest the NIMBY facility itself, but rather protest the decision-making institution (Fung et al., 2011). Wolsink (2000) argued that collaboration with knowledge resources, relational resources, and the capacity for mobilization of the institutional capital could produce effective siting planning for NIMBY facilities. The Netherlands mainly uses an institutionalized and deliberative democratic decision-making approach for NIMBY conflict management, where public opposition to NIMBY facilities is not motivated by selfishness but the feeling of inequity and unfairness (Wolsink, 2007a). Cowan (2003) suggested that public consultation should be involved in the facility decision-making process. Urban management for development in Europe is led by society, advocating facility-siting planning through the participation of structured multi-interests groups (Schneider et al., 2005).

The legal and political approach such as legislation, transparency and democracy are adopted for NIMBY conflict resolving in Taiwan. NIMBY conflicts in Taiwan mainly result from waste treatment facilities. The Lanyu nuclear waste storage event in the 1970s was the first NIMBY conflict that occurred in Taiwan. After 2000, the Taiwan authorities began to establish a complete system to solve the problem of “who is going to fall into the nuclear

waste field.” In 2006, Taiwan’s Legislative Council passed the “Regulations on the Site Setting of Final Disposal Facilities for Low-Level Radioactive Waste” and the country now has an open and transparent “pollution siting system.” Local government policy makers value those very sensitive non-economic factors such as public participation, social trust, and local politics in the process of facility siting in Taiwan (Chiou et al., 2011; Fung et al., 2011).

(6) The comprehensive decision-making approach. Affected by geographical constraints, a political administrative system, civil society, environmental protection, and waste treatment NIMBY conflicts, the Hong Kong government makes the decision of NIMBY facility siting with comprehensive considerations. Based on empirical studies of NIMBY conflicts in Hong Kong, economic compensation is only suitable for solving NIMBY conflicts caused by low-risk NIMBY facilities (CEPRM, 2007a; 2007b). Land scarcity, restrictions on landform features, small administrative jurisdiction, and government-led society make it less likely to accept citizen participation from local communities in the siting planning of NIMBY facilities in Hong Kong. The Hong Kong government policymakers will re-examine the siting decision-making strategies from social, economic, and political dimensions rather than just a technical perspective when dealing with NIMBY conflicts (Fung et al., 2011).

From the foregoing it is clear that the government role has a significant impact on NIMBY conflict management.

The following section provides the research perspectives and the theoretical basis for the research questions established for exploring effective urban NIMBY conflict management model.

2.3 Research perspectives and theoretical basis for the study's research questions

To explore effective urban NIMBY conflict management model, this section introduces the research perspectives and theoretical basis for the study's four research questions. The study examines issues of NIMBY conflict management from the perspective of stakeholders, investigates the impact of public participation and EID on the project planning and operating stages, analyzes the impact of government role on NIMBY conflict management based on the relationship between public management and policy processes, and examines urban NIMBY conflict management from the perspective of public participation and government role.

2.3.1 Issues of NIMBY conflict management from the perspective of stakeholders

The stakeholder perspective comes from business management. In response to the rapidly changing managing environment of the business world, business management introduces a stakeholder perspective from corporate social responsibility. A stakeholder perspective can help companies cope with the globalization of today's society, rapidly changing communications technologies, and the growing expectations of social goals beyond the maximization of benefits (Chandler and Werther, 2013).

The concept of stakeholders was first proposed by Rhenman (1964) who argued that an organization's stakeholders could be individuals or organizations

that rely on the company to achieve their own individual goals and who form the basis for the company to survive. Freeman (1984) defined stakeholders as any group or individual that can influence the achievement of organizational goals while also being influenced by organizational goals. Post et al. (2002) argued that since stakeholders in a company are individuals or groups that voluntarily or involuntarily benefit from the wealth creation and activities of the firm, they take potential benefits or risk sharing.

Based on the related stakeholders in the NIMBY conflict and definitions of stakeholders in business management, this study defines stakeholders in NIMBY conflicts as:

Any organization or individual (such as government, experts, think tanks, affected residents, affected communities, public project developer, public project investors, operators, and other interest groups) that can influence the achievement of policy aims of public infrastructure, municipal engineering projects or public service facility projects while also being influenced by policy aims and potential benefits or risks.

Doing research on urban NIMBY conflict management in the field of public management and urban studies from the perspective of stakeholders can help urban managers to effectively manage NIMBY conflicts for sustainable urban development beyond the ideology (Zhu et al., 2014). In addition, in the NIMBY facility policy process of planning, constructing and operating, stakeholder analysis can help the government identify the interests of stakeholders of the NIMBY facility. Based on the identified interests, government could understand the needs of the stakeholders and manage the conflicts among the stakeholders and conduct risk management (Zhang et al., 2013). It also helps governments

respond to stakeholders in ways that minimize environmental and social negative impacts while maximize economic benefits (Sun et al., 2016b). Moreover, it can help the government to establish partnerships with stakeholders and to build collaborative governance for NIMBY conflict (Sun, 2015). In summary, the perspective of stakeholders can provide a basis for integrating the interests and values of stakeholders, improving the role of government in the NIMBY conflict management process, and identifying the issues of NIMBY conflict management on the road to reaching consensus among stakeholders.

This study therefore examines issues of NIMBY conflict management from the perspective of stakeholders.

2.3.2 Public participation impact on NIMBY conflict management during the project planning and operating stages

This study examines the impact of public participation on NIMBY conflicts during the project planning and operating stages. Previous studies show that there are mainly four aspects and two levels of public participation impacting NIMBY conflict management. The four aspects of public participation are involved stakeholders, the degree of participation, participation approach and timing. The two levels of public participation are public participation in the siting planning and public participation in the project EIA.

(1) Impact of key public stakeholders on NIMBY conflict management

Who should be the public is the issue of public engagement. Can the involved public represent a certain group or the wider public? Are there any other key

interests or ideas not taken into consideration? Can the involved public bring the information needed? Can the involved public have the ability to make judgments and decisions? Will the involved public take feedback to the public not involved?

Drazkiewicz et al. (2015) argued that public participation positively affected environmental outcomes. However, Johnson (2013) argued that when participants found their input or concerns were not considered or used in the decision-making results, they would think their time was wasted and distrusted the local government. Kati and Jari (2016) suggested that key stakeholders should be involved and value pluralism should be carefully analyzed for successful green infrastructure planning.

(2) Impact of the degree of participation on NIMBY conflict management

The degree of public participation/ authority sharing is another hot debate of public participation. Buckwalter (2014) indicated that the choice for administrators is not necessarily whether to include the public but what is the communication quality between the government and the residents and how its potential for impact can be included.

Arnstein (1969) provides an influential and useful citizen participation ladder with eight rungs: manipulation, therapy, informing, consultation, placation, partnership, delegated power, and citizen control. Based on Arnstein's (1969) public participation theory, Fung (2006) developed five authority and power approaches, direct authority, co-govern, advice/consult, communicative influence,

and individual education, as well as evidence-based participatory mechanisms. Based on the degree of influence of different public participation, Thomas (1995) provided the following five approaches for sharing decision-making authority with the public: autonomous managerial decision, modified autonomous managerial decision, segmented public consultation, unitary public consultation, and public decisions. He further argued that segmented public consultation is suitable for NIMBY conflict management.

(3) Impact of the participation approach on NIMBY conflict management

Previous studies show the impact of the public participation approach on NIMBY conflict management. There are mainly two purposes of public involvement: involving the public for information and involving the public to build acceptance (Thomas, 1995). Based on the incentives of public participation, Thomas (2013) indicated that there are various participation approaches, such as public hearing, public meetings, advisory committees, and citizen surveys.

(4) Impact of participation time on NIMBY conflict management

The proper time for public participation is another hot theoretical debate of public participation. Thomas (1995) emphasized that public managers often defend their decision-making without public participation by citing time constraints. Based on a national survey, Ibitayo and Pijawka (1999) argued that early and continuous public involvement, involving public concerns of the NIMBY facility in the facility siting and operating process, are strategies for

NIMBY conflict governance. Thomas (2013) suggested that the public should be involved in decision-making as early as possible for avoiding public concerns for their input.

(5) Impact of public participation in the siting of NIMBY facilities on NIMBY conflict management

Facility siting decision-making approaches have experienced the DAD approach, the voluntary siting approach, the community governance approach, the network governance approach, the institutionalized deliberative approach, and the comprehensive decision-making approach. Different decision-making approach shows different degrees of public participation.

There was no public participation in the early days of NIMBY facility siting planning with siting choice focused mainly on scientific and technical criteria. The earliest siting selection method considered the least-cost technical standard, using criteria such as the existence of flat and stable terrain, the availability of cooling water, a relatively low population density, accessibility to transportation routes, and proximity to major load centers to arrive at a score; the candidate site with the least-cost score was chosen (Jopling, 1974). However the technical siting criteria led to the NIMBY conflict at the policy implementation stage. Strong protests from the public pushed government to consider the significance of public participation at the public decision stage. Cowan (2003) suggested that it is necessary to involve the public in the NIMBY facility decision-making

process. McAvoy (1999) stated that public participation as a noneconomic factor can have a positive impact for NIMBY facility siting. He argued that despite the democratic decision-making process being long and slow, it could change NIMBY to YIMBY (Yes In My Back Yard). Thomas (2013) argued that when NIMBY project policy implementation needs public acceptance of a NIMBY facility policy decision, the public should be involved in the facility policy decision.

In the theoretical debate over the necessity of public participation, Buckwalter (2014) indicated that the choice for administrators is not necessarily whether to include the public but what is the communication quality between the government and the residents and how its potential impact can be included. Fung (2006) suggested that the public should be involved in the decision, because decision makers lack knowledge, competence, public motivation, and resources and need the public's cooperation. However, experience from researchers and practitioners show that public participation is not an incentive to make citizens accept a NIMBY facility and had little impact on government's decision-making (Eckerd, 2014).

(6) Impact of public participation in EIA on NIMBY conflict management

Public participation in EIA is another hot theoretical topic. Academics and practitioners have reached a consensus that it is essential to involve the public in EIA. However, there is still debate on the purpose of public participation, who

the public should, the participation approach, timing, and the effectiveness of public participation in EIA (O'Faircheallaigh, 2010; Tang and Chiu, 2010; Johnson, 2010, Nadeem and Fischer, 2011; Petts, 2003; Eckerd, 2014; Sun et al., 2016b).

According to the International Association for Impact Assessment (IAIA, 2018) the aim of public participation is to improve the practice of EIA. In the last few decades, NIMBY facility's EIA reports used by the public and environmental organizations has influenced NIMBY project development in the United States (Altshuler and Luberoff, 2004; Daniels, 2008). Based on an empirical study of EIA in Taiwan, Tang and Chiu (2010) indicated that despite experts playing the key role in the EIA decision-making, citizen participation in the decision-making process is essential in order to avoid experts serving politics.

As for forms of public participation and who should be involved, Wu et al. (2011) argued that the Chinese government implemented public participation in SEA only according to the minimum legal requirements and lacked sufficient information disclosure. Based on an empirical study of the issues between the stakeholders in NIMBY conflicts in China, Sun et al. (2016b) argued that the affected residents are the key stakeholders, but without power to affect the project decision-making. O'Faircheallaigh (2010) argued that different forms of public participation lack interaction with each other. Johnson (2010) indicated that public participation in EIA is limited in China. Based on evidences from

waste management in Britain, Petts (2003) identified institutional, technical and cultural barriers for effective public participation.

Regarding timing and participation effectiveness, Nadeem and Fischer (2011) recommended that the public should be involved before siting of a NIMBY facility. On the other hand however, the experience of researchers and practitioners shows that public participation was not an incentive to make citizens accept the facility and had little impact on government decision-making (Eckerd, 2014). Wu et al. (2011) argued that EIA practitioners' perception of the public's low educational background was the main reason for ineffective public participation in EIA.

In summary, based on the previous studies of the impact of public participation on NIMBY conflict management, it is shown that academics have reached a consensus that the public should be involved in the NIMBY facility policy process. However there is still a debate on the effectiveness of the impact of public participation on NIMBY conflict management.

The second research question of this thesis is therefore what is the effectiveness of the impact of public participation on NIMBY conflict management during the planning and operating stages.

2.3.3 Impact of EID on NIMBY conflict management during the project planning and operating stages

There are mainly two kinds of government information disclosure for NIMBY facilities. The government discloses planning information of the NIMBY facility, and the government discloses the environmental impact information of the NIMBY facility. Because the planning information disclosure of the NIMBY facility is related to public participation in the facility siting planning, the environmental impact information is a key issue for environmental NIMBY conflict management. This study is therefore focused on the impact of the EID for the NIMBY facility on the NIMBY conflict management process.

Information disclosure is the basis and precondition for public participation. This study examines the impact of EID on NIMBY conflict management at the planning and operating stages.

At present, the impact of government information disclosure on NIMBY conflict management is mainly reflected in four aspects: information disclosure content, environmental assessment level, environmental impact assessment related laws and regulations, and environmental impact assessment (EIA) report and environmental impact assessment (EIA) procedures.

(1) Impact of information disclosure content on NIMBY conflict management

There is controversy over the content and scope of information disclosure. Supporters argue that external stakeholders access to information can help relieve their concerns over NIMBY facilities, improve decision-making, and enhance the

public's understanding of what local government is doing and why, which will increase public trust in the local government (Grimmelikhuijsen et al., 2013; Porumbescu, 2015). However, critics have suggested that there are two challenges for disclosed information: first, the disclosed information didn't match public's demand; second, the disclosed information couldn't improve local government's responsiveness performance (Etzioni, 2014; Porumbescu, 2015).

Based on their empirical studies in China, Johnson (2011) noted that information disclosure is a policy tool by the government to respond to public concerns of NIMBY facilities. However, Johnson (2014) later found that there has been an increasing call from the public for transparency for NIMBY facilities. Li (2015) argued that in China the public has to accept positive information provided by the government, but it has few opportunities to access the substance and the procedural details of whatever information the government provides to the public. Zhou (2015) explained that when the government does not have enough confidence to disclose certain information, a secrecy policy is cited as the reason for not making the information available to the public. Wu (2015) argued that for government information there should be a clear boundary between what should be opened to the public and what should be kept secret.

(2) SEA and project EIA

From the macro and micro perspective, there are two levels of EIA in general: at the macro level is the strategic environmental assessment (SEA) and at the

micro level is the project EIA. SEA refers to a systematic and comprehensive environmental assessment process for land planning policies and alternatives (Tang and Chiu, 2010; Naddeo et al., 2013). The aim of SEA at the policy decision-making stage is to assess and judge potential environmental impacts. The SEA then adopts appropriate alternative policies and mitigation of environmental impacts to guide specific project EIA (Tang and Chiu, 2010). As a policy tool, SEA can promote environmental sustainability of policies, planning or projects, coordinate public and other interests, and fulfill society's expectations for the future (Buckley, 1984; Noble and Storey, 2005; Noble and Bronson, 2006; Coffey et al., 2011; Naddeo et al., 2013).

Compared with SEA, the objective of project EIA is the specific and clear development of the project itself, and the time and space are also very specific and clear (Lai, 2009). Project EIA is generally proposed after policy decisions have been made (Lai, 2009).

(3) Relevant laws and regulations of EIA

EIA is designed to protect the environment and address the public's environmental concerns over construction projects (Johnson, 2013). To eliminate the public's environmental concerns over renewable energy facilities, the United States enacted the National Environmental Policy Act (NEPA) in 1969 (Li et al., 2010). In the context of a global consensus on sustainable development and environmental governance, environmental assessment agencies have been

established in both developed and developing countries (Tang and Chiu, 2010). To implement a sustainable development strategy, prevent negative impacts on the environment after the planning and implementation of construction projects, and to promote the coordinated development of the economy, society and the environment, China promulgated and implemented the “Environmental Impact Assessment Law of the People’s Republic of China” (EIAPRC) in 2003. In 2016, a revised EIAPRC was implemented¹⁴. To prevent, control and minimize the negative impact of development projects on the environment, Hong Kong enacted and implemented the Environmental Impact Assessment Regulations in 1998 (Ng and Obbard, 2005).

Although the United States promulgated and implemented the National Environmental Policy Act (NEPA), Daniels (2008) pointed out that the shortcoming of this law is that it is a passive planning tool that can only respond to the recommendations of the facility, rather than actively planning; NEPA adopts an evaluation of projects item by item, rather than accumulating the impact of development projects on the environment over time.

(4) Impact of EIA report and EIA procedures on NIMBY conflict management

¹⁴ http://www.zhb.gov.cn/gzfw_13107/zcfg/fl/201609/t20160927_364752.shtml, accessed on January 20, 2018.

The EIA report is a written report that describes the method for assessing the environmental impact of facilities. Daniels (2008) argued that the EIA report should be assessed on the basis of 'good science'. The controversy about what is good science seems endless, but knowledge about the impact of human on the environment does change (Daniels, 2008).

The methods for assessing environmental impact are still controversial. Carmichael et al. (2012) suggested that health factors should be assessed for environmental impact when conducting urban spatial planning. Based on their empirical studies in China, Johnson (2013) argued that the health factor is one of the main concerns of a NIMBY project EIA. Naddeo et al. (2013) argued that one of the disadvantages of the EIA method is the difficulty of assessing health factors. After examining the SEA in Hong Kong, Ng and Obbard (2005) argued that current land use planning strategies mainly rely on short-term development patterns rather than on a longer-term environmental cost-benefit analysis.

Diao (2014) conducted an empirical study of the impact of environmental information on public acceptance of NIMBY facilities and found that major issues of NIMBY project EIA are: 1) in the early stages of project construction, there is no published progress and progress plan for the project; 2) at the project construction stage, the disclosed environmental information lacks pertinence; 3) at the project operating stage, information on major pollutant emissions are not regularly published; and 4) local government does not take the initiative to

disclose information about the NIMBY facility such as accusation and petitions on environmental issues. Devine-Wright (2005) argued that the public is not satisfied with the EIA procedures of renewable energy NIMBY facilities. Van der Horst (2007) recommended EIA procedure be transparent and accountable for NIMBY conflict management.

In summary, based on previous studies of impact of information disclosure and EIA on NIMBY conflict management, it was decided that this study should include research on the impact of environmental information disclosure on NIMBY conflict management. Therefore, combining this with the impact of public participation on NIMBY conflict management, the study examines how public participation and EID impact NIMBY conflict management. This forms the second research question for the thesis.

2.3.4 Impact of the government role on NIMBY conflict management based on the relationship between policy process and public management

Based on the relationship between policy process and public management, this research focuses on how the government can take appropriate action on the basis of ensuring public value in the governance process (Sowa and Lu, 2017).

Bouckaert (2013) argued that there is consensus on two public affairs management issues: first, since the public sector is part of the solution, it should play a substantive role; second, policy decision-making is a political process involving values. Policy decision-making should follow two logics: one is causal

logic, that is, whether input and output are proportional; the other is the logic of legitimacy, including the integrity of institutions, and the recognition of society. There are often contradictions between the two logics, and it is somewhat difficult to balance them. But no matter at the national or institutional level, no logic should be ignored, and both sides are conducive to social stability.

Leung (2008) argued that public policy includes objectives, means, and outcomes, and stated the following: "In public policy, the views and values of the subjects are determined by their roles and mandates in the policy process. The roles determine their interests, concerns, functions and behaviors; mandates determine their responsibility and accountability, control and influence to people and things, power in decision-making mechanisms, and the resources it can mobilize; therefore, roles and mandates determine where stakeholders will observe and address problems".

The evolution of government role is to be found in the public management reform movement, whether emphasizing steering, rowing, serving, or policy outcomes, it is research on the government role. In fact, the development of the public administration discipline is to study the role of government in terms of how government effectively arranges or deliveries public goods and services to the public based on efficiency, economy, effectiveness, fairness and public value. Since Woodrow Wilson proposed the separation of politics and administration at the end of the 19th century, new public management theory has made up for the problem of inefficiency caused by traditional public administration, and new public service theory has made up for the problem of fairness caused by the new public management theory. Now the study of public management includes

research on governance for policy outcomes. The current theoretical research question is how effective is the effect of governance on policy outcomes?

In summary, based on the relationship between the theory of public administration and policy process theory, the third research question for this study is how does the role of government impact NIMBY conflict management at the policy decision-making and implementation stages.

2.3.5 NIMBY conflict management model from the perspective of public participation and government role

To conduct research on the problems of Chinese institutions, management scholars have emphasized the changes of management approach within the existing political system more so than the changes of institution emphasized by political science scholars and sociologists (Zhu, 2011). Based on the two-dimensional matrix of democracy and governance, Zhu (2013) argued that China is a centralized but good governance country, and good governance is better than democracy in the context of the existing political system. Zhu (2004) argued that the sustainable urban management model emphasizes the need to establish urban governance structures involving various organizations including government agencies and members of society.

Based on the characteristics of a NIMBY public project, the government may entrust private companies to undertake responsibilities for public project investment, construction and operation management. The government has control rights, policy target setting rights, arrangement rights, and checking and

acceptance rights. Therefore, the government is dominant for NIMBY facilities. Based on economic interests, the enterprise will follow the government and stand on the same side with the government. Therefore, this study examines urban NIMBY conflict management based on the relationship between local government and the public

This study identifies urban NIMBY conflict management model from the perspectives of public participation theory (including EID studies) and government role theory, which is the fourth research question for exploring effective urban NIMBY conflict management in this study.

Table 2.2 presents the theoretical basis of each research question and related chapter of empirical study for each research question in this thesis. Chapter 4 examines the issues in the NIMBY conflict management process from the perspective of stakeholders. Chapter 5 investigates the impact of public participation and environmental information disclosure on NIMBY conflict management. Chapter 6 investigates the impact of the government role on NIMBY conflict management during the policy making and implementation stages. Chapter 7 explores an urban NIMBY conflict management model.

Table 2. 2 Theoretical basis of each research question and related chapter of empirical study of each research question in this study

<i>Theoretical basis of each research question in this study</i>	<i>Related chapter of empirical study of each research question in this study</i>
1. Issues of NIMBY conflict management from the perspective of stakeholders	Chapter 4 Empirical studies of major issues between the stakeholders in the NIMBY conflict

	management process
2. Impact of public participation and environmental information disclosure on NIMBY conflict management on the project planning and operating stages	Chapter 5 Empirical studies of the impact of public participation and environmental information disclosure on NIMBY conflict management
3. Impact of government role on NIMBY conflict management based on the relationship between policy process and public management	Chapter 6 Empirical studies of the impact of government role on NIMBY conflict management
4. Study on the urban NIMBY conflict management model from the perspective of public participation and government role	Chapter 7 Empirical studies of urban NIMBY conflict management model

2.4 The study's research questions

Based on the literature review of NIMBY conflict studies, there are four research questions in this study for exploring effective NIMBY conflict management models. This thesis: 1) examines major issues between the stakeholders in NIMBY conflict management, 2) investigate the impacts of public participation and environmental information disclosure on NIMBY conflict management, 3) analyzes the impact of government role on NIMBY conflict management, and 4) explores effective urban NIMBY conflict management model.

2.4.1 Issues between stakeholders in NIMBY conflict management

Risk management theory focuses on public attitudes towards NIMBY facilities. Scholars turn public concerns about NIMBY facilities into risks to better understand them. Previous studies show that public concerns over NIMBY facilities include: environmental risks, health risks, quality of life risks, real

estate devaluation risks, and safety risks. From the perspective of risk management theory, using the above risks as explanatory variables to explain the impact on public acceptance of NIMBY facilities can help to understand the reasons for public protests.

However, there are limits for NIMBY conflict management from the perspective of risk management theory. Risk is the likelihood that a dangerous thing will happen and have consequences. The public often intensifies their perceived risks of NIMBY facilities. Glaeser (2011) argued that there are status quo bias and impact bias behind the popularity of NIMBYism. Since the public have a strong attachment to the current state of affairs, they hold status quo bias. At the same time, since people overestimate the impact that a negative shock will have on their happiness, they hold strong impact bias. Florida (2017) argued that NIMBYism are the urban landlords and homeowners who restrict what is built, and in doing so keep the prices of their own real estate holdings high and share the economic output from the city. Moreover, few studies have objectively evaluated public risk perceptions of NIMBY facilities and measured the factual risks. Since EIA is still a developing science, the scientific indicators need to be improved and the question of how much risk needs to be reduced for public acceptance of NIMBY facilities and the question of whether is it possible to convert between different risks of NIMBY facilities for public acceptance, need to be addressed. Risk management theory is therefore too focused on the public's

attitude, which is convenient for understanding, but is not conducive to managing NIMBY conflicts.

The perspective of stakeholders sees the NIMBY conflict as a conflict of interests, and its focus is not on the public but on the relationship between the interests of the two parties. The perspective of stakeholders sheds light on the interests of conflict or consensus. Benefits are both problems and solutions. It is therefore necessary to study the interests of stakeholders in NIMBY conflicts.

Previous studies of NIMBY conflict management from the perspective of stakeholders are based on the environmental governance theory from the political science discipline. Through case studies, Johnson (2011) investigated the interaction among government, citizens, and non-government organizations (NGO) and the impact of the interaction process on the outcome of NIMBY conflict management in China. Johnson (2011) found that there is limited space for NGO to engage in conflict management. Based on the environmental governance theory from the public administration discipline, from the perspective of the relationship between central government and local government, Li (2016) investigated the reasons for strategies that local government adopted for NIMBY conflict management in China. Based on the ten environmental NIMBY conflicts case studies analyzed, it was found that the support of the central government is the main factor affecting local governments to change their initial decisions. In summary, from the perspective of the actors involved in

NIMBY conflict management, Johnson (2011) and Li (2016) examined the interaction among local government, citizens, and NGO and among the central government, local government and citizens in NIMBY conflict management.

However, there is little research on the issues between local government, affected residents, and project developer in NIMBY conflict management. Moreover, in practice the relationship between local government and residents during the management process of NIMBY conflicts seems to be worsening.

Therefore the first research question this study examined was the issue of NIMBY conflict management from the perspective of stakeholders for exploring effective urban NIMBY conflict management. By examining issues of NIMBY conflict management from the perspective of stakeholders, this study fills the research gap of investigating issues between local government, affected residents, and project developers in NIMBY conflict management. It also provides grounds for further study on the causes of NIMBY conflicts.

2.4.2 Impacts of public participation and EID on NIMBY conflict management

Previous studies show that public perceived risks of NIMBY facilities, unfairness, and distrust in the government are the causes of NIMBY conflicts. Based on these findings, scholars have studied public participation, EIA, and information for preventing and relieving NIMBY conflicts.

Scholars have recommended public participation, EIA and information disclosure for China's urban NIMBY conflict management, but few studies have examined the effectiveness of public participation and EID on urban NIMBY conflict management in China. How public participation, EIA and information disclosure impact NIMBY conflict management? What is the effect? Does public participation have a positive effect on NIMBY conflict management? Can information disclosure replace regulation? Is the public dissatisfied with the environmental impact of the NIMBY facility?

Public participation is different between China and the West. Leung (2008) argued that in Western culture, public participation is for the purpose of dealing with contradictions between the public and enterprises or between the public and the government. The public interest arises from the competition of self-interests, but in Chinese culture, public interest goes beyond self-interest to include self-interest. Zhu (2012) argued that the problems of NIMBY conflicts in developed countries show the interests of the minority affect the interests of the public, but in China NIMBY conflicts infringe on the interests of the minority in the name of public interest.

Information disclosure studies and public participation theory originated and developed from the West. Information disclosure is the premise and basis of public participation. Therefore, when doing research on solutions to urban NIMBY conflict management in China, it is necessary to pay attention to the

applicability and precondition of information disclosure and public participation theory in the West, and to study information disclosure and public participation theory suitable for China.

Therefore, the second research question this study examined was the impact of public participation and environmental information disclosure on urban NIMBY conflict management. To examine the impact of public participation and EID on NIMBY conflict management from the perspective of project planning and operating stages, on one hand fills a research gap by providing empirical evidence for the effectiveness of public participation and EID impact on NIMBY conflict management. On the other hand, based on NIMBY conflict knowledge from the Western experience, this study provides policy implementations and suggestions for dealing with the problems of public participation and environmental information disclosure in connection with urban NIMBY conflict management in China.

2.4.3 Impact of government role on NIMBY conflict management

Scholars have identified the issues related to the government role in NIMBY conflict management. Li (2016) investigated the reasons for strategies that local government adopted for resolving NIMBY conflicts in China. However, most previous studies of government role in NIMBY conflict management mainly focused on the approaches to facility siting decision-making and have identified six decision-making modes for NIMBY facility siting. These modes are: (1) the

DAD approach, which initially caused NIMBY conflicts; (2) the voluntary siting approach, which is intended to resolve the issue of equality; (3) the community governance approach, which emphasizes public participation and transparency; (4) the network governance approach, which is corporation-oriented and government involving; (5) the institutionalized deliberative approach; and (6) the comprehensive decision-making approach.

In China, local government is the decision maker, policy implementer and arranger or provider of NIMBY facilities. It is responsible for resolving NIMBY conflicts. It has been shown in the literature that NIMBY facilities are mainly urban infrastructure, municipal engineering projects or public service facilities, which should be led by the government. However, since the above facilities cannot be completely constructed by government investment, it is necessary to include social capital. For example, public transportation NIMBY projects, energy NIMBY facilities and waste treatment NIMBY facilities are consumer goods, which are generally invested by the government or led and arranged by the government, through public private partnership, and provided by the market. Social service NIMBY facilities such as mental hospitals, prisons or hospice care homes, are currently mainly provided and arranged by China's Central Government.

However, little research has examined the impact of the government role in NIMBY conflict management. Studies on the impact of the government role in

NIMBY conflict management are very narrow such that there has been no research on NIMBY conflict management from the perspective of policy processes. An analysis of policy processes reveals that they include policy decision-making, policy implementation, policy evaluation, and policy effectiveness. NIMBY conflicts may be caused by problems at the planning decision-making stage. It is also possible that there is no problem in planning decision-making, that it is a problem in policy implementation, or that it is a problem with the connection between policy decision-making and policy implementation. It could simply be that NIMBY conflict management is a planning and environmental issue.

In summary, current studies do not integrate policy processes, government internal and external capacity, and the relationship between policy processes and public management as a means to research the impact of the government role on NIMBY conflict management.

Therefore, the third research question this study examined was the impact of the government role on NIMBY conflict management at the policy decision-making and policy implementation stages. This study investigated the impact of government role on NIMBY conflict management during the policy decision and implementation stages based on the relationship between policy processes and public management. On one hand, this study fills a research gap by providing empirical evidence for the effectiveness of the government role in NIMBY

conflict management during policy decision and implementation stages. On the other hand, the study provides policy implementations and suggestions on NIMBY conflict management for managers of cities in China and other cities in a similar context.

2.4.4 NIMBY conflict management model

There are six main approaches to NIMBY facility siting in previous studies, these are: (1) the DAD approach, (2) the voluntary siting approach, (3) the community governance approach, (4) the network governance approach, (5) the institutionalized deliberative approach and (6) the comprehensive decision-making approach.

However, the studies have mainly focused on NIMBY conflicts during the decision-making stage or before the construction stage separately. In addition, based on the NIMBY phenomenon in China, scholars have provided suggestions on how to address NIMBY conflicts, but few studies have investigated how NIMBY conflicts are managed and how NIMBY conflict management impacts policy decisions. Moreover, previous studies mainly used a single case study to examine NIMBY conflict management mechanisms. Few studies have investigated urban NIMBY conflict management model with in-depth and multiple-case studies.

Therefore, this study's fourth research question explored urban NIMBY conflict management model from the perspective of public participation and

government role. On one hand, it fills a research gap by providing multiple-case studies of empirical evidence for investigating urban NIMBY conflict management model from the perspective of public participation and government role for sustainable urban development. On the other hand, this study provides a conceptual framework to evaluate and analyze NIMBY cases in other places of China and elsewhere.

The following section provides the research perspectives and the theoretical basis for the above four research questions established for exploring effective urban NIMBY conflict management.

2.5 Chapter summary

This chapter reviewed the literature relating to NIMBY conflict management studies, illustrated the research perspectives and theoretical basis for the study, and identified the research questions for exploring the effectiveness of the study's urban NIMBY conflict management model. The chapter also examined the issues in NIMBY conflict management from the perspective of stakeholders, investigated the impact of public participation and environmental information disclosure on NIMBY conflict management during the planning and operating stages, investigated the impact of government role on NIMBY conflict management based on the relationship between policy processes and public

management, and analyzed the urban NIMBY conflict management model from the perspective of public participation and government role.

The next chapter introduces the research methodology for the research questions proposed in this chapter.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 Introduction

Based on reviewing previous studies of NIMBY conflict management, Chapter 2 has provided research perspectives and theoretical basis for research questions in this study. This chapter describes the research design and research methodology, theoretical hypotheses and theoretical framework for the study's research questions.

The chapter first introduces research designs for examining the issues between stakeholders in NIMBY conflict management. It then investigates public participation, environmental information disclosure and the role of government in NIMBY conflict management, which is followed by an exploration of the NIMBY management model. The later sections of the chapter provide a theoretical hypotheses and theoretical framework for answering the four research questions, examines the study's case study methodology, and explains the data collection and data analysis methods used in this research. The final part provides a summary of the chapter.

3.2 Research design and research methodology

3.2.1 Research design

Research designs for the issues between the stakeholders in the NIMBY conflict management process, the impacts of public participation, EID, and the role of

government in the NIMBY conflict management process and the NIMBY management model are provided as follows.

In order to examine major issues between the stakeholders in NIMBY conflict management, this study first constructed theoretical hypotheses of major issues between the stakeholders in NIMBY conflicts on the basis of the literature review of public participation, EIA, information disclosure, the role of government in NIMBY conflict management and the motivation for public protest in NIMBY conflict management. The Shanghai Hongyang substation was used as a case study to analyze the issues between the stakeholders involved in this particular NIMBY conflict. Data were collected from in-depth interviews, government documents, neighborhood residents, newspapers, and the Internet. Qualitative analysis of data was conducted by following standard techniques.

In order to investigate the impact of public participation and EID on NIMBY conflict management, the study first constructed theoretical hypotheses of the impact of public participation and EID on NIMBY conflict management. Based on a review of relevant literature, the study employed a research framework from the project planning and operating stages to investigate the impact of public participation and EID on NIMBY conflict management. Multiple case studies were used to examine the impact of public participation and EID on NIMBY conflict management. Data were collected from semi-structured interviews, government documents, neighborhood residents, newspapers, and the Internet.

Qualitative analysis of data from the multiple case studies was conducted following combination of the variable-oriented approach and the case-oriented approach.

In order to investigate the impact of the government role on NIMBY conflict management, hypotheses were first constructed on the basis of the study's literature review. A research framework was then constructed from the perspective of the project policy decision-making and policy implementation stages to examine the impact of government role on NIMBY conflict management. Multiple-case studies were then conducted to investigate the impact of government role on NIMBY conflict management. Data were collected from semi-structured interviews, materials from neighborhood residents, government documents, official websites, newspapers and the Internet (Internet media, Internet forums, weibo, and blogs). Qualitative analysis of the data was then conducted following a combination of the variable-oriented approach and the case-oriented approach.

In order to examine the NIMBY conflict management model, this study first constructed hypotheses for the NIMBY conflict management model from the perspective of the government role and public participation. A theoretical framework was then constructed for analyzing NIMBY conflict management based on the two-dimensional matrix of government role and public participation. On the basis of the findings of the impact of public participation, EID, and

government role in the NIMBY conflict management process, the NIMBY conflict management model was developed.

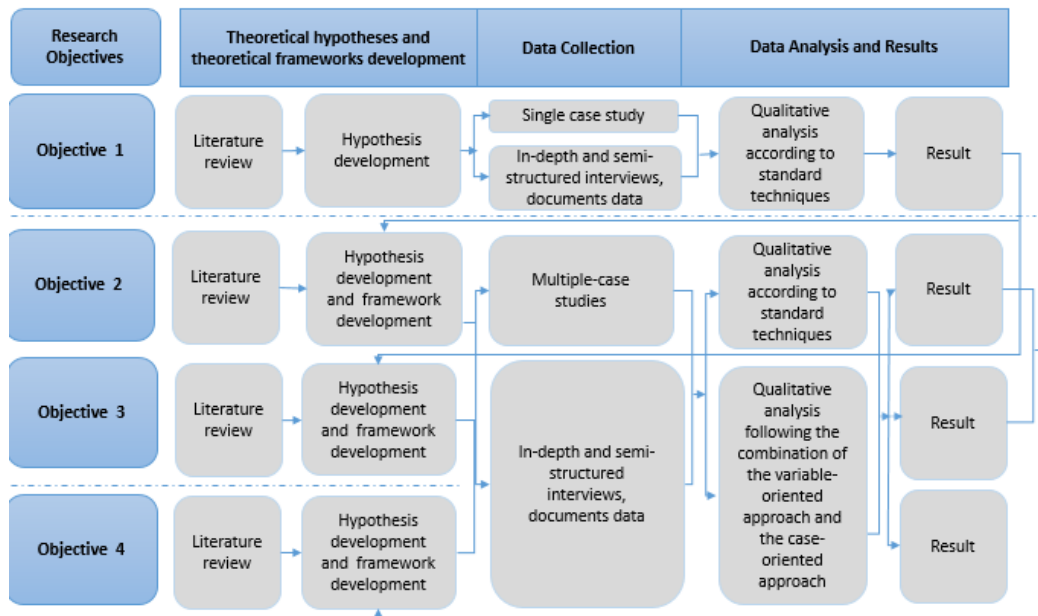


Figure 3. 1 Research process and research methodology for this study

The next subsection introduces the research method for investigating the urban NIMBY conflict management model for this study.

3.2.2 Research method

Case study is the research method used for answering the study's research questions. There are three purposes of research: exploratory, descriptive or explanatory (Yin, 2002). Yin (2002) argued that in general, case studies are the preferred strategy when "how" or "why" questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within a real-life context. In general, case study

methods are appropriate for helping researchers explain how scenarios affect research results (Yin, 2002).

Case studies have also been criticized for being subjective and too in-depth on specific cases and are not generally representative (Miles and Huberman, 1994). However, Lipset and et al. (1956) maintained that the goal of a case study is to do a “generalizing” and not a “particularizing” analysis. Although some scholars have criticized case studies for not providing a basis for scientific generalization, Yin (2002) argued that case studies are generalizable to theoretical propositions and not to populations or universes. The goal of doing case study is to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization) (Yin, 2002). Mile et al. (2014) argued that analytic generalization from one case to another is based on a match with theory rather than a greater universality. Cases are based on concepts to help deep understanding of facts, rather than on the basis of representation to determine whether a sample represents the whole (Mile et al., 2014). Yin (2002) and Mile et al. (2014) argued that since case studies are not based on the principle of random sampling, it cannot obtain statistical generalization, but qualitative studies usually use intentional sampling. Since sampling for qualitative research is usually based on theory, it can obtain analytic generalization (Yin, 2002; Mile et al., 2014). Firestone (1993) argued that the advantage of qualitative research is

that generalization is analyzed from the materials, rather than population derived from a sample.

Case study is the main research method in the field of public administration (Yang and Miller, 2007). In addition, case study method is also one of the main research methods for NIMBY conflict studies (Lesbirel, 2011). Academics generally choose specific case study methods for the research questions of NIMBY conflict studies (Johnson, 2009; Li, 2016).

To explore effective urban NIMBY conflict management model, single case study method was selected to examine issues between stakeholders in NIMBY conflict management. At the same time, a multiple-case study method was selected to examine the effectiveness of public participation, EID, and the role of government on the NIMBY conflict management process and the NIMBY conflict management model. Based on the case study method, qualitative analysis of data, which included in-depth interviews and documental information, was conducted following the combination of the variable-oriented approach and the case-oriented approach. Table 3.1 shows the research methods, data collection, and data analysis methods used for the research objectives in this study.

Table 3. 1 Research objectives, research method, data collection, and data analysis

<i>Research objectives</i>	<i>Method</i>	<i>Data collection</i>	<i>Data analysis</i>
1. Issues between the stakeholders in	The single case Study (Lipset et al., 1956;Yin,	Semi-structured interviews,	Qualitative analysis

the NIMBY conflict management process (Chapter 4)	2002)	documents data (Mile and Huberman, 1994; Yin, 2002)	according to standard techniques (Miles and Huberman, 1994; Yin, 2002; Koontz and Newig, 2014)
2. Public participation and environmental information disclosure impact on NIMBY conflict management (Chapter 5)	Multiple-case studies (Lipset et al., 1956; Mile and Huberman, 1994; George and Bennett, 2005; Koontz and Newig, 2014; Mile et al., 2014; Johnson, 2009; Li, 2016)	Semi-structured interviews, documents data (Mile and Huberman, 1994; Yin, 2002)	Qualitative analysis according to standard techniques (Miles and Huberman, 1994; Yin, 2002; Koontz and Newig, 2014)
3. The role of government impact on NIMBY conflict management (Chapter 6)	Multiple-case studies (Lipset et al., 1956; Mile and Huberman, 1994; George and Bennett, 2005; Koontz and Newig, 2014; Mile et al., 2014; Johnson, 2009; Li, 2016)	Semi-structured interviews, documents data (Mile and Huberman, 1994; Yin, 2002)	Qualitative analysis according to standard techniques (Miles and Huberman, 1994; Yin, 2002; Koontz and Newig, 2014)
4. NIMBY conflict management model (Chapter 7)	Multiple-case studies (Lipset et al., 1956; Mile and Huberman, 1994; George and Bennett, 2005; Koontz and Newig, 2014; Mile et al., 2014; Johnson, 2009; Li, 2016)	Semi-structured interviews, documents data (Mile and Huberman, 1994; Yin, 2002)	4. NIMBY conflict management model (Chapter 7)

Single case study method and multiple-case study method can help enhance research objectivity, internal validity, external validity and the research reliability in this study of the urban NIMBY conflict management model.

3.3 Theoretical hypotheses and theoretical frameworks

This section introduces the four theoretical hypotheses and theoretical frameworks for each research objective used for investigating a NIMBY conflict management model.

3.3.1 Theoretical hypotheses of major issues between the stakeholders in NIMBY conflict management

Is there a problem with public participation, EIA, and information disclosure as strategies for resolving NIMBY conflicts? Or do these strategies themselves have no problems, but are not well implemented? Or these strategies have been implemented, but are not closely related to the causes of the NIMBY conflict? Are the opponents selfish, self-interested, or rational? What is the government's perception on the motivations of NIMBYs? Does the government's perception on the motivations of NIMBYs impact on NIMBY conflict management? Is there any problem that the government has when making the NIMBY project policy decision? Based on the previous studies, this Chapter proposes the following research hypotheses for issues between the stakeholders in NIMBY conflict management:

H_{a1}: Public participation in EIA is one issue between the government and the affected residents in NIMBY conflict management. Public participation in the NIMBY project EIA is a matter of academic debate. The need to improve public

participation in EIA is recognized by scholars and practitioners. IAIA (International Association for Impact Assessment) claims that the aim of public participation is to improve the practice of EIA (IAIA, 2018). Based on the EIA experience in Taiwan, Tang and Chiu (2010) argued that citizens should be involved in the policy decision for avoiding professionals servicing for politics. O'Faircheallaigh (2010) argued that different forms of public participation lack interaction with each other. Based on NIMBY case studies in China, Johnson (2010) indicated that public participation in EIA is limited in China. Based on evidences from waste management in Britain, Petts (2003) identified institutional, technical, and cultural barriers for ineffective public participation. Wu et al. (2011) observed that the Chinese government implemented public participation in the SEA only according to the minimum legal requirements. Wu et al. (2011) found that information was not completely disclosed and that the EIA practitioners' perception of the public's low educational background was the main reason for ineffective public participation in EIA.

H_{a2}: The health factor in project EIA is an issue between the government and the affected residents in NIMBY conflict management. H_{a3}: The health factor in project EIA is an issue between the affected residents and the project developer in NIMBY conflict management. Daniels (2008) asserted that the EIA report should be evaluated based on “good science”. The debate about what is good science appears endless, but knowledge about human effects on the environment

does change (Daniels, 2008). The best method for assessing environmental impact is still a theoretical debate with no consensus having been reached in practice. Carmichael et al (2012) argued that the health factor should be integrated into urban spatial planning through impact assessment. Based on the NIMBY case studies in China, Johnson (2013) indicated that health concerns is the main concerns for citizens. Naddeo et al. (2013) argued that with current methods it is difficult to integrate the technical and social impacts.

H_{a4}: Opaque NIMBY facility information is one issue between the government and the affected residents in NIMBY conflict management. Information disclosure and transparency has been studied as a strategy for resolving NIMBY conflicts. However, scholars have not reached a consensus on the impact of information disclosure on NIMBY conflict management. The support viewpoint argues that external stakeholders access to information can help relieve their concerns over NIMBY facilities, improve the decision-making process and enhance the public's understanding of what local government is doing and why, thereby increasing public trust in the local government (Grimmelikhuijsen et al., 2013; Porumbescu, 2015). However the criticisms indicate that there are two challenges for the disclosed information: first, the disclosed information may not match the public's expectations; second, the disclosed information may not improve the responsiveness of the local government (Etzioni, 2014; Porumbescu, 2015). Based on empirical studies in China, Johnson (2011) noted that

information disclosure is a policy tool by the government to respond to public concerns over NIMBY facilities. However, Johnson (2014) found that there has been an increasing call from the public for transparency with respect to NIMBY facilities. Li (2015) argued that in China the public has to accept positive information given to it by the government, but has few opportunities to access the substance and the procedural details of whatever information is given. Zhou (2015) explained that when the Chinese government does not have enough confidence to disclose information, a policy of not divulging state secrets is adopted as an excuse to make information inaccessible. Wu (2015) argued that there needs to be a clear boundary between what government information should be open to the public and what should be kept secret.

H_{a5}: The motivations for public protest is an issue between the government and the affected residents in NIMBY conflict management. There are mainly three viewpoints for explaining the motivations of NIMBY protests. The first viewpoint is that opponents are emotional and their risk perceptions of the NIMBY facilities are irrational (Mazmanian and Morell, 1990; Kraft and Clary, 1991). The second viewpoint is that opponents are selfish. They want to protect their own economic interests and fear property devaluation for the NIMBY facility siting (Smith and Desvousges, 1986; Brion, 1991; Altshuler and Luberoff, 2004). The third viewpoint is that protesting residents are prudent, smart and rational. They can not only identify the problems of the NIMBY facility but also

have good grounds for environmental and technical concerns over the NIMBY facility, unlike the planning experts (Gregory et al., 1991, Matheny and Williams, 1985; Zheng et al., 2015). Zhang and Tong (2013) argued that the public's economic rational, scientific rational and value rational lead to different public reactions to the NIMBY facility.

H_{a6}: The gap between old urban planning policymaking and fast city development is an issue between the government and the affected residents in NIMBY conflict management. Based on the “technology-development” hemisphere and “management-institution” hemisphere analytical framework, Zhu et al. (2015) proposed a “two hemisphere theory and method” to integrate development and management for studying sustainability science. Based on the perspective of sustainable urban management, Zhu et al. (2015) argued that urban management as a management objective without urban development is insignificant, while urban development as an action guarantee without urban management is also insignificant. Based on the “two hemisphere theory and method” provided by Zhu et al. (2015), Sun and Zhu (2014) argued that there is a great gap between the requirements of rapid urban development and the institutional support measures for China's urban NIMBY conflict management.

H_{a7}: Whether NIMBY project policy should be considered more from an economical standpoint and less on the social impact is an issue between the government and the affected residents in NIMBY conflict management. *H_{a8}:*

Whether NIMBY project policy should be considered more from an economical standpoint and less on the social impact is an issue between the affected residents and the project developer in NIMBY conflict management. Fung et al. (2011) argued that the government considered economic and technical aspects too much for NIMBY facility siting, but rarely considered environmental and social impacts. Altshuler and Luberoff (2004) find that the NIMBY facility siting planning in the United States is not static. Based on a large number of empirical studies on NIMBY projects in the United States, Altshuler and Luberoff (2004) found that technocrats mainly take responsibility for NIMBY project planning and that engineers have fixed decision-making criteria for siting the NIMBY facility so that the facility siting strategies adopted in each place around the United States are always the same. Even though construction of an NIMBY facility is in the interests of local business and political leaders, affected residents and local environmental protection associations will still protest (Altshuler and Luberoff, 2004). Since sustainable development has become the goal of managing urban development, economic, social and environmental development should be coordinated (Zhu, 2004). With the evolution of sustainable development theory, economies and societies should be seen as embedded parts of the biosphere (Raworth, 2017).

Thus, this section provides seven theoretical hypotheses of major issues between the stakeholders in NIMBY conflict management.

3.3.2 Theoretical hypotheses and theoretical framework for the impact of public participation and EID on NIMBY conflict management

Previous studies show that there are mainly four aspects of public participation impacting the public's acceptance of NIMBY facilities. They are involved stakeholders, the degree of participation, participation approach, and timing.

H_{b1}: Involved public stakeholders influence public acceptance of NIMBY facilities. McAvoy (1999) stated that public participation as a noneconomic factor can have a positive impact on NIMBY facilities. Drazkiewicz et al. (2015) argued that public participation positively affects environmental outcomes. However, Thomas (2013) found that when participants discovered that their input or concerns were not considered or utilized in the decision-making process, they would think their time was wasted and ended up distrusting the local government. Kati and Jari (2016) suggested that key stakeholders should be involved and value pluralism should be carefully analyzed for successful green infrastructure planning.

H_{b2}: The degree of participation influences public acceptance of NIMBY facilities. Buckwalter (2014) indicated that the choice for administrators was not necessarily whether to include the public but rather how the communication quality between the government and the residents could be improved to lessen the impact. Arnstein (1969) provides an influential and useful citizen

participation ladder with eight rungs: manipulation, therapy, informing, consultation, placation, partnership, delegated power, and citizen control. Thomas (1995) provided three approaches for sharing decision-making authority with the public, which include public decision approach, unitary public consultation, and segmented public consultation. Thomas (1995) argued that segmented public consultation is suitable for NIMBY conflict management.

H_{b3}: A participation approach influences public acceptance of NIMBY facilities. There are mainly two purposes of public involvement: involving the public for information, and involving the public to build acceptance (Thomas, 1995). Based on the incentives for public participation, Thomas (2013) indicated that there are various participation approaches, for instance public hearing, public meetings, advisory committees, and citizen surveys.

H_{b4}: Participation time influences public acceptance of NIMBY facilities. Thomas (1995) emphasized that public managers often defend their decision-making without public participation by citing time constraints. Based on a national survey, Ibitayo and Pijawka (1999) argued that early and continuous public involvement, and taking account of the public's concerns over the siting and operation of NIMBY facilities are strategies for NIMBY conflict management. Thomas (2013) suggested that the public should be involved in decision-making as early as possible to avoid concerns over their input.

Previous studies show that the EIA report and EIA procedures are the main aspects of EID impacting public acceptance of NIMBY facilities.

H_{b5}: The EIA report influences public acceptance of NIMBY facilities. The EIA report is a written report, which describes the method for assessing the environmental impact of facilities. There is still controversy over the methods of assessing environmental impact. Supporters of EIA reports (Noble and Bronson, 2006; Johnson, 2010; Coffey et al., 2011; Johnson, 2013) argue that it can help outside stakeholders' access environmental information about NIMBY facilities and relieve environmental concerns, but opponents argue that an EIA report disclosed by the government does not always contain the information that the public wants to know (Etzioni, 2014; Porumbescu, 2015). Carmichael et al. (2012) suggested that health factors should be assessed for environmental impact when conducting urban spatial planning. Based on empirical studies in China, Johnson (2013) argued that health risk is a key issue of the NIMBY facility EIA report. Naddeo et al. (2013) argued that one of the disadvantages of the EIA strategy is the difficulty of including health factors in the report. By investigating the impact of environmental information on public acceptance of the NIMBY facility, Diao (2014) argued that the issues of EID for a NIMBY project are: 1) at the project construction stage, the disclosed environmental information lacks pertinence; and 2) at the project operating stage, data on major pollutant emissions is not regularly published. Daniels (2008) asserted that an EIA report

should be evaluated based on “good science”. The debate about what is good science appears endless, but knowledge about human effects on the environment does change (Daniels, 2008).

H_{b6}: EIA procedures influence public acceptance of NIMBY facilities. Devine-Wright (2005) argued that the public is not satisfied with EIA procedures for renewable energy NIMBY facilities. Based on a national survey for a human service NIMBY facility, Takahashi (1997) found that compared to obtain media information, the public prefers to accept information from experts. Li (2015) argued that in China the public has to accept positive information to them disclosed by the government, but it has few opportunities to access the substance and the procedural details of either positive or negative government information given to them. Diao (2014) argued that local government not being open to criticisms and petitions concerned with environmental issues relating to NIMBY facilities is a cause of conflict.

This study employed a theoretical framework (Table 3.2) of the planning and operating stages to examine the impact of public participation and EID on NIMBY conflict management, specifically investigating the impact of stakeholders, the degree of participation, the participation approach, the timing, the EIA report, and the EIA procedures.

Table 3. 2 Framework for analyzing the impact of public participation and EID on the project planning and operating stages

<i>Project planning and operating stages</i>	
Project planning stage	Project operation stage
Public participation	
<ul style="list-style-type: none"> • Involved stakeholders • Degree of participation • Participation approach • Timing 	
EID	
<ul style="list-style-type: none"> • EIA report • EIA procedures 	

Based on the research framework from the perspective of the project planning and operating stages, this section provides six theoretical hypotheses of the impact of public participation and EID on NIMBY conflict management.

3.3.3 Theoretical hypotheses and theoretical framework for the impact of government role on NIMBY conflict management

Previous studies show that there are six main aspects of government role impacting the public's acceptance of NIMBY facilities. They are the policy aim, administrative process and administrative procedures, government response, the role of government, policy space, and policy stage.

H_{c1}: A policy that balances the relationship between policy implementation and public acceptance of the policy decision influences public acceptance of NIMBY facilities. Zhu et al. (2014) argued that policy decisions require policy makers and stakeholders to reach consensus on goals and actions, and that

policy implementation depends on the collaborative partnership of conflict-deliberation and principal-agent. Thomas (1995) argued that the degree of public participation depends on the mutual restriction between the requirement of policy quality and the requirement of policy acceptability. Thomas (1995) argued that if public managers make public decisions individually without being sure of whether the public accept the policy decision, the public should be involved in the public decision stage. Policy implementation depends on the requirement of the policy decision quality, such as the technical constraint, budget constraint, and regulatory constraint. Maintaining social stability is the governance logic of many governments (Wong et al., 2012). Based on empirical studies of urban governance in the United States, Altshuler and Luberoff (2004) found that in the late 1960s and early 1970s, there were NIMBY conflicts with environmental protection, the civil rights movement and cultural relics protection. Later the law ruled that public acceptability should be included in the facility siting decision. Thus after an era of transition from the mid-1960s to the early 1970s, urban development transited into an era of “do no harm” from the mid-1970s to 2000s (Altshuler and Luberoff, 2004). Because of NIMBY conflicts, since 2001 New York City has conveyed garbage to landfills and incinerators outside the city (Bloomberg and Pope, 2017).

H_{c2}: Fair and just administrative processes and procedures in NIMBY project policy implementation influence public acceptance of NIMBY facilities. Fan

(2013) argued that the government's close-ended decision-making approach and goal-oriented administrative processes is one cause of NIMBY conflicts in China. From the perspective of urban planning, Zheng (2011) argued that issues of public interest, the protection of private interests, and procedural justice in facility siting are the main causes of NIMBY conflict. Buchanan (1975) argued that there are contracting processes among different specific interest entities rather than choosing processes according to public interest. Denhardt and Denhardt (2000) argued that it is the responsibility of the government to ensure that the solutions generated in administrative processes are fair and equitable when dealing with issues of public interest.

Flyvbjerg et al. (2013) argued that risk and accountability should be much more centrally placed in mega-project decision-making. Hughes (2012) argued that the relationship between government and citizens depends on a system of accountability, whereby the government organization carries out its function and the citizenry allows it to do so, but on condition that those powers are not exceeded and that the government and its agencies are accountable. Rosenbloom et al. (2009) defined accountability as the process of using external indicators to investigate public managers. Rosenbloom et al. (2009) argued that public managers should guard against misrepresentation of the public interest, corruption, and subversion. Mao (2004) argued that it is essential to build a responsibility system based on the law and administrative procedures, and to guarantee equality through procedures in the responsibility system for reducing

scapegoat problems in the accountability process. Thus, this study hypothesizes that:

H_{c3}: Government response time, attitude and contents influences public acceptance of NIMBY facilities. Previous studies show that there are three main aspects of government response impacting on public acceptance of NIMBY facilities. They are government response time, government response attitude, and government response content. The World Development Report (1997) indicated that greater responsiveness means changing not only the way state agencies work with clients, but also the way those agencies are organized and reward their workers. Sun et al. (2016a) argued that the interaction between the government and the public influences NIMBY conflict management. Zhang (2014) argued that government response is important in the interaction between local government and the public. Government response to public concerns signifies a substantial interaction with the public, which affects public perception of the government's credit (Zhang, 2014).

Chen (2012) argued that in China, because of un-timely government responses in connection with NIMBY projects, the public seeks to resolve problems through petition and litigation; however, dissatisfaction with results can lead to social conflict between affected residents and the local government. As a measure of public service performance, improving the quality of public administrators could increase citizens' satisfaction with the delivery of public

service (Isaac Mwita, 2000; Lyu and Wang, 2014). However, in developing countries, the delivery of public services is centralized with decision-making by the government (Isaac Mwita, 2000). In China, the government monopolizes the planning and siting of NIMBY facilities (Zhang and Tong, 2014). Under the bureaucratic system in China, some local governments avoid their responsibilities and sluggishly address public interests (Zheng, 2007). Li et al., (2016) argued that in urban China, because local governments do not respond in a timely manner to residents' complaints regarding the siting of NIMBY facilities, the public starts to protest.

H_{c4}: Local government's organizing capacity, coordinating capacity and leadership influences the public's acceptance of NIMBY facilities. Thomas (1995) argued that when organizing public participation in public decisions, public managers must be able to shape a decision-making forum appropriate both for the special issue and for the actors interested in that issue. To work effectively within any particular forum, the manager must be able to use facilitation skills to move small and large groups toward consensus (Thomas, 1995). Managers must be able to persuade others to join in pursuing common ends and to become leaders themselves in that pursuit (Thomas, 1995). Flyvbjerg et al. (2003) suggested changing the role of government in the development of megaprojects from a stakeholder to a judge and coordinator through transparency, performance specifications, and explicit formulations of regulatory regimes.

Cavagnaro and Curiel (2017) argued that the dimension of sustainable development on the societal level requires government management and governance towards sustainable development. Zhu (2018) indicated that leadership for sustainability means the capability of human capital to coordinate physical capital, natural capital, and social capital. Denhardt and Denhardt (2011) defined the role of leadership in governance as one of engaging with various groups that are or might become members of the network to bring forth a common vision in which all can share. Denhardt and Denhardt (2011) therefore argued that there are four imperatives of leadership in governance: fostering collaboration, building resilience and adaptive capacity, resolving ethical concerns through dialogue, and engaging citizens. Based on empirical studies of government's impact on collaborative-environmental management, Koontz (2006) found that local-government actors played leadership roles in human resources, group structure and environmental outcomes, and also contributed to the development of new network ties on social outcomes. Based on government-led urban development management in China, Sun and Zhu (2014) suggested further research into government-led NIMBY conflict management model.

H₅: Policy space of NIMBY projects influence public acceptance of NIMBY facilities. Owing to unlimited urban sprawl, 'new urbanism' has been developed for resolving urban problems such as traffic congestion, air pollution, and inefficient land use patterns. Based on the idea of compact cities, new urbanism

emphasizes planning with mixed-use urban functions, compact urban space, and reasonable population density. Therefore, there is a requirement for the scale of urban infrastructure systems. Zhu (2016a) argued that NIMBY conflicts have challenged China’s urban government’s smart management capacity. Sun et al. (2016a) argued that the gap between old urban planning policymaking and fast city development is one of the causes for NIMBY conflict management in China.

H_{c6}: In the policy process, there may be NIMBY conflicts at the policy decision stage or at the policy implementation stage. Policy decision models have been studied for NIMBY conflict management in previous research (Kunreuther et al., 1993; Inhaber, 1998; McAvoy, 1999; Wolsink, 2000; Chiou, 2011; Fung et al., 2011; Bloomberg and Pope, 2017). However, from the perspective of policy processes, there may be NIMBY conflicts at the decision stage, or at the policy implementation stage.

Based on the above hypotheses, this study employed a research framework (Table 3.3) from the perspective of policy decision-making and policy implementation stages to examine the impact of government role on NIMBY conflict management, specifically analyzing the impacts of policy aim, administrative processes and procedures, government response, the role of government, policy space, and policy stage.

Table 3. 3 Framework for analyzing the impact of government role from a policy process perspective

	Policy decision-making	Policy
--	------------------------	--------

Government role

- Policy aim
 - Administrative process and administrative procedures
 - Government response
 - The role of government
 - Policy space
 - Policy stage
-

Thus, based on the research framework from the perspective of policy decision-making and policy implementation, this section provides six theoretical hypotheses of impact of government role on NIMBY conflict management.

3.3.4 Theoretical hypotheses and theoretical framework for the NIMBY conflict management model

Based on the dimensions of state-centered and society-centered and other dimensions of the top-down and bottom-up approach, Sellers (2011) classified four governance approaches (Table 3.4) and argued that NIMBY conflict governance belongs to the state-centered and bottom-up approach. He also argued that information release and neighborhood participatory institutions, which are the effects of specific mechanisms to institutionalize state-society interaction, need to be understood in terms of their consequences for the role of societal actors in governance.

Table 3. 4 Governance classification based on approaches to state-society relations (Sellers, 2011)

Approach	State-centered	Society-centered
Top-down	National institutions; Political elites; Institutional effects on	National capitalist institutions; International standard-setting

	collective capacities; National development policies	
Bottom-up	<u>Implementation studies;</u> <u>Multilevel governance; Local leadership analyses; Local public management</u>	Local and regional economies; Law and society; Social capital; Ecosystem-based governance; Social movement-based governance

Based on the dimension of democracy and centralization and other dimension of good governance, Zhu (2011) classified four kinds of state in the world (Table 3.5) and argued that the state development quality depends on the state's governance approach rather than whether the state has democratic institutions. Furthermore, although democratic political systems and good management structures have led to successful social development in Western countries, issues of governance were revealed as a result of the 2008 financial crisis. Leung (2008) argued that in the West, democracy is used for the purpose of freedom, and more and more people use democracy for private interests. Recently, urban economists criticized NIMBY conflicts for hindering urban development (Glaeser, 2011; Florida, 2017).

Table 3. 5 State classification based on democracy and governance (Zhu, 2011)

	Good governance	Bad governance
Democratic	Switzerland, Northern Europe, etc.	India, Eastern Europe, Southeast Asia, etc.
Centralized	China, Singapore, etc.	North Korea, etc.

According to the levels of institutional capacity and social capacity for sustainable development, Evans et al. (2005) classified four governance modes between civil society and local government in the sphere of urban sustainable development (Table 3.6). Evans et al. (2005) argued that the higher the levels of

both social and institutional capital, the greater the likelihood of sustainable development policy success.

Table 3. 6 Scenarios for different modes of governance and their impact on sustainable development policy outcomes (Evans et al., 2005)

		Institutional capacity for sustainable development (SD)	
		Higher	Lower
Social capacity for SD	Higher	1 Dynamic governing → High SD policy success	4 Voluntary governing → Low SD policy success
	Lower	2 Active government → Medium SD policy success	3 Passive government → SD policy failure

In summary, this study provides hypotheses for a NIMBY conflict management model based on the relationship between local government and the public. This study uses public participation and EID to measure the relationship between local government and the public; and at the same time uses the role of government to measure the government in the relationship between local government and the public. The study hypothesizes that:

H_{d1}: The higher the effectiveness of government role and the higher the effectiveness of public participation (including EID) and their impact on NIMBY conflict management, the higher the effectiveness of the NIMBY conflict management process.

In this study effective urban NIMBY conflict management is defined as the nearby residents are satisfied with or accept the solutions of the NIMBY conflict management, which results in public acceptance of the NIMBY facility and the NIMBY project policy decision can be implemented (Wolsink, 2000; Devine-Wright, 2010; Petrova, 2013).

Based on the two-dimensional matrix of government role and public participation, this study provides four modes for NIMBY conflict management and their impact on NIMBY conflict management (Table 3.7).

Table 3. 7 Framework for analyzing the NIMBY conflict management model

		Effectiveness of government role impact on urban NIMBY conflict management	
		Higher	Lower
Effectiveness of public participation(including EID)	Higher	Consensus mode: win-win, project implementation	Policy failure mode: public win, project cancelled
	Lower	Compromise mode: public accept, project implementation	Lose-lose mode: project delayed or cancelled

After presenting the theoretical hypotheses of the urban NIMBY conflict management model, the next section introduces the case study method.

3.4 Case study

This section introduces the single case study method, the multiple case studies method, and case context for investigating the urban NIMBY conflict management model.

3.4.1 Single case study

Single case study method was chosen to examine the major issues between the stakeholders in the NIMBY conflict management process. In general, a case study is the preferred method when “how ”or “why” questions are being posed (Yin, 2014). As Lipset et al. (1956) stated, the goal of a case study is to do a “generalizing” and not a “particularizing” analysis.

The Shanghai Hongyang substation NIMBY conflict was selected to examine the major issues between stakeholders in a NIMBY conflict. This case was selected for the following reasons: first, single case study method is suitable for investigating the major issues of NIMBY conflicts (Li et al., 2016; Sun, 2015); second, this kind of NIMBY facility is one of the facilities most opposed in Shanghai; third, the author has the geographical advantage of studying in Shanghai.

Limits of the single case study are as follows. The project developer could not be interviewed in this case. Because of the sensitive political context between the local government and the residents of this case and at the same time Shanghai Electric Company as a State-owned enterprise, it was difficult for the author to connect with the developer.

However, there were three other approaches for obtaining data from the project developer in the selected case. One was a newspaper report on the Hongyang substation that included an interview with the project developer, another was articles published by the project developer about the Hongyyang substation, and the third was interviews with residents and government officials. Through the above data sources, this study could indirectly obtain the standpoint of the project developer and further analyze the issues between the project developer and other stakeholders.

3.4.2 Multiple case studies

Case studies were chosen to specifically examine the effectiveness of public participation, EID and the role of government in NIMBY conflict management and the NIMBY conflict management model. In general, the use of case studies is the preferred method for the researcher to improve the explanations regarding how outcomes are impacted by the local context (Yin, 2014). In particular, multiple case studies make it possible for researchers to understand the causal relations through multiple factors behind the complex phenomena (George and Bennett, 2005; Koontz and Newig, 2014).

Cross-case analysis method was chosen to examine how public participation, EID and the role of government impact NIMBY conflict management and the NIMBY conflict management model. Cross-case analysis can enhance generalizability, and deepen understanding and explanation (Mile and Huberman, 1994). By looking at a range of similar and contrasting cases, researchers can understand a single-case finding, grounding it by specifying how and where and, if possible, why it carries on as it does. Researchers can strengthen the precision, validity, stability, and trustworthiness of the findings (Mile and Huberman, 1994).

Multiple case studies in Shanghai and Hong Kong were conducted to examine the impact of public participation, EID, and the role of government on NIMBY conflict management. Cases were selected for three reasons: first, multiple case studies method is suitable for NIMBY conflict studies (Johnson, 2009; Li, 2016;

Sun et al., 2016b). Second, the conflicts caused by the NIMBY facilities in the selected cases in this study are the main NIMBY conflicts in Shanghai and Hong Kong. In the last decade different degrees of NIMBY conflicts have occurred in Shanghai and Hong Kong, which have brought tactical issues for urban managers in both cities. The author has the geographical advantage of studying in Shanghai and Hong Kong. Third, the number of the selected cases and the criteria for choosing the selected cases in this study could examine how public participation, EID, and the role of government is implemented and also examine the NIMBY conflict management model. Five cases were selected though multiple-case sampling in Shanghai and Hong Kong to investigate the impact of public participation, EID, and the role of local government on NIMBY conflict management and the NIMBY conflict management model. Mile et al. (2014) suggested that when employing multiple-case studies for analytical generality, considering how rich and complex the within-case sampling is, five richly researched cases should be chosen as a minimum for multiple-case sampling adequacy.

There are two limitations of case study in this study. First, the selected cases are in Shanghai and Hong Kong, but mostly in Shanghai. Although NIMBY conflicts occur in other cities in China, based on this study's research questions and the requirement of rich and complex information for qualitative case study, multiple cases studies in Shanghai and Hong Kong were used to explore the

impact of public participation, EID, and the role of government on NIMBY conflict management and the NIMBY conflict management model. However, the author argues that the cases selected in these two cities could be used to investigate this study's research questions. In the future, more NIMBY conflicts in other cities could be used to examine the results of this study.

Second, the selected five NIMBY conflict cases, which were used to examine the research questions in this study were mainly economic NIMBY conflicts caused by energy facilities and transportation facilities, and environmental NIMBY conflicts caused by waste management facilities. Mile et al. (2014) suggested that when employing multiple-case study for analytical generality, considering how rich and complex the within-case sampling is, five richly researched cases should be used as a minimum for multiple-case sampling adequacy. Thus, this study argues that the five selected cases could explore the research questions in this study. In the future, more NIMBY conflicts could be used to examine the conclusion of this study. Moreover, social NIMBY conflicts caused by social service facilities could be used to examine the results of this study.

Based on the reviews of kinds of NIMBY conflicts in Chapter 2, economic NIMBY conflicts caused by energy facilities and transportation facilities, and environmental NIMBY conflicts caused by waste management facilities were selected for examining the effectiveness of the NIMBY conflict management

model in this study. They are the Shanghai Hongyang Substation NIMBY conflict (Hereinafter referred to as Hongyang substation), Shanghai Yangpu 220kV Substation NIMBY conflict (Hereinafter referred to as Yangpu substation), Shanghai Jiangqiao Waste Incineration Plant NIMBY conflict (Hereinafter referred to as Jiangqiao Waste Incineration Plant), Shanghai Maglev Transportation Infrastructure (Hereinafter referred to as Maglev Transportation Infrastructure), and Hong Kong's South East New Territories (SENT) Landfill NIMBY conflict (Hereinafter referred to as Hong Kong SENT landfill).

The background of each case is as follows:

3.4.3 Case context

Shanghai Hongyang substation, Yangpu substation, Jiangqiao Waste Incineration Plant, Maglev Transportation Infrastructure, and Hong Kong SENT landfill were chosen for this study. Shanghai Hongyang substation provides insights into major issues between the stakeholders in NIMBY conflicts. These five cases provide comparative insights into how public participation, EID, and the role of government affect NIMBY conflicts and the NIMBY conflict management model based on different institutional contexts.

Background of NIMBY Conflicts in Shanghai and Background of the Hongyang Substation NIMBY Conflict

Conflicts caused by substations are the main NIMBY conflicts in Shanghai. As an outstanding example of reform and opening up of markets in China, Shanghai has developed rapidly in recent decades and the number of urban construction

projects continues to increase. At the same time, Shanghai has attracted a large population in world terms. The population in Shanghai was about 24 million in 2017¹⁵. The latest “Shanghai Urban Master Plan (2017-2035)” pointed out that the resident population would be controlled at 25 million¹⁶. Shanghai is also undergoing a process of urban renewal and urban development. Therefore, there needs to be enough infrastructure and facilities to ensure the normal operation of the city. These construction projects and facilities are like substations, waste treatment plants, the airport, and high-speed rail links (Lin, 2011). However, these kinds of construction projects and facilities are located in residential areas, which bring negative impacts on the residential areas and further affect residents’ interests. In recent years, NIMBY conflicts arising out of substation projects have frequently occurred in the district center (Lin, 2011). Table 3.8 presents NIMBY conflicts caused by substations in the last decade in Shanghai.

Table 3. 8 NIMBY conflicts caused by substations in the last decade in Shanghai

<i>Time</i>	<i>NIMBY conflicts caused by substations</i>
2007	Residents living in Lane 2885, Jinxiu Road, Pudong district, protested against nearby 220 kV substation Xindonghua 220 kV substation project triggered residents’ protests in Minhang and Songjiang districts Hongyang 500 kV substation triggered residents’ protests in Lane 1585, Zhengli Road, Yangpu District
2008	Hongyang 500 kV substation triggered residents' protests in Lane 1585, Zhengli Road, Yangpu District

¹⁵ Total population, Shanghai Municipal Bureau of Statistics, <http://www.stats-sh.gov.cn/shglmenu/201105/216887.html>, accessed on January 20, 2018.

¹⁶ <http://www.shanghai.gov.cn/newshanghai/xxgkfj/2035002.pdf>, accessed on January 20, 2018.

	Residents of Yuanhuacheng community in Jiuting Town, Songjiang District protested substation in lane 1200, Laiyin road
2010	Xiangjiaba-Shanghai 800kV and other four high-voltage lines caused villagers' protests in Maogang town, Songjiang District
2012	Residents of Tongji Beiyuan in Yangpu District protested Yangpu 220 kV substation Hongyang 500 kV substation triggered residents' protests in Lane 1585, Zhengli Road, Yangpu District
2014	Hongyang 500 kV substation triggered residents' protests in Lane 1585, Zhengli Road, Yangpu District

Note: data sources from Lin (2011) and interviews by the author

Shanghai construction projects decision-making model. Shanghai construction project decision-making is government-led. Government public sectors and government officials are key decision-making sectors and decision makers. There are few channels for public participation. In general, social issues are considered in the policy-making process because they have attracted the attention of government officials who seek political gain. Besides the consideration of government officials, social issues that the public has a strong response to or experts having strong recommendations are more easily considered in public decisions (Lin, 2011).

Project procedurals and government departments involved. After the construction project enters into the policy decision-making stage, different government sectors carry out their preliminary feasibility studies according to the public sector mandates. The Shanghai Planning and Land Resources Administration conducts the project planning, and organizes expert consultations during the planning process for the demonstration and evaluation of the project

planning. The Shanghai Environmental Protection Bureau conducted the project EIA work. Based on the work of the Shanghai Municipal Bureau of Land and Resources and the Shanghai Environmental Protection Bureau, the Shanghai Municipal Development and Reform Commission (SMDRC) will establish the project. During the project establishment process, SMDRC will also invite experts for project consultation, demonstration and evaluation. Because China is under the leadership of the Communist Party of China, the Shanghai Municipal People's Congress Standing Committee has the power to make decisions. If the project has an impact on the entire Yangtze River Delta region or even the whole country, then the project policy needs to be approved by the National Development and Reform Commission.

Major projects refer to large construction projects the government has invested in. It also refers to projects that have significant impacts on the economy, society and the environment. Major projects leading to social protests frequently occur in central districts in Shanghai. According to the Shanghai Plaza Public Security Office, the city's major construction projects, which have led to social protests in recent years, have become one of the factors of social instability in Shanghai. Major projects need large spaces but are usually planned near densely populated areas. These projects may have negative impacts on the surrounding environment, and may threaten the interests of nearby residents.

Lin (2011) estimated that, from 2006 to 2010, 44 social protests were caused

from 378 major projects in Shanghai, which occurred in the city center or the suburbs. Three kinds of major projects have led to the most social protests: the first kind is substations and waste treatment plants, for example, the Hongyang substation; the second kind is the airport and high speed rails, magnetic levitation projects, for example, the Hongqiao airport; and the third one is the construction of rail transits and city road construction projects (Lin, 2011).

The conflict process in the Shanghai Hongyang substation. In 1993, the Shanghai Municipal Government proposed a long-term demand for the Hongyang substation. In 1995, the Shanghai Municipal Planning Bureau approved the “Jiangwan Airport Area Structure Plan¹⁷”. In this plan, the site of the 500 kV Hongyang substation was planned. In March 1999, the Hongyang substation was included in the Shanghai urban master plan. In May 2001, the State Council approved the urban master plan. In April 2003, the site selection and route selection plan of Hongyang substation was carried out. The pre-EIA was launched in September 2004. In July 2005, the National Development and Reform Commission approved the preliminary work. “In order to adapt to the needs of Shanghai’s urban development, optimize the power supply network and improve the safety of power supply in the central city”, the Shanghai Municipal Planning Administration approved the “siting planning of the Hongyang 500kV

¹⁷ Shanghai Planning, 1995 No. 910, http://www.shgtj.gov.cn/ghj_cms/uploads/qt/1995-0910/1995-0910pifu.jpg, accessed on January 20, 2018.

Substation”¹⁸. The project feasibility study report was published in March 2006. In May 2007, the Shanghai Municipal Development and Reform Commission wrote a support letter. In June 2007, the EIA agency published an “environmental information announcement on building the Hong Yang 500kv transmission project” in an official newspaper¹⁹. In 2013, the National Development and Reform Commission approved the Shanghai Hongyang 500 kV transmission and transformation project²⁰.

However, this proposal only included the planned initiative for the Hongyang substation, but did not indicate a clear and specific site and did not identify the land area of the substation (Zheng, 2012). From 1995 to 2005, the government had not determined the siting of the substation. It was until November 2005 that the Shanghai Municipal Planning Bureau finally approved the specific siting of Hongyang substation.

However, Zheng (2012) argued that when the planning of the Hongyang substation was carried out in 1999, the specific location and the land area for siting the Hongyang substation had not been decided. In November 2005 the Shanghai Municipal Planning Bureau finally approved the specific siting²¹. Lin (2011) argued that the construction of this major project was according to the

¹⁸ Shanghai Planning, 2005 No. 1025, provided by the interviewed residents.

¹⁹ Admin. (2007). 500 kV Hong yang shu bian dian gong cheng huan jing xin xi gong gao [Environmental information announcement on building the Hong Yang 500 kv transmission project]. Shanghai Wenweipo.

²⁰ NDRC. National Development and Reform Commission. (2013). No.547 provided by the interviewed residents.

²¹ Shanghai Planning, 2005 No. 1025, provided by the interviewed residents.

control detailed planning, but the specific planning and boundary lines of the project would not be clarified until the start of construction.

Shanghai Electric Power Company was to be the developer of the Hongyang substation²², particularly paying the government for the land use and taking responsibility for investing and operating the project construction²³. The Shanghai Electric Company is a division of the State Grid Corporation in East China. The State Grid Corporation is a state-owned enterprise. The Shanghai Electric Power Company engages in power transmission, distribution and sales and the Shanghai power grid unification. It also participates in the Shanghai power grid development planning formulation and implementation, rural electrification, Shanghai safe use of electricity, and saving electricity supervision and guidance.

Prior to the siting approval in 2005, Zhengwen Garden II community, a residential real estate, had already been approved as the adjacent location of the substation in 2001²⁴, though in 2000 the Shanghai Electric Power Industry Bureau had asked the Yangpu District Planning Bureau to retain most of the land plots of the Hongyang substation (Lin, 2011). The construction of the Zhengwen Garden II community was completed in 2003 and at the end of 2003 the residents

²² Site Submission. (2012). Construction project site submission of People's Republic of China. No.BA31000020120171.

²³ http://www.sh.sgcc.com.cn/html/main/col23/2013-03/04/20130304175931066813522_1.html, accessed on January 20, 2018.

²⁴ SHYDUPLAB, Shanghai Yangpu District Urban Planning and Land Administration Bureau (2001) No.4.

moved in. After the residents living in this community confirmed through the district mayor's hotline that the substation would be built next to their community in June 2007, they started to protest.

Between 2007 and 2014, the residents living in Zhengwen Garden II community continued to communicate with the local government and Shanghai Electric Company and tried different approaches for protesting against the substation siting. Despite hundreds of attempts to ask for a change of the substation siting, they were dissatisfied with responses from the government and the Shanghai Electric Company. When the author conducted interviews in 2014, the substation had already been constructed but the residents told the author that they would not stop resisting this substation. By the time the residents were interviewed for this study in 2016, the substation was still being constructed because based on public protests and feedbacks on the substation, the government modified the design of the substation from on the land to under the land at the same siting place. The interviewed residents said that after the government's design modification of the substation, residents living within different distances of the substation had different opinions on the impact of the substation's electromagnetic field and so it was hard to unify all the residents together to protest again. Therefore, the interviewed resident said they had to accept the substation (Int.SH-2). In January 2018 Hongyang substation was

completed²⁵. Figure 3.2 shows the location map of the Hongyang substation and the Zhengwen Garden II community in Shanghai.

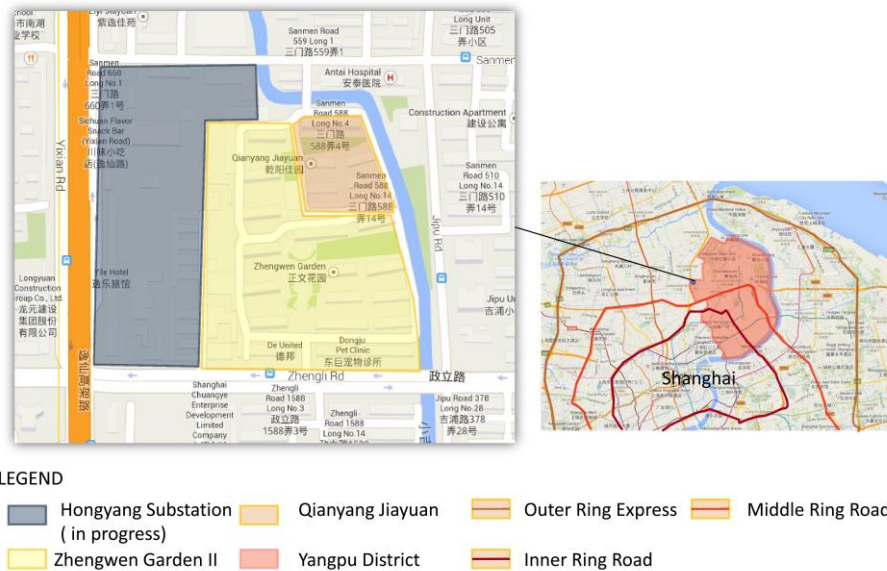


Figure 3. 2 Location map of the Hongyang substation and the Zhengwen Garden II community in Shanghai

Shanghai Maglev Transportation Infrastructure

Shanghai-Hangzhou Maglev Shanghai Airport Connection Line (Longyang Road Station-Hongqiao Integrated Transportation Hub) is a component of the Shanghai-Hangzhou Maglev Project. The aim of this connection line is to connect with the Shanghai Pudong International Airport-Longyang Road Maglev Line, the Shanghai South Railway Station, and the Hongqiao Integrated Transportation Hub. Figure 3.3 shows the location map of the Shanghai-Hangzhou Maglev Shanghai Airport Connection Line Planning and Route Selection in Shanghai.

²⁵ Shanghai Construction Group. http://www.scg.com.cn/news_detail-6700.html, accessed on March 11, 2018.



Figure 3. 3 Location maps of the Shanghai-Hangzhou Maglev Shanghai Airport Connection Line Planning and Route Selection in Shanghai

The Shanghai-Hangzhou Maglev Transportation Project was a land-based trunk line built by Hangzhou, the provincial capital of Zhejiang Province and Shanghai. Through connecting the operating Shanghai Maglev demonstration operation line and the planned Shanghai Low-speed Maglev Airport Link, the Shanghai-Hangzhou Maglev Transportation Project would provide direct access to Shanghai Pudong International airport. In March 2006, the Shanghai-Hangzhou Maglev Transportation Project was approved by the State Council.

On February 18, 2007, Shanghai Maglev Transportation Development Co., Ltd. (Hereinafter referred to as Shanghai Maglev Corporation) opened the “Shanghai-Hangzhou Maglev Shanghai Airport line” project to the residents along the line. The demolition announcement was posted to the community bulletin board along the line. The red line of the relocation in the announcement was set at 22.5 meters, however, the demolition announcement caused strong

public opposition (Zheng, 2009). The demolition announcement publicity by the Shanghai Maglev Company was carried out in the absence of the approval of the State Environmental Protection Administration. Therefore when public protested, the review of the EIA report hosted by the State Environmental Protection Administration was also not implemented²⁶.

Later, Shanghai Maglev Corporation used this project to apply for the World Expo project and then the Shanghai Municipal Government approved it. However, after coordination between the government and the residents along the line, there was still no consensus reached²⁷. Therefore, the demolition work stopped and the government announced the optimization and adjustment of this project.

On December 29, 2007, the Shanghai Municipal Planning Bureau (SMPB) published the optimized draft airport line proposal on the SMPB official website. The project EIA report was also released. The optimized project planning and EIA report, however, could not eliminate public concerns over the distance impact, the radiation risk, noise impacts, the vibration issue, the safety risk, and the real estate devaluation risk. Therefore, residents along the line still did not

²⁶ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

²⁷ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

accept this project^{28,29}. Then, starting from January 6, 2008, residents along the line began to protest³⁰. During January 12 and 13, 2008 thousands of people gathered in Shanghai People's Square to parade and protest (Zheng, 2009)³¹. The issues of public dissatisfaction with the project were mainly the necessity of the project, the impact of distance, health and environment effects on the nearby residents, as well as the issues of public participation and real estate compensation. Because this project triggered a large-scale public protest, it was eventually cancelled by the government.

The “Shanghai Rail Transit Construction Plan (2017-2025)”, which was first publicized in 2016, shows that the rail transit airport line project would be built to replace the original maglev scheme³². By the time the author did this study in November 2017, the rail transit airport line project was still in the project planning and EIA review stages.

²⁸ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

²⁹ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

³⁰ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

³¹ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

³² Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

Shanghai Jiangqiao Waste Incineration Plant

At present, one person produces about 0.85 kilograms of waste per day in Shanghai, which means in total of 20,000 tons of waste is produced each day. The problem of waste disposal is related to each Shanghai person and the future of Shanghai (Wang and Wang, 2016)³³. Jiangqiao Waste Incineration Plant, a government franchise project, is an important waste treatment project in Shanghai. Shanghai Huancheng Renewable Energy Co., Ltd. takes the responsibility of investing, constructing and managing the Jiangqiao Waste Incineration Plant. In 1999, the Jiangqiao Waste Incineration Plant project was established and construction started in 2000. In October 2003, the first phase of two furnaces and two machines (two steamers with two incinerators) was completed. In the second phase of 2005, one incinerator was added. On January 1, 2006, the Jiangqiao Waste Incineration Plant's three furnaces and two machines (three steamers and two steam turbines) were commercially put into operation. The Jiangqiao Waste Incineration Plant burns 1,500 tons of waste each day³⁴.

In 2007, in response to the increasing amount of waste generation in Shanghai, the government proposed to expand the third phase of the project next to the operating incineration plant for increasing the waste treatment amount of 2,000 tons. It is expected that a total of 3,500 tons of waste can be burned each day³⁵.

In February 2007, the project construction unit Shanghai Huancheng Renewable

³³ Wenhui Bao, waste sorting, use green to decorate the city a better life. (2018) 20180410.

³⁴ <http://www.hcwte.com/contents/171/1010.html>, accessed on January 23, 2018.

³⁵ Interview data (Int.SH-49).

Energy Co., Ltd. proposed the requirement for the extension project and asked the Shanghai Academy of Environmental Sciences to prepare the extension project EIA report. In 2009, the Shanghai Municipal Government prepared to expand the Jiangqiao Waste Incineration Plant project.

With the operation of the Jiangqiao Incineration Plant, because of the rapid development of Shanghai's urbanization, there is a high-density living and residential area near the Jiangqiao Waste Incineration Plant. The operation of the Jiangqiao Waste Incineration Plant had gradually influenced the lives of the surrounding residents. The public's dissatisfaction with the incineration plant was mainly about the odor, dioxin emissions and other negative health and environmental impacts³⁶. Therefore, when the residents of the nearby communities obtain the information that the expansion of the incineration plant was to be built at the adjacent location of the old plant, they protested strongly. The public doubted why the expansion project was to be built around the old project, which was in the high-density residential area³⁷. The protested residents mainly came from the Yangguang Weinisi residential community and the Zhenjian residential community, which are within 500 meters of the incineration plant, Taopu residential community and Shanghai Jiacheng residential

³⁶ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 23, 2018.

³⁷ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 23, 2018.

community, which are within three kilometers of the incineration plant (Figure 3.4).



Figure 3. 4 Location map of the Jiangqiao Waste Incineration Plant, Yangguang Weinisi community and the Zhenjian Community in Shanghai

Therefore, after the expansion project EIA negotiations among the stakeholders, including the affected public representatives, experts, the project developer, Shanghai Municipal Government, the State Environmental Protection Agency, and the EIA unit, the government finally decided to cancel the expansion project in 2009³⁸.

In response to public concerns about the odor, environmental and health impacts from the waste incineration plant, public sectors have upgraded the

³⁸ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on January 23, 2018.

sealing technology of garbage trucks. In addition, the road in front of the incineration plant was regularly flushed with sprinklers every day (Int. SH-49). As the project operation management unit, Shanghai Huancheng Renewable Energy Co., Ltd. built an electronic display in front of the incineration plant, dynamically disclosing waste incineration flue gas emission data and noise monitoring data every day (Figure 3.5). In addition, it disclosed transparent flue gas emission data and noise test data on the company website. Moreover, the interviewed project developer said that public inquiries and public supervision were also welcomed (Int. SH-49)³⁹.



Figure 3. 5 Electronic screen of flue gas emission data of Jiangqiao Waste Incineration Plant (photographed by the author of this thesis)

At the time the author interviewed residents in October 2017, a few of them said that the operating incineration plant had no effect on their lives at all, while

³⁹ <http://www.hcwte.com>, accessed on February 10, 2018.

some of them said that the incineration plant had little effect on their lives because they were seldom troubled by the odor from the plant. All of those interviewed said that they accepted the current operating plant.

Yangpu 220kV Substation

On November 25, 2011, the Yangpu District Planning and Land Administration Bureau of Shanghai publicly posted the “Yangpu District Xin Jiangwan Community (N091103) Unit Functional Detailed Planning F1-01, F1-02, I5-01 plot implementation deepening announcement” on their official website. The announcement clearly indicated that the Sanmen Road Guoquan North Road (F1-01, F1-02 plot) was changed to a 220kV substation of 7000 square meters. At the same time the siting planning announcement of the Shanghai Yangpu substation was posted on the wall of a vegetable market near the siting location, from November 25, 2011 to December 24, 2011. However, the vegetable market staff only informed residents of Tongji Beiyuan community one week before the deadline^{40, 41}. The residents then began to protest.

For the siting location, the residents in Tongji Beiyuan community had been earlier been told that there were to be kindergartens and green spaces for the surrounding neighborhood. They could not therefore understand why the location changed to be a 220kV substation that was to be so close to the residential

⁴⁰ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

⁴¹ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

community⁴². There was a 30 meters road between the Tongji Bei yuan community and the location of the Yangpu substation. The reasons for public protest were mainly the siting plan, the planning changing procedures, and lack of public participation in changing the plan (Int.SH-13). In January 2012, about 1980 households protested through writing joint names letters, appealing to the Shanghai Municipal Government, Yangpu District Government, Shanghai Municipal Petition office, Yangpu District Planning Bureau, holding banners at the gates of the government building, and postings in the community⁴³. Then on February 8, 2012, when they found a wall was being built on the siting place, the residents had a dispute with the construction workers and eventually pushed the wall over (Int.SH-13, Int.SH-50)⁴⁴.

When the residents asked the Shanghai Electric Power Company about the location of the site, Shanghai Electric Power Company stated that the relevant units had recommended the siting of the substation after research and comparison in 2011⁴⁵. The substation was a backup project for the “Twelfth Five-Year Plan” of Shanghai Power Grid. It would be completed and put into operation during the “Twelfth Five-Year Plan” or “Thirteenth Five-Year Plan” according to the development of power load in the region⁴⁶.

⁴² http://jiayuanxjw.fang.com/bbs/1210594622~-1/509137355_509137355.htm, accessed on February 10, 2018.

⁴³ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

⁴⁴ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

⁴⁵ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

⁴⁶ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

Public opposition initially resulted from the environmental impact, the land function issue, and real estate devaluation concerns^{47, 48}. But with more information obtained, the public were more dissatisfied with the change of plan procedures for use of the land. In particular they were dissatisfied with the opaque information and the lack of public participation in the planned changes (Int.SH-13). Subsequently, because of public opposition, the government cancelled the planned changes to the siting of the sub-station.

By the time the author interviewed the residents in June 2013, siting of the Yangpu substation had not confirmed by the government. However, the interviewed residents said they were still worried because they did not know where the substation was eventually to be sited. Figure 3.6 presents the location map of the proposed Yangpu substation and the Tongji Beiyuan community in Shanghai.

⁴⁷ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on February 10, 2018.

⁴⁸ <http://tieba.baidu.com/p/1331542164?traceid=>, accessed on February 10, 2018.



Figure 3. 6 Location map of the proposed Yangpu substation and the Tongji Beiyuan community in Shanghai

Background to Hong Kong NIMBY Conflicts and South East New Territories (SENT) Landfill at Tseung Kwan O, Hong Kong

The political system in Hong Kong. In 1997, Hong Kong was returned to China from British colonial rule. After the reunification, Hong Kong, as a special administrative region of China, implemented the “one country, two systems” policy. The Hong Kong Special Administrative Region (HKSAR) has a high degree of autonomy in public administration except for defense and foreign affairs (Lam et al., 2007). The autonomy of HKSAR is exercised by the executive, the legislature, and the judiciary. However, the political system of HKSAR is not divided into three powers, but is “executive-led” with the chief executive being the highest leader in Hong Kong. The relationship between

executive authorities and the legislature is not only mutual supervision, but also mutual cooperation. The judicial system is not responsible to the legislative and administrative agencies; instead it is accountable to the law. The Hong Kong government structure is vertically divided into three levels. The first level is composed of the Chief Secretary for Administration, the Financial Secretary and the Department of Justice. The second level is the policy decision-making department, and the third level is the policy implementation department. Ma (2008) argued that Hong Kong is a semi-democratic and mixed political system under the constitutional framework of the HKSAR Basic Law.

Planning decision-making in Hong Kong. District board members have little power to influence planning policy decisions (Leverett et al., 2007). In the Hong Kong Legislative Council, when confronting environmental issues, political parties adopt a response approach rather than a proactive approach. The construction of infrastructure in Hong Kong is initiated by the government who is authorized to conduct planning consultations with statutory and non-statutory institutions, advisory committees, and district boards. The role of the District Council is to give the government feedback on what public services or facilities will affect the public in their district. Although the district board members can express their views on the proposed development project, it is the government that ultimately makes public decisions. This institutional arrangement has been criticized for being too centralized and top-down (Leverett et al., 2007). As a

result, the public often feels isolated by central policies and planning decisions, and feels that it is rarely possible for them to control the environment around them (Ng, 2004).

Municipal solid waste (MSW) treatment facilities. NIMBY conflicts caused by landfills in Hong Kong is one of the most important social conflicts. As the commercial center of Asia, Hong Kong has a resident population of more than 7 million on 1,104 square kilometers of land. In 2016, the daily disposal of MSW reached 1.41 kilograms per person⁴⁹. This results in a large amount of municipal solid waste generated each year. Solid waste in Hong Kong mainly comes from household solid waste, commercial solid waste and construction waste⁵⁰. Before 1990, waste incinerations and landfills in Hong Kong were the main methods of solid waste disposal. Since 1991, Hong Kong has stopped using waste incinerations to treat waste. At the same time, under the initiative of the government and environmental organizations, recycling has begun to gradually adopt to ease the pressure on solid waste disposal in Hong Kong⁵¹. Therefore, the current methods of waste disposal in Hong Kong are mainly landfills and recycling.

⁴⁹ <https://www.info.gov.hk/gia/general/201810/31/P2018103100315.htm?fontSize=1>, accessed on November 21, 2018.

⁵⁰ HKEPD. <http://www.gov.hk/en/residents/environment/waste/msw.htm>, accessed on January 20, 2018.

⁵¹ Xue, F.X., Xia, B.C., Xu, Z.H., Li, Y., 2011. Make Cleaner City Hong Kong. Hong Kong Joint Publishing Co., Ltd.

From 1960 to 1995, the Hong Kong government established 17 landfills⁵². However, only three of them were keeping operating, namely the Western Tuen Mun Landfill in the New Territories, the Ta Kwu Ling Landfill in the northeast New Territories and the Tseung Kwan O landfill in the New Territories⁵³. The three landfills start to work in 1993, 1994 and 1995 one after another. The other 14 landfills would be closed, and their waste storages were full between 1997 and 2006. But the amount of solid waste production in Hong Kong is still beyond expectation. In 2013, 5.5 million tons of waste was produced, but only 37% of it was recycled with the rest sent to landfills⁵⁴. The Hong Kong government predicted that based on current waste production, these three landfills would be full before 2015⁵⁵. At the same time, these three strategic landfills brought a number of negative effects to the surrounding residential communities in recent years. For alleviating the pressure of solid waste disposal in Hong Kong, the Hong Kong Government intended to examine whether it can continue to expand landfills near existing operating landfills, but the landfill expansion projects has met with strong opposition from residents around the three landfills.

⁵² Xue, F.X., Xia, B.C., Xu, Z.H., Li, Y., 2011. Make Cleaner City Hong Kong. Hong Kong Joint Publishing Co., Ltd.

⁵³ HKEPD. <http://www.gov.hk/en/residents/environment/waste/msw.htm>, accessed on January 20, 2018.

⁵⁴ HKEPD. <http://www.gov.hk/en/residents/environment/waste/msw.htm>, accessed on January 20, 2018.

⁵⁵ HKEPD. <http://www.gov.hk/en/residents/environment/waste/msw.htm>, accessed on January 20, 2018.

Hong Kong SENT Landfill case. It was expected that SENT landfill would close in 2012 but until the author investigated in 2015 it was still in operation. According to the latest projection, the existing part of the SENT landfill would be completely filled by the end of 2015⁵⁶. Facing the pressure of solid waste treatment in Hong Kong, Hong Kong Government (HKG) had realized that the existing landfills would not be able to address the growing solid waste. In 2009, the Hong Kong Government had considered expansion for the SENT landfill. However the nearby residents and environmental groups were opposed to this government proposal and petitioned the courts for a judicial review⁵⁷. In 2010, the Legislative Council voted to abolish this government proposal and the SENT landfill extension proposal was delayed⁵⁸.

The protesting citizens were mainly the residents living in the LOHAS Park community. In 2009, the residents moved into the community. The distance between this community and the SENT landfill is about 1000 meters. Figure 3.7 shows the location of the SENT landfill, the SENT landfill extension and the LOHAS Park community. The Environmental Protection Road is the only road for the residents living in the LOHAS Park community to go to Kowloon. It is

⁵⁶ HKEPD. <http://www.gov.hk/en/residents/environment/waste/msw.htm>, accessed on January 20, 2018.

⁵⁷ Sing Tao Daily, Residents living in Tseung Kwan O landfill apply for judicial review for the part of country park changing for landfill (2009) 20090712.

⁵⁸ Chen, L.J., 2015. *The Study of Change in Social Relations and Conflicts in Hong Kong*. Chunghwabook Co., Ltd, Hong Kong.

also the main road to go to SENT Landfill. The heavy traffic to and from the Environmental Protection Road is 4,200 times a day. The road is often dusty and the traffic is crowded. Plugging, too much dust, noise and traffic jam caused by the frequent heavy vehicles has seriously affected the nearby resident' life quality^{59, 60}.

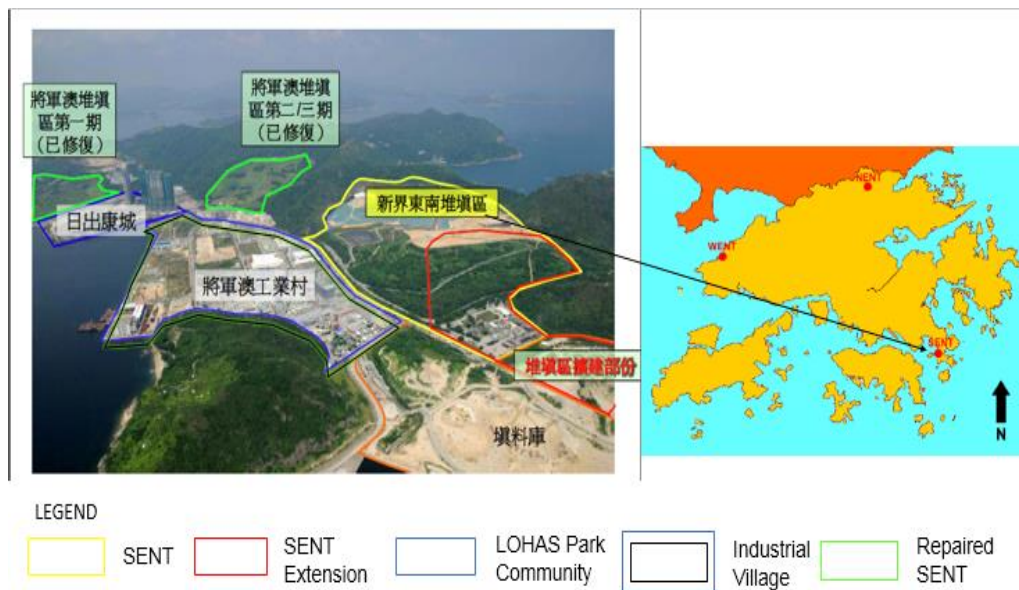


Figure 3. 7 Location maps of the SENT Landfill, the SENT Landfill Extension, and the LOHAS Park community in Hong Kong.

SENT: South East New Territories (Landfill), WENT: West New Territories (Landfill), NENT: North East New Territories (Landfill), map source from HKEPD (2013)⁶¹.

⁵⁹ Takungpao, Dui tian qu shou wei shen bo bian shu duo [The issues of Tseung Kwan O Landfill have not properly been resolved and there is uncertainty for waste management]http://news.takungpao.com/paper/q/2014/0707/2581898.html, accessed on January 20, 2018.

⁶⁰ Shenzhen-Hong Kong Online, Latest news from Tseung Kwan O landfill: The Government has introduced a number of measures to improve, http://hk.szhk.com/2014/07/03/282876982435461.html, accessed on January 20, 2018.

⁶¹http://www.epd.gov.hk/epd/sc_chi/environmentinhk/waste/prob_solutions/msw_strategic.html, accessed on January 20, 2018.

Facing the pressure of Hong Kong solid waste treatment and the discontented residents living in Tseung Kwan O, the Hong Kong Government launched measures to improve the quality of the SENT landfill work. The Hong Kong Government introduced a number of measures to improve the waste disposal works at the SENT Landfill, which included reducing the number of waste vehicles from about 1000 vehicles to about 500 vehicles and conveying waste by sea. The Administration expected that the dump trucks driving on the Environmental Protection Road would be reduced by about 100 vehicles per day and further reduction of about 200 vehicles per day between 2015 and 2016⁶².

In early 2014, the Legislative Council passed the implementation plan for the SENT landfill waste diversion; pointing out that in the future SENT landfill would only receive construction waste. Garbage trucks were required to be provided with a sealing trail cover and sewage collection cylinders⁶³. The Legislative Council encouraged the industry to take to the seaways to convey the waste, which was through the waste transfer station to the Tuen Mun landfill⁶⁴.

⁶² Takungpao, Dui tian qu shou wei shen bo bian shu duo [The issues of Tseung Kwan O Landfill have not properly been resolved and there is uncertainty for waste management]<http://news.takungpao.com/paper/q/2014/0707/2581898.html>, accessed on January 20, 2018.

⁶³ Shenzhen-Hong Kong Online, Latest developments in landfills in Hong Kong: Tseung Kwan O only accepts construction waste, <http://hk.szhk.com/2014/01/23/282865412513747.html>, accessed on January 20, 2018.

⁶⁴ Shenzhen-Hong Kong Online, Latest developments in landfills in Hong Kong: Tseung Kwan O only accepts construction waste, <http://hk.szhk.com/2014/01/23/282865412513747.html>, accessed on January 20, 2018.

In May 2014, the Legislative Council approved and allocated funds for the Tseung Kwan O SENT landfill extension proposal⁶⁵. In December 2015, the Environment Protection Department (EPA) promulgated the regulation that the SENT landfill would only accept construction waste. The new regulation came into force on January 6, 2016⁶⁶.

When the author randomly interviewed residents living in LOHAS Park community in May 2015, they said that the SENT landfill had no impact on them and that the odor occurred just some times after rain.

In 2018, the Finance Committee of the Legislative Council of Hong Kong approved a proposal to suspend the funding scheme for the expansion of the northeast New Territories and the Tuen Mun New Territories West. These are another two expansion projects after the SAR Government announced the withdrawal of the Tseung Kwan O South East New Territories Landfill Extension. So far, the three expansion plans have been suspended and the Hong Kong landfill expansion plan has reached a stalemate⁶⁷. In October 31, 2018, the

⁶⁵ Takungpao, Jiang jun ao dui tian qu huo bo kuan[Tseung Kwan O Landfill receives funding] <http://news.takungpao.com.hk/paper/q/2014/1206/2849535.html>, accessed on January 20, 2018.

⁶⁶ http://www.epd.gov.hk/epd/sc_chi/top.html, accessed on January 20, 2018.

⁶⁷ Chinaxue, The landfill expansion plan is stranded again There is no landfill for waste. <http://www.xue163.com/news/321/3211630.html>, accessed on January 20, 2018.

Hong Kong Government announced the introduction of a bill on municipal solid waste charging⁶⁸.

3.5 Data collection

This section introduces the data collection methods for this study, highlighting the semi-structure interviews in the selected cases.

3.5.1 Semi-structured interviews

To analyze the major issues between stakeholders in NIMBY conflict management, the effectiveness of public participation, EID, and the role of local government in easing NIMBY conflicts, this study employed a series of interviews with the stakeholders in the selected cases in Shanghai and in Hong Kong.

Data collection in Shanghai. The interviewed residents were the residents living in the protest communities near the NIMBY facilities in the selected cases. The interviewed public officials had work practice and experience with the selected Shanghai cases, the experts and academics studies were in the field of urban management and public administration, and the project developers were the NIMBY facilities' developers in the selected cases. Table 3.9 presents the information of the interviewees in Shanghai. In the Shanghai cases, a total of 50

⁶⁸ <https://www.info.gov.hk/gia/general/201810/31/P2018103100315.htm?fontSize=1>, accessed on November 21, 2018.

interviews were conducted through face-to-face, telephone and email. They are 38 residents, 6 public sector officers, 4 scholars and 2 project developers. Interview guide for urban NIMBY conflict management in Shanghai was presented in Appendix I.

In Shanghai, the stakeholders were interviewed over seven time periods, from June 2013 to July 2013, October 2013 to January 2014, August 2014 to September 2014, January, May and November 2016, and October 2017. The interviews with the stakeholders in Shanghai lasted about one to two hours. All interviews were recorded with interviewee's agreement. The interviewees were promised that anything they said would be kept confidential, which encouraged more honest discussions. Interviewees in the Shanghai case are cited as "Int. SH-1" (meaning No.1 interviewee in Shanghai). The series of interviews were continued until little new information could be expected from further interviews (Mile and Huberman, 1994). For example, when information such as concerns over the substation, how to protest, why protest, and how to communicate with the government provided by the seventh resident interviewed was highly similar to the previous six residents interviewed, the author stopped seeking to interview another resident. In Shanghai, the interviewed residents in the Hongyang substation case and in the Yangpu substation case were chosen using the 'snowball sampling' method on the basis of suggestions from the other interviewed residents. In the Jiangqiao Incineration Plant case, resident

interviewees were randomly selected in the protest communities near the NIMBY facility. In the Yangpu substation case, one of the interviewed residents was a professor in Tongji University. The author was able to interview him because the author had studied in Tongji University and knew that this professor had protested as one of the resident representatives in his community in one of the selected cases.

Table 3. 9 Backgrounds of interviewees in Shanghai

<i>Interviewee</i>	<i>Stakeholder groups</i>	<i>Position</i>	<i>Relation to the case</i>
1-7	Residents	Resident representative	Resident representatives communicating with local government; Present home owner and resident of Zhengwen Garden II community
8	Government	Section Chief	Shanghai Yangpu District Development and Reform Commission
9	Government	Director	Shanghai Municipal Planning, Land and Resources Administration
10	Government	Deputy Director	Shanghai Municipal Planning, Land and Resources Administration
11	Government	Deputy Director-General	Shanghai Yangpu District Housing Security and Housing Administration
12	Academics	Professor	Major in urban governance
13	Residents	Residents	Present home owner and resident of Tongji Beiyuan community
14	Academics	Associate Professor	Major in community participation
15	Academics	Associate	Major in public

16	Expert	Professor Doctor	management Major in electromagnetic impact of occupational exposure
17	Government	Director	Shanghai Yangpu District Government Research Office
18	Government	Senior staff member	Shanghai Municipal Planning, Land and Resources Administration
19-28	Residents	Residents	Present home owner and resident of Zhengwen Garden II community
29-48	Residents	Residents	Present home owner and resident of Yangguang Weinisi B community
49	Project developers	Chief of Production Technology Section	Shanghai Jiangqiao Waste Incineration Plant
50	Project developers	Project management	Shanghai Yangpu substation

Data Collection in Hong Kong. In the Hong Kong case, residents living in LOHAS Park, government department officers, experts, academics, and journalist were interviewed face-to-face from January 2015 to May 2015. In the Hong Kong case, there were 31 interviewees in total (Table 3.10). They were 18 residents, 2 public sector officials, 1 urban design consultant, 3 district councilors, 6 experts and 1 journalist. Interviewees in Hong Kong are cited as “Int. HK-1” (meaning No.1 interviewee in Hong Kong).

In the Hong Kong case, resident interviewees were randomly selected in the LOHAS Park community. Public sector officers who had urban planning and environmental impact assessment (EIA) work experience were selected from the

relevant public sectors and district councilors who had work experience with NIMBY conflicts were selected. Academics and experts did research on Hong Kong NIMBY conflict management, EIA, and public participation. The journalist reported social issues.

Interviews followed a standard format, consisting primarily of open-ended questions. The author asked about each respondent's perception of the causes of the conflict over the project, how the public participated, environmental information disclosure in the project process, and details of how the government responded to the public's concerns and what the public's attitude was to government responses and actions. Since the author had obtained different levels of information of the stakeholders in the selected case before conducting the interview, the interview time varied. Interviews with the residents in Hong Kong lasted about 20 minutes while interviews with other actors in Hong Kong lasted almost an hour. All interviews were recorded with the interviewees' agreement. The interviewees were given a promise that any information they volunteered would be kept confidential, which promoted honest discussions. Thus citations to these interviewees in Hong Kong are formatted as "Int. HK-1" (The number one interviewee in Hong Kong) (Koontz and Newig, 2014). The series of interviews were continued until little new information was received from the following interviews (Mile and Huberman, 1994).

Table 3. 10 Background of Interviewees in Hong Kong

No.	Stakeholder groups	Position	Relation to the case
1	District councilor	District councilor	Work experience with NIMBY conflict
2	Government	Advisory Council on the Environment	Work experience with this case
3	District councilor	District councilor	Work experience with NIMBY conflict
4	Urban planer	Urban design consultant	Work experience with NIMBY conflict
5	Academics	Professor	Major in waste management
6	Academics	Professor	Major in EIA
7	Academics	Assistant Professor	Major in politics and public administration
8	Academics	Assistant Professor	Major in public engagement
9	District councilor	District councilor	Work experience with NIMBY conflict
10	Academics	Professor	Major in geography
11	Academics	Assistant Professor	Major in NIMBY conflict
12	Media	Journalist	Major in society report
13	Government	Ex-planning department director	Work experience with this case
14-31	Residents	Resident	Present home owner and

Besides the semi-structured interviews, data were also collected from materials from the interviewed residents, government documents, official websites, newspapers and the Internet (Internet media, Internet forums, weibo and blogs). The major issues between stakeholders, how public participation, EID, and the role of government was implemented in the NIMBY conflict and its outcome, and the NIMBY conflict management model was examined using an extensive analysis of the data sources. The different sources of materials were consolidated to examine the research questions in this thesis.

3.6 Data analysis

This study conducted data analysis according to qualitative data analysis methods (Miles and Huberman, 1994; Sun et al., 2016a), case study analysis methods, and analysis technologies (Yin, 2002). There are three methods provided by Yin (2002) for analyzing case study evidence, all of which rely on theoretical propositions, setting up a framework based on rival explanations, and developing case descriptions. These methods can be used in practicing five specific techniques for analyzing case studies: pattern matching, explanation building, time-series analysis, logic models, and cross-case synthesis (Yin, 2002).

First, within-case analysis of qualitative data obtained from the Hongyang substation interview was conducted following the standard techniques of summarizing, coding, and pattern searching (Miles and Huberman, 1994; Koontz and Newig, 2014). Interview data and documents data received from this case was time-ordered to display the Hongyang substation NIMBY conflict event “story” (Miles and Huberman, 1994). Table 4.1 in Chapter 4 delineates and elucidates the conflict process between the stakeholders. Based on the understanding of the conflict process in Hongyang substation case, this study conducted the within-case analysis. Based on conducting many and repeated comparisons between the major issues between the stakeholders theoretical propositions and the collected data (Yin, 2002), the major issues between the stakeholders results were obtained. Chapter 4 presents the results of major issues between the stakeholders in the NIMBY conflict management process. Documental data and interview data was frequently cited when doing the analysis.

Qualitative analysis of data obtained from the interviews of Jiangqiao Incineration Plant case, Hong Kong SENT landfill case, Yangpu substation case and Maglev Transportation Infrastructure case were conducted following the standard techniques of summarizing, coding, and pattern searching (Miles and Huberman, 1994; Koontz and Newig, 2014). Interview data and document data received from the four cases were time-ordered to display each NIMBY conflict

event “story” (Miles and Huberman, 1994). Section 3.3.3 of the thesis presents a descriptive and explanatory introduction to the background of the above four cases. This study frequently cited documental data and interview data when doing the case background introductions.

Multiple-case analysis method. After understanding the NIMBY conflict management process in each case in this study, the variable-oriented approach and case-oriented approach were combined to examine public participation, EID, the role of government impact on the NIMBY conflict management process and the NIMBY conflict management model (Miles and Huberman, 1994). The analytical results were generalized based on conducting many repeat comparisons between the public participation, EID, the role of government and the NIMBY conflict management model theoretical propositions and the collected data (Yin, 2002). The cases, original interview data and document data were reviewed again as needed to ensure that the analytical generalization obtained matched with the interview data and document data, which also reduced the possibility of retrospective bias. Additional interviews were also conducted with interviewees for supplementing missing details. In the display of the data analysis, interview data and documental data were frequently cited. The different sources of materials and the above data analysis process helped enhance the research objectivity, internal validity, external validity and the research reliability of the study (Strauss and Corbin, 1990; Guba and Lincoln, 1994; Yin, 2002).

Chapter 5 presents the results of public participation and EID impact on the NIMBY conflict management process. Chapter 6 presents the results of the role of government impact on NIMBY conflict management. Chapter 7 presents the results from the NIMBY conflict management model.

3.7 Chapter summary

The research questions of this study are for the purpose of examining issues between stakeholders in the NIMBY conflict management process, to investigate the impact of public participation, EID, and government role on NIMBY conflict management, and to explore the NIMBY conflict management model. In order to research the study's four research questions, this chapter introduced the research design and research methodology, theoretical hypotheses and theoretical framework, case study method, data collection and data analysis. The chapter highlighted the case study method, including single case study method and multiple-case studies method, as well as the semi-structured interview method. The with-in analysis technique and the cross-case analysis technique were also highlighted.

Based on the research methodology in this chapter: Chapter 4 presents the results of the major issues between the stakeholders in NIMBY conflicts; Chapter 5 presents the results of public participation and EID impact on NIMBY conflict management; Chapter 6 presents the results on the role of government

impact on NIMBY conflict management; Chapter 7 presents the results of the NIMBY conflict management model; Chapter 8 presents the discussions and policy implications of the effective urban NIMBY conflict management model; and Chapter 9 provides a conclusion from examining the urban NIMBY conflict management model presented in this thesis.

CHAPTER 4 MAJOR ISSUES BETWEEN STAKEHOLDERS IN THE NIMBY CONFLICT MANAGEMENT PROCESS

4.1 Introduction

Based on the research methodology in Chapter 3, this chapter presents the results of the major issues between the stakeholders in the NIMBY conflict management process.

The Shanghai Hongyang substation is used as a case study to analyze the major issues between the stakeholders involved in this particular NIMBY conflict. With the purpose of examining the major issues of NIMBY conflict management between the stakeholders, the chapter begins by analyzing the role of each stakeholder in the NIMBY conflict management process. Then, the major issues between residents and local government and the major issues between residents and the Shanghai Electronic Company in the NIMBY conflict management process are investigated. Finally, based on the problems identified in the case study, a summary of the chapter is provided.

4.2 The role of each stakeholder in the NIMBY conflict management process

The author through extensive analysis of different sources and in-depth interviews identified the following issues with the different stakeholder groups.

Table 4.1 describes the project procedure, the reasons for and the actions of local residents' protests in the planning and construction stages of the project. It also summarizes the responses by the local government and the Shanghai Electric Company when the public protested and the result of each interaction between the stakeholders.

From this table, the role of each stakeholder is clearly shown in the conflict process. When implementing the public participation in EIA, in order to keep the public agreeable to the project, the local government selected members of the public with political hierarchical relationships. When the residents started the protest movement, the local government played a role to organize relevant public sectors and Shanghai Electric Company to answer public questions, coordinating the tense relationships. Shanghai Electric Company was responsible for answering the technical questions. When residents expressed doubts over the legitimacy of the site planning, the local government argued that the procedure was in accordance with laws and regulations. When Shanghai Municipal Government wanted to implement the delayed project, the Shanghai Electric Company cooperated with the local government who took political measures to keep the project alive.

To summarize, the findings show that during the planning and building process of the Hongyang substation, the Shanghai Electric Company played a role in providing technical and economic support to complete the project. The local government ostensibly played the role of moderator but in fact was a key

stakeholder. The residents were stakeholders but didn't have power to change the decision. The following three parts provide the in-depth analysis on how the different stakeholders negotiated with each other.

Table 4. 1 Process of the Hongyang substation NIMBY conflict between Zhengwen Garden II residents, government, and Shanghai Electric Company

	Time	Why did local residents protest?	How did local residents protest?	How did the government and Shanghai Electric Company response?	What was the result?
Planning stage	2007 June	Public consultation in EIA for the Hongyang substation held in Wujiaochang Neighborhood community and the only 6 Zhengwen Garden II residents of the participating 40 neighborhood cadres strongly disagreed.			
	2007 August 10 th	Dissatisfied with public participation procedures; required the disclosure of information on the Hong yang substation and relocation; began the simplified Environmental Impact Assessment (EIA) reports; and doubted the site planning was scientific.	Hundreds of community residents protested at the gates of the district government building; holding banners and staging petitions	Public officials of the Yangpu district petition office and Shanghai Electric company organized a dialogue with community residents	Worries of the community residents were not resolved
	2008	Asked for explanations of how the construction of the Hong Yang substation would change the land area.	questioned the Shanghai Electric Company	The Shanghai Electric Company explained that the construction area was indeed 82.5 acres, but they didn't buy the land and later the Yangpu district government permitted part of the land to go to real estate developers; if the residents had any problems they advised them to ask Yangpu District	Continued to protest

	2012 May	Doubted the feasibility of the project site	Public consultation of the preferred project location by the Shanghai Electric Company	The Shanghai Electric Company gave the example of the Xinfengzhou 500kv underground substation which was built in the city center in Japan	Residents rejected the reason given by the government when the residents found that there were no residential buildings within a radius of 500 meters around the Xinfengzhou 500kv underground substation
	2012 July- October	Legitimacy of the site planning	Resident representatives had six dialogues with the Shanghai Municipal government representatives	The government provided a land structure chart and municipal chart	The residents' doubts were not resolved and residents were dissatisfied with the administration's response concerning the site planning
	2007 August --2012 March	Continually doubted the government's site planning of the Hongyang substation	Petitioned for a total of about 614 times; online postings; media (excluding ordinary letters)	Environmental impact approval work suspended, because the government adjusted the authority's administrative approval	The doubts of the residents were not resolved and they continued to protest
	2012	Questioned the EIA report of the planning period	Appealed to the court	Appearance in court	The court supported the permitted document against public sector protests
	2013 April	The Shanghai Electric Company invited the residents to visit another substation named Expo 500kv substation in Shanghai to prove their safety technologies but the residents still distrusted.			
Building stage	2013 May 28	The construction of substation started			
	2013	Doubted the EIA reports of the planning and construction period of the facility; questioned that the public participation did not comply with the law when the Environmental Protection Agency and Electric Company were preparing the EIA report	Sued the Shanghai Environmental Protection Bureau	Appeared in court	Shanghai's Second Intermediate People's Court supported the EIA decision on project construction but not the project planning; supported the expert advice as one form of public participation
	2014	Doubted the EIA and public participation in the planning stage	Continued to use formal and informal ways to protest	The government dispatched police for stability maintenance	No consensus

	2018January	Construction finished
--	-------------	-----------------------

(Note: Data sources come from government documents and the authors' interviews with residents and public officials)

4.3 Issues between local government and residents during the dynamic interaction

Issues between local government and affected residents are analyzed in this section. The issues between local government and affected residents were secret public participation in project EIA, a simple and opaque EIA report, the electromagnetic field strength standard of 500kV substation, the motivation for public protests and government's perception of the protests, economic interests that pushed the local government to change the land area, the gap between old urban planning policymaking and fast city development, and tough stability maintenance measures.

4.3.1 "Secretly" public participation in project EIA

Public participation in EIA is one of the key issues in this case, which turned out to be one cause of the NIMBY conflict, rather than the resolving strategy. On June 12, 2007, the EIA agency published an "environmental information announcement on building the Hong Yang 500kv transmission project" in a newspaper⁶⁹. But one of the interviewees said, "until the deadline of this

⁶⁹ Admin. (2007). 500 kV Hong yang shu bian dian gong cheng huan jing xin xi gong gao [Environmental information announcement on building the Hong Yang 500 kv transmission project]. Shanghai Wenweipo.

announcement, no residents living in Zhengwen Garden II knew about this information” (Int. SH-1, Int. SH-2).

“Secretly” public participation in project EIA caused conflict. On June 18, 2007, the Environmental Impact Assessment agency held an Environmental Impact Assessment public participation conference in Wujiaochang Street of the Yangpu District. A total of five committees of about 40 persons attended the conference. At the meeting, only six Zhengwen Garden II residents who lived in Zhengwen Garden II voted against the motion to go ahead with the plan; others agreed with it. One resident said, “after the meeting, participants were given RMB\$200 and were told, “today’s meeting is to be kept confidential” (Int. SH-1, Int. SH-2). A resident who had voted was interviewed by Zheng (2012) and said that they were told that it was not necessary to tell other residents until the project had been approved by the State Environmental Protection Ministry. Later on, the residents living in the Zhengwen Garden II community confirmed through the district mayor's hotline that the substation would be built.

The confirmation process was the flash point of the Hongyang substation NIMBY conflict. The results of this study affirm that who the key participants are, how they participated, and how they are organized are very important to project EIA. In China, public participation for good governance by the government is an instrumental strategy in enforcing environmental regulations (Johnson, 2014).

4.3.2 Substation's electromagnetic field strength standard of 500kV

The safety of Hongyang substation, which was according to the electromagnetic field strength standard of 500kV, was the issue between the residents and the government. Lin (2011) argued that the test of Hongyang substation's electromagnetic radiation was in line with China's electromagnetic radiation standards for 500kV ultrahigh voltage transmission and transfer power engineering. SEPB had predicted that the Hongyang substation would produce 38V/m power-frequency electric field strength and 0.4329 μ T power-frequency magnetic field strength at one meter away (Lin, 2011). The relevant provisions of the "Technical regulations on environmental impact assessment of electromagnetic radiation produced by 500kV ultrahigh voltage transmission and transfer power engineering", adopts Chinese industry standards of environment protection (Ye, 2001). In the Chinese industry standards, it is suggested to use 1kV/m as the evaluation standard for power-frequency electric field strength in residential areas and to use 0.1mT as the evaluation standard for power-frequency magnetic field strength (Ye, 2001). These two indicators are the frequency limit for public radiation exposures proposed by the International Radiation Protection Association (Ye, 2001).

However, the interviewed residents argued that there were only industry standards and international standards for 500kV ultrahigh voltage transmission and transfer power engineering in China, and there were no national standards (Int.SH-1, Int.SH-4, Int. SH-5). In addition, for the electromagnetic radiation

strengthen predicted by SEPB, the interviewed residents argued that though Hongyang substation was in line with the standards that China adopted, that did not mean the substation was safe (Int.SH-1, Int.SH-4, Int. SH-5). The residents were worried after they searched on the Internet for the international studies on the harmful effects of electromagnetic radiation. But the interviewed expert argued that, according to the current theoretical analysis on public (refers to residents living near the substation or person moving under the electric line), the results of the latest study on the impact of the electromagnetic radiation on human health show that public radiation exposure was safe. Because of dissatisfaction with the government's reply of the substation electromagnetic radiation standards and residents did not believe that there was no negative health effect of Hongyang substation to the nearby residents, the residents rejected to accept the project EIA report by the SEPB. Thus this case shows that the electromagnetic field strength standard of 500kV substation is the issue between residents and local government in the NIMBY conflict management process.

4.3.3 Simple and opaque EIA report

Simple and opaque EIA report is one issue between government and affected residents in this case. A result of the residents' interaction with the government concerning the openness and feasibility of the project EIA report was that the government only provided a simple report called the "Hongyang 500 KV power transmission project Expert Consultation opinion" dated July 17, 2012 (Int. SH-1, Int. SH-5, Int. SH-6), which showed that four experts signed that the substation

would not bring significant environmental impact on the surrounding residents. As shown in Table 4.1, although residents doubted the expertise of the experts and appealed to the Shanghai Environmental Protection Bureau, the Judiciary supported the original EIA results on the basis of the evidence according to the laws and regulations (Int. SH-1, Int. SH-2, Int. SH-5, and Int. SH-6).

4.3.4 Motivation for public protest and government's perception of the protests

The residents were smart, bounded rational, and self-interested, while the local government's perception of the public protests was that they were acting selfishly; that was the issue between residents and local government in the NIMBY conflict management process. That the protest residents were smart and bounded rational is evidenced by three events. First, before the construction of the project, the residents were invited by the developer to visit an operational 500kv Jingan Expo substation (Int.SH-1). However this invitation increased residents' discontent and doubts about the Hongyang substation rather than relieved their technical concerns. The interviewed residents said that there was no residential community around the Jingan Expo substation within a distance of 200 meters but our community shared the same wall with Hongyang substation (Int.SH-1). In addition, the structure of Jingan Expo substation was different from what the Hongyang substation (Int.SH-1) would be. Second, the government provided a copy of the experts' brief opinions on the Hongyang substation (Int. SH-1, Int. SH-5, and Int. SH-6), which showed the views and

signatures of the invited four experts claiming that the Hongyang substation would not have significant environmental impact on the nearby residents (Int. SH-1, Int. SH-5, and Int. SH-6). However, providing the viewpoints of the experts without the detailed records of the experts' consultation meeting did not convince the interviewed residents that they should accept the experts' evaluation of the substation (Int. SH-1, Int. SH-2, Int. SH-5, and Int. SH-6). Third, during the six dialogues between the government and the residents in 2012, in order to justify the legitimacy of the siting plan, the government provided a land structure chart and municipal chart. However the functions of the same land were different in the two charts, which led residents to have even more doubts. Based on the above evidence, this study argues that the residents were smart and rational. However, since the information the residents obtained was limited, this study further argues that the protest residents were smart and bounded rational.

The residents protested because of their self-interests. Citing concerns over health and environmental impact, residents were dissatisfied with the standards referred to in the EIA report. They argued that there were only industry standards and international standards in China, and there were no national standards (Int.SH-1, Int.SH-4, and Int. SH-5). Besides the health and environmental impact, residents were also worried about the devaluation of their property. They thought that because of the substation construction, the value of their real estate was lower than those without the substation in the same lot (Int.SH-1, Int.SH-2).

Around the year 2004, the price of residential real estate increased rapidly. In 2004 Zhengwen Garden II was firstly sold out and at that time the price was RMB\$ 6000 (866 USD) per square meter (Int.SH-2). In 2014 when the author did the first round of interviews, according to the second hand residential real estate market data, the price was RMB\$ 30000-40000 (4332-5776 USD) per square meter. The interviewed residents argued that compared with the real estate price in the same plot without a substation nearby, Zhengwen Garden II community price was RMB\$ 6000 (866 USD) per square less (Int.SH-1, Int.SH-2). However, there was no evidence to show how much the price of Zhengwen Garden II had been affected by Hongyang substation.

Contrary to the perceptions of the protesting residents, the government's perception from its bureaucratic perspective was that the protesters were selfish, which intensified the NIMBY conflict. Since 2007 when the residents confirmed the siting plan of the substation information, the residents have protested against the Shanghai Municipal government, Yangpu district government and Shanghai Electric Company hundreds of times by means of petitions, and holding banners at the gates of the district government building and at the gates of the community, and online postings. However, it was not until 2012 when construction of the substation was approved by the central government, that the district government started to organize meetings with the residents' representatives. The National Development and Reform Commission approved the construction of Hongyang

500 kilovolt power transmission project underground in 2013⁷⁰. Moreover, during the six dialogues between the government and the resident representatives, the two land use charts provided by the government were not consistent with their reasons for the siting plan, and government responses did not satisfy the representatives. However, the interviewed government officials thought that residents were selfish and that behind their protests over health and environmental concerns was the goal of getting financial compensation (Int.SH-10, Int.SH-11). Thus this case shows that residents were smart, bounded rational and self-interested while local government perceived them to be selfish, which was one issue between residents and local government in this NIMBY conflict management case.

4.3.5 Economic interests pushed the local government to change the land area

Economic interests that pushed the local government to change the land area was one issue between the residents and the government. In 2001, the land area approved for the substation was 5.5 hectares. In 2005, the Shanghai Urban Planning Administration Bureau reviewed the “Hongyang substation siting selected line planning instructions” submitted by the Shanghai Electric Company. In November of the same year, the Shanghai Urban Planning Administration approval “agreed in principle to elect Hong Yang 500kv substation site planning.

⁷⁰ NDRC. National Development and Reform Commission. (2013). No.547 provided by the interviewed residents.

The planning site was located east of Yixian Road, south of the three channels, covering about 14,644 square meters” (Zheng, 2012). The area of 5.5 hectares (55000 square meters) was submitted for approval by the State Council, but instead only 14644 square meters was approved by the Shanghai Municipal Government. In addition, during the six dialogues between the government and the residents in 2012, in order to justify the legitimacy of the site planning, the government provided a land structure chart and municipal chart. However the functions of the same land were different in the two charts. The above two reasons caused residents to ask for explanations from the government.

The Yangpu district government obtained income from selling the use rights of some parts of the land to real estate companies. However, the changing land use for the substation project increased the technical difficulty and the economic cost for the Shanghai Electric Company who took the responsibility to invest and operate the Hongyang substation. Moreover, Shanghai Electric Company also became the opposition subject in this NIMBY conflict event. So, in the beginning, the above three reasons made Shanghai Electric Company stand apart from the local government when facing public protests.

Zheng (2012) reported that in 2008, the Zhengwen Garden II community residents petitioned the Shanghai Electric Company for clarity concerning the Hongyang substation construction area. One Shanghai Electric Company manager replied, “At that time the construction area was indeed 82.5 acres (5.5 hectares). We did not buy the land use rights of land at that time and later the

Yangpu District Government permitted the real estate developers to use part of the land. If you have any questions ask the Yangpu District Government.”

According to the interviewed public official, it cost the Shanghai Electric Company 200 billion more to construct the substation underground, owing to the limited land area (Int.SH-8). It could be inferred that in 2008 the Shanghai Electric Company was not satisfied with the changing of the land use area. But for the Zhengwen residents, they just resisted the Hongyang substation in their backyard. So as the developer of the project, Shanghai Electric Company also became the opposition subject besides the local government.

Feng (2010) explained that owing to China’s tax-sharing reform and the power division issue of public administration between central and local government, there were few regulatory constraints on the local government’s fiscal revenue. Therefore, local government including public sectors officials obtained more fiscal revenue for controlling a large economy. The World Bank (2010) argued that under China’s quasi-fiscal federal system, since the interests of local governments are related to the local economy, there is sufficient incentive for local governments to stimulate local industrial development and urban construction. Li et al. (2008) explained that the commercialization of urban land allows the city government to obtain financial income from the land, which encourages the city government to conduct larger scale construction projects that actively improve the image of the city, strengthen the service function of the city to corporations, and expand the scale of the city. He (2006) argued that when the

local government is a stakeholder in the NIMBY conflict management process, the government will have its own standpoint, but the holding of this standpoint should not rely on the power behind the government. The government should have equal negotiation power with other stakeholders in the NIMBY conflict management process.

4.3.6 Gap between old urban planning policymaking and fast city development

The local government identified the cause of the conflict owing to the gap between old urban planning policymaking and fast city development (Int. SH-8). Facing the question of the substation siting, the public officials argued that all the facility-siting procedures were in accordance with the relevant regulations and laws (Int. SH-8). The Hongyang substation was included in the “Shanghai Urban Master Plan (1999-2020)” in 1999. Zheng (2012) has argued that there are two planning mechanism defects in this facility-siting plan. One is the social consideration of the site and the other is the insufficient planning depth and planning area of the Hongyang substation. Recently, urban planning management has been standardized and the “Urban Yellow Line Management Approach” has ruled the planning depth for public infrastructure⁷¹. The NIMBY conflict in this case shows that although city managers were more focused on economic and

⁷¹ Urban Yellow Line Management Approach, http://www.gov.cn/ziliao/flfg/2006-02/14/content_188026.htm, accessed on January 20, 2015.

technical considerations than social impact in the past, now it is important that urbanization, social and environmental impacts are considered.

4.3.7 Tough stability maintenance measures

The stability maintenance measures intensified the conflict between the residents and the local government. In China, stability maintenance (wei wen 维稳) is a governance mechanism adopted by different levels of government. It is a measure to maintain social stability and sustainable economic development. However, the intensification of public official corruption, growing social inequality and the slight power people have gained through the use of petitions (weiquan 维权), which is a recent occurrence in China, have led to defense activism by local residents. In order to maintain social stability, some local governments, who do not support these activities, have suppressed their usual tough attitudes to local residents.

During the protests by the Zhengwen Garden II community residents, a strong dissatisfaction with the measures taken by the government was shown. Interviewees said that the government dispatched the police to stop residents' collective action at the community gates and monitored their behavior (Int. SH-2, Int. SH-4, and Int. SH-5). The government even pressured companies where residents worked and put pressure on their employers, particularly those who worked in state-owned companies or public sectors, to persuade them to stop their activities (Int. SH- 2). The government forbade people to "stroll on the street" or to follow other people. As shown in this case, the government tried to

confine the protest. However, it is argued that this stability maintenance strategy did not solve the root problem of this kind of NIMBY conflict.

4.4 Issues between residents and the Shanghai Electric Company

Issues between affected residents and project developer are analyzed in this section. The affected residents' distrust of the project developer intensified after the Shanghai Electric Company showed resident representatives an example of an operational substation, and an interests' alliance between the government and the project developer resulted in damage to the residents' interests.

4.4.1 Example used by the Shanghai Electric Company intensified residents' distrust

Different structural analogies in different environments caused an issue between the affected residents and project developer. Residents had enough knowledge to find and raise key issues concerning the two facilities, but the Shanghai Electric Company would not address the technical issues, which intensified the bad relationship between the developer and residents. On April 19, 2013, the Shanghai Electric Power Company invited six resident of the Zhengwen Garden II community to visit another underground substation named Expo 500kv substation, which had been operating for about 3 years in Shanghai. The Shanghai Electric Company intended to use the Expo substation as an example to show the residents the underground substation's construction techniques and technologies. However, instead of relieving their worries about the substation,

the resident had more distrust. According to an interviewed resident, “these two substations had different structures and the Expo substation was surrounded by commercial buildings, a small amount of residential homes, at least 200m away from the substation but the Hongyang substation shared a wall with residential area” (Int. SH-1, Int. SH-6).

It can be seen that this visit further strengthened the residents’ dissatisfaction towards the construction of the Hongyang substation. A news article reported that the Shanghai Electric Company finally made the residents accept the Hongyang substation (Shen, 2014), however, this does not correspond with the interviewees’ attitudes (Int. SH-1 and Int. SH-2). One reasonable explanation is that this official newspaper help the Shanghai Electric Company propagate advanced technology, which again indicates that the government and Shanghai Electric Company are on the same side.

4.4.2 The interests’ alliance resulted in residents’ benefit damage

From the response by the Shanghai Electric Company manager, it could be inferred that in the beginning the Shanghai Electric Company didn’t stand side by side with the local government for public protest. Shanghai Electric Company thought it was the changing land use by the local government that resulted in the public protests and further delayed the construction process and the whole city power supply. This may be inferred from interviews with Yangpu district government officials. The interviewee mentioned, “In the summer time there was an insufficient power supply and the Shanghai Electric Company cut some

institutions' electricity supply in some areas" (Int. SH-8). The interviewed public official thought the Shanghai Electric Company was putting pressure on the Yangpu District Government (Int. SH-8).

However, facing a shortage of electricity in Shanghai owing to this delayed project, the Shanghai Municipal Government put pressure in turn on the Shanghai Electric Company who should maintain the power supply for the whole city. Although the economic cost of the substation increased a lot, as the only electricity provider in Shanghai, the Shanghai Electric Company still could obtain the invested construction capital back from its customers. In addition, Shanghai Municipal Government used the official newspaper to help propagate the advance technology of the Shanghai Electric Company on the Hongyang substation (Shen, 2014). So based on the pressure and the balance, at last the Shanghai Electric Company reached an agreement with the district government.

4.5 Findings summary

A substation NIMBY conflict case study in Shanghai was conducted to examine the major issues between the stakeholders in the NIMBY conflict. The stakeholders are local government, affected residents and the project developer. This case study highlighted the issues of public participation, environmental impact assessment, information disclosure, the role of government and the motivation of public protests in the NIMBY conflict management process.

This chapter finds that:

(1) The local government was a key stakeholder and the economic beneficiary. Because of mutual interests, the project developer stood on the same side with the local government. The affected residents were the key stakeholders but didn't have the power to change the decision.

(2) The results of this case study show that major issues between the stakeholders in the NIMBY conflict management process can be summarized as public participation, project environmental information, environmental information disclosure, the role of government, and the relationship between local government and residents (Table 4.2).

Table 4. 2 Classification of major issues between the stakeholders in the NIMBY conflict management process

<i>Major issues between the stakeholders in the NIMBY conflict management process</i>	<i>Issues classified</i>
1 Secret public participation in project EIA	Issue of public participation
8 Example used by the Shanghai Electric Company	
2 The electromagnetic field strength standard of 500kV substation	Issue of project environmental impact and environmental information disclosure
3 Simple and opaque EIA report	
4 The motivations of public protest and government's perception of public protest	Issue of relationship between government and the public
5 Economic interests pushed the local government change the land area	Issue of government role
6 The gap between old urban planning policymaking and fast city development	
7 Tough stability maintenance measures	
9 Interest alliance results in residents' benefit	

Based on the findings in this chapter, Chapter 5 examines the impact of public participation and environmental information disclosure on NIMBY conflict management at the planning and operating stages. Chapter 6 examines the impact of the role of government on NIMBY conflict management at the policy decision-making and policy implementation stages. Chapter 7 presents the results of examining the NIMBY conflict management model. Chapter 8 presents discussion. Chapter 9 summarizes the main findings and conclusions of the thesis.

CHAPTER 5 THE IMPACT OF PUBLIC PARTICIPATION AND ENVIRONMENTAL INFORMATION DISCLOSURE ON NIMBY CONFLICT MANAGEMENT

5.1 Introduction

Based on the previous studies in Chapter 2, research hypotheses and research methods in Chapter 3 and the findings in Chapter 4, this chapter examines the impact of public participation and environmental information disclosure on NIMBY conflict management at the planning and operating stages.

This chapter first analyzes key stakeholders, the degree of participation, participation approach and participation time impacts on NIMBY conflict management in the selected five cases in Shanghai and Hong Kong. It then examines the disclosed EIA report and EIA procedures of EID impact on NIMBY conflict management in the selected five cases, and finally summarizes the main findings of the chapter.

5.2 Public participation activities in the conflict management process

This study shows that in the selected five cases there was no public participation during the project decision-making stage. Different public participation was conducted in the planning implementation stage, before the construction stage and in the project operating stage. Despite the residents in the Hongyang substation case and in the Jiangqiao Incineration Plant case still being dissatisfied

with the outcome of participation, the outcome of conflict management finally got a compromise between the residents and the government. Because of public protest over the outcome of public participation, Yangpu substation project and Maglev Transportation Infrastructure were cancelled. The outcome of participation in the Hong Kong case succeeded in persuading the public to accept the NIMBY project. The following four subsections analyze the four aspects of public participation impacting on NIMBY conflict management in each case.

5.2.1 Involved stakeholders

In the Shanghai Hongyang case, there was no public participation during the project siting planning decision-making stage. The Shanghai Hongyang substation case occurred during the transition stage of the old and new planning law. In 2007, the residents started to protest. The findings at section 4.3.6 in this thesis show that gap between old urban planning policymaking and fast city development is one of the causes of NIMBY conflict in this case. In 2008, the new planning law was implemented, which provided a law foundation for the government to consider substation's nearby key public stakeholders' opinions. Then after the government and the construction unit's design modification of the substation, finally residents had to accept the substation construction.

In the Shanghai Hongyang case, involved stakeholders have negative impacts on public acceptance of the NIMBY facility. There was no key public stakeholders were involved in the project EIA. The interviewed government

official said that when the overall planning of 500 kV Hongyang substation was made in 1995, there was no residential community around it (Int.SH-8 and Int.SH-9). The interviewed residents said when they bought the Zhengwen II community housing in 2001, they didn't know there was a plan for a 500 kV substation near the community (Int.SH-1, Int.SH-2, Int.SH5 and Int.SH-6).

During the project planning stage, public consultation for the project EIA was implemented (Int.SH-8), which was the first the residents knew of the plan to construct a 500 kV substation near their community (Int.SH-1 and Int.SH-2). However, owing to dissatisfaction over the selection of residents' representatives for the project EIA, the residents were very dissatisfied with the public participation in the project EIA (Int.SH-1, Int.SH-5 and Int.SH-6). The interviewed residents said that forty persons were selected for the project EIA public consultation meeting but only six persons were from the Zhengwen Garden II community close to the project (Int.SH-1, Int.SH-2 and Int.SH-6). Later, for the public participation of the project EIA, the residents sued the Shanghai Environmental Protection Bureau (Int.SH-1).

In the Yangpu substation case, during the planning changing stage, involved stakeholders had negative impacts on public acceptance of the NIMBY facility. In 2011, the Yangpu District Planning and Land Administration Bureau of Shanghai changed the siting place of the Yangpu 220kV Substation without public participation caused NIMBY conflicts. It could be inferred that the government did not obey the new planning law to solicit the opinions of the

interested parties in the planned lot for the revised control detailed planning of the substation. Why the planning changing of the substation's siting location did not have public consultation is one cause for public protest (Int. SH-13). On November 25, 2011, the Yangpu District Planning and Land Administration Bureau of Shanghai publicly posted the "Yangpu District Xin Jiangwan Community (N091103) Unit Functional Detailed Planning F1-01, F1-02, I5-01 plot implementation deepening announcement" on their official website. The announcement clearly indicated that the Sanmen Road Guoquan North Road (F1-01, F1-02 plot) was changed to a 220kV substation of 7000 square meters. The siting planning of the Shanghai Yangpu substation was posted on the wall of a vegetable market, which was near the siting location. The open time was from November 25, 2011 to December 24, 2011. Residents of Tongji Beiyuan community were informed by the vegetable market staff of the planning announcement of Yangpu substation one week before the deadline (Int. SH-13)⁷². The residents then started to protest.

In the Maglev Transportation Infrastructure case, there was no public participation during the project siting planning decision-making stage. In 2007, Shanghai Maglev Corporation opened the demolition announcement without public participation in the Shanghai-Hangzhou Maglev Shanghai Airport Connection Line Planning and Route Selection line planning stage, which caused NIMBY conflicts.

⁷² http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on February 10, 2018.

During the planning stage of the Maglev Transportation Infrastructure, involved stakeholders had negative impacts on public acceptance of the NIMBY facility. In this case, there were no key public stakeholders involved in the project EIA. The lack of public participation was one reason why the public protested (Zheng, 2011). Who represented the public stakeholders? According to media reports, the EIA report opened the first EIA public announcement on July 11, 2006, said to have 70% of the public saying that they “agree”. The government documents also showed that the demolition department not only publicly solicited public opinions, but also held public hearings. However, some residents said to the media that they did not definitely know about the project until they were asked to prepare for demolition in January 2007⁷³. The affected residents asked the demolition department to tell them who participated in the public hearing on their behalf, but the answer was “not related to you”⁷⁴.

In the Jiangqiao Incineration Plant case, involved stakeholders had a negative impact on public acceptance of the NIMBY facility. In the planning stage of the extension project, there were no public involved stakeholders. In 2007, to increase the amount of waste disposal for responding to increasing amount of waste generation in Shanghai, the government proposed to expand the third phase of the project next to the existing Jiangqiao incineration plant (Int. SH-49). In February 2007, the project construction unit Shanghai Huancheng Renewable

⁷³ Yang HP, Chen ZXL. Shanghai Maglev: doubts to be solved, Finance, Volume 188, 2007.

⁷⁴ Yang HP, Chen ZXL. Shanghai Maglev: doubts to be solved, Finance, Volume 188, 2007.

Energy Co., Ltd. proposed the capacity expansion for the project and entrusted the Shanghai Academy of Environmental Sciences to prepare the EIA report for the proposed extension project. In 2009, the Shanghai Municipal Government was preparing to expand the Jiangqiao Incineration Plant Project. After the public was informed of the project expansion, they started to protest through petitions, the mayor's mailbox, protests to the Shanghai Environmental Protection Bureau, and the State Environmental Protection Agency⁷⁵. The public protested against the waste incineration plant being planned for siting in a highly populated area⁷⁶.

In the Hong Kong case, during the project decision-making stage there was no public participation. During the project planning stage, the Environmental Protection Department (EPD) announced the Hong Kong Blueprint for Sustainable Use and Resources 2013-2022⁷⁷. This blueprint described the SENT landfill extension plan. The Town Planning Board (TPB) announced the draft for the siting place for the landfills. However, this draft was strongly protested by the public. When the residents living in LOHAS Park community bought housing in this community, they knew that there was an operating landfill nearby. The SENT Landfill had been in operation for 30 years, but a government report pointed out that the landfill would be closed in 2012

⁷⁵ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on January 20, 2018.

⁷⁶ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on January 20, 2018.

⁷⁷ http://www.epd.gov.hk/epd/sc_chi/environmentinhk/waste/prob_solutions/msw_strategic.html, accessed on January 20, 2018.

(Int.HK-9). However, when facing severe urban solid waste disposal problems, the Hong Kong government changed the land function around the LOHAS Park community to the SENT landfill extension plan. For the residents living in LOHAS Park community, they thought that the landfill would be closed in the near future, and they would therefore not have to endure the odor, dust and mud on the road (Int.HK-9). But when they learned from the government report that there would be an extension landfill project next to the old one, they strongly protested.

However, key stakeholders involved in the planning implementation and project EIA had a positive impact on NIMBY conflict management. The interviewed government official said that about two thousand citizens went to the TPB to protest (Int. HK-13). One of the district councilors said that nearly one thousand residents living in Tseung Kwan O went to protest on the day of the public hearing (Int. HK-9). Finally public comments and recommendations by TPB were submitted to the Planning Department director for decision-making (Int. HK-13). The public's strong protest and comments and government's pressure for dealing with waste pushed the government to take effective measures to solve the conflict. Finally, the residents were satisfied with the solutions and accepted the SENT landfill extension (Int. HK-16, Int. HK-22-24, Int. HK-26, Int. HK-28 and Int. HK-31).

On the whole, there was no public participation during the project siting planning decision-making stage in the selected five cases. The NIMBY conflicts

occurred in the policy implementation stage. The involved stakeholders in the planning implementation stage and project EIA had an impact on public acceptance of the NIMBY facilities. The impact could be positive or negative. Moreover, the capacity for government to address the issues from key stakeholders positively influences public acceptance of NIMBY facilities.

5.2.2 Degree of participation

In the Shanghai Hongyang substation case, according to Arnstein (1969), four kinds of participation, including manipulation, therapy, informing, and consultation were employed. Manipulation was reflected in the public participation of the project EIA. On the one hand, only 6 in 40 persons were stakeholder residents nearby the substation. On the other hand, an interviewed resident said that after the voting, they were told, “before the project has been approved by the State Environmental Protection Ministry, you’d better not tell other residents”.

Therapy reflected in the invitation for visiting a similar substation. Before the construction of the project, the residents were invited by the developer to visit another similar operational facility, the 500kv Jingan Expo substation (Int.SH-1). However this invitation increased residents’ discontent about the Hongyang substation rather than relieved their technical concerns. The interviewed residents said that there was no residential community around the Jingan Expo substation within a distance of 200 meters but their community shared the same wall with Hongyang substation (Int.SH-1). The developer

hoped to guide the residents to believe in their safe technology by means of visiting a similar substation. However the rational residents compared the siting differences between the two substations not the technology.

After the decision-making, the government informed the public by means of posting announcement near the entrance of a nearby vegetable market (Int.SH-1 and Int.SH-2). Later on, before the construction stage, the developer posted announcements on the bulletin board around the siting place. The six dialogues between the government and residents representatives reflected holistic consultation but the residents were still dissatisfied with the health risk, changing the area of the siting place, and the EIA report (Int.SH-1, Int.SH-2, Int.SH-5 and Int.SH-6). However, after understanding public concerns, the design change of the substation by the government and project developer reflected separate consultation, which had a positive impact on the NIMBY conflict management process. The interviewed resident said after government's design modification of the substation, residents living with different distances with the substation in the community had different opinions on the impact of the substation's electromagnetic field strength. So it was hard to unify all the residents together to protest again. Thus, the interviewed residents said they had to accept the substation (Int.SH-2). Manipulation and therapy were issues leading to conflict. Informing and separate consultation made information accessible to the public and to some extent relieved residents' concerns and doubts.

Therapy reflected in the Yangpu substation case. Therapy has a negative impact on the NIMBY conflict management process, which is one reason for the NIMBY conflict in this case. After the decision-making to change the substation site, the government posted the changed siting plan of the Yangpu substation on the wall of a vegetable market before the construction stage, which was near the siting location. Residents of Tongji Beiyuan community were informed by the vegetable market staff of the planning announcement of Yangpu substation⁷⁸.

In the Maglev Transportation Infrastructure case, therapy had a negative impact on the NIMBY conflict management process. In the absence of the approval of the State Environmental Protection Administration for the project EIA, Shanghai Maglev Corporation, the project developer, posted the demolition announcement for the “Shanghai-Hangzhou Maglev Shanghai Airport line” project to the residential community bulletin board along the line, which led to strong public protests (Zheng, 2009).

In the Jiangqiao Incineration Plant case, holistic consultation adopted by the government had a negative impact on public acceptance of the NIMBY facility. In January, 2009 the government had a consultation meeting with the stakeholders of the project⁷⁹. However, the project EIA report could not convince

⁷⁸ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on February 10, 2018.

⁷⁹ http://hengshengtixiangwan.fang.com/bbs/1210078640~1~3332/69941486_69941486.htm, accessed on January 20, 2018.

the residents at the meeting⁸⁰. Then in April 2009 thousands of nearby residents took to the streets to protest the siting plan of the project extension⁸¹.

In the Hong Kong SENT landfill case, informing, consultation, and placation were the main forms of public participation. During the planning stage, the Environmental Protection Department (EPD) announced Hong Kong Blueprint for Sustainable Use and Resources 2013-2022⁸², which described extending the SENT landfill (Int. HK-8). The TPB announced the draft for the siting of the landfills (Int. HK-13). Through placation, EPD and TPB collected public comments for the siting plan and project EIA. The issues from key stakeholders drew the government's attention and made government take measures to address them. Finally, the government gained public acceptance of the NIMBY facility.

All in all, the kinds of public participation and the degree of it have impacts on public acceptance of NIMBY facilities. In Mainland China, manipulation and therapy participation still exists. In the Shanghai cases, the two participations had negative impacts on public acceptance of the NIMBY facilities; the public was provided with information relating to the NIMBY facility but not given an opportunity to be heard, let alone to have an input on change decision-making. Thus informing can also be seen as surface

⁸⁰ http://hengshengtixiangwan.fang.com/bbs/1210078640~1~3332/69941486_69941486.htm, accessed on January 20, 2018.

⁸¹ <http://www.infzm.com/content/27110>, accessed on January 20, 2018.

⁸² http://www.epd.gov.hk/epd/sc_chi/environmentinhk/waste/prob_solutions/msw_strategic.html, accessed on January 20, 2018.

participation. When the public have protest consensus for a NIMBY facility, holistic consultation will have a negative impact on the NIMBY conflict management process but it could to some extent help alleviate the majority of the public's concerns over the NIMBY facility. However, separate consultation and placation could realize communication between government and the public, which to some extent have a positive impact on public acceptance of NIMBY facilities.

5.2.3 Participation approach

In the Hongyang substation case, citizen-initiated contacts with agencies during the planning stage and citizens surveys were employed. The interviewed residents said that after their long term and frequent protest for the substation, the government agreed to communicate with the residents to hear their appeal. Resident representatives had six dialogues with the government officials who had asked for their concerns and doubts over the siting of the substation (Int.SH-1, Int.SH-4, Int.SH-5 and Int.SH-11). However, after the dialogues the residents were still dissatisfied with the health risk, changing the area of the siting place, and the EIA report (Int.SH-1, Int.SH-2, Int.SH-5 and Int.SH-6). The interviewed government officials thought the residents were selfish and that they were more concerned with financial compensation rather than concerns for their health and the environment (Int.SH-10 and Int.SH-11). The low interaction between the government and the residents made it hard to recover the broken trust with each other, which is a key factor for relieving

NIMBY conflict (Int.SH-15). For the public surveys for the substation EIA, the residents asked for open surveys, which could prove the public supported the substation EIA (Int.SH-2 and Int.SH-6). But the government did not respond.

Bottom-up participation in the Hongyang substation case was petition, informal participation like holding banners up at the gates of the government building, and postings in online forums and social media. Top-down participation in the Hongyang substation case was citizens surveys in EIA, public consultation in EIA, and citizen-initiated contacts with agencies. Thus, to some extent, citizen-initiated contacts with agencies could have had a positive impact on getting information and communicating with government but showed no evidence for public acceptance of the NIMBY facility, while ineffective public surveys had a negative impact on public acceptance of the NIMBY facility.

In the Shanghai Yangpu case, bottom-up participation and top-down participation were employed in the planning stage. Bottom-up participation in the Yangpu case was petition, informal participations like writing letters and protesting through holding banners at the gates of the government building and postings in the community. Top-down participation in the Yangpu case was citizen-initiated contacts with agencies.

Bottom-up participation had a negative impact on the NIMBY conflict management process. In January, 2012, there were about 1980 households

protesting through letters appealing to the Shanghai Municipal Government, Yangpu District Government, Shanghai Municipal Petition office, Yangpu District Planning Bureau, holding banners at the gates of the government building, and postings in the community⁸³. When the residents found out on February 8, 2012 that there was a wall being built on the open space of the siting place, motivated by fear of the substation construction they had a dispute with the construction workers and succeeded in pushing the wall over (Int.SH-13, Int.SH-50)⁸⁴.

Citizen-initiated contacts with agencies had a negative impact on NIMBY conflict management. After the public's strong protest, the Yangpu district government had a meeting with the residents in order to get their opinions on the substation. Responding to public questions about the substation, the government referred to the written reply at the end of 2011, saying that since the safe distance for 220kV substation was 30 meters based on the Technical Standards for Shanghai Regulatory Planning, the Yangpu substation project was in compliance with the regulation and it would not present a health hazard to nearby residents⁸⁵. However, the government's explanation did not dispel the residents' doubts or relieve their environmental concerns, and so they continued to protest (Int.SH-13)⁸⁶. The public protested initially for the environmental, land function

⁸³ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

⁸⁴ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

⁸⁵ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on January 20, 2018.

⁸⁶ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on January 20, 2018.

and real estate devaluation concerns^{87, 88}. But with more information, the public was more dissatisfied with the planning changing procedures of land function. In particular they were dissatisfied with the opaque information and the lack of public participation in the project siting planning change (Int.SH-13).

In the Shanghai Maglev Transportation Infrastructure case, bottom-up informal participation and citizen-initiated contacts with agencies were employed in the planning stage. These approaches had a negative impact on NIMBY conflict management. After the Maglev Transportation Infrastructure project plan was announced, the public began to protest against the 22.5 meters safety and housing demolition distance indicated by the project-planning announcement (Zheng, 2009). Then under pressure from public protests, the government optimized the project and disclosed a brief EIA report on the project. However, the residents could not obtain the satisfactory responses from the government about the safety distance, health and safety impacts and real estate devaluation of the Maglev Transportation Infrastructure siting, which then triggered thousands of people to gather and protest in Shanghai People's Square (Zheng, 2009)⁸⁹.

In the Jiangqiao Incineration Plant case, bottom-up participation and top-down participation were employed in the planning stage and operating stage. During the extension project planning stage, bottom-up participation was petition,

⁸⁷ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on February 10, 2018.

⁸⁸ <http://tieba.baidu.com/p/1331542164?traceid=>, accessed on February 10, 2018.

⁸⁹ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018

mayor's mailbox, and informal participation like protesting through a 10,000-person signature and walking on the street, while top-down participation was citizen-initiated contacts with agencies. During the old project operating stage, bottom-up participation was petition and top-down participation was public consultation and citizen-initiated contacts with agencies.

During the extension project planning stage in the Jiangqiao Incineration Plant case, bottom-up participation and top-down participation public participation approaches had a negative impact on the NIMBY conflict management process. Since the residents obtained the information of the extension planning in 2009, they protested through a 10,000-person signature campaign, the mayor's mailbox, and petitions to the Shanghai Environmental Protection Bureau and the State Environmental Protection Administration^{90,91}. It was not until January 2009 that the government organized a hearing with the project stakeholders⁹². Eleven out of sixteen representatives disagreed with the expansion project in the hearing. Thousands of people then protested on the streets in April 2009⁹³, after which the extension project was cancelled.

During the old project operating stage in the Jiangqiao Incineration Plant case, bottom-up participation and top-down participation public participation approaches had a positive impact on the NIMBY conflict management process.

⁹⁰ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

⁹¹ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on February 10, 2018.

⁹² http://hengshengtixiangwan.fang.com/bbs/1210078640~1~3332/69941486_69941486.htm, accessed on January 20, 2018.

⁹³ <http://www.infzm.com/content/27110>, accessed on January 20, 2018.

In response to public concerns and feedback, the government and project developer took positive actions to address the issues of the plant. In response to public concerns about the odor, and environmental and health impacts from the waste incineration plant, the public sector upgraded the sealing technology of the garbage trucks. In addition, the road in front of the incineration plant was regularly flushed with sprinklers every day (Int. SH-49). As the project operation management unit, Shanghai Huancheng Renewable Energy Co., Ltd. built an electronic display in front of the incineration plant, dynamically disclosing waste incineration flue gas emission data and noise monitoring data every day. In addition, it disclosed transparent flue gas emission data and noise test data on the company website. Moreover, the public could inquiry on the company's website⁹⁴. The company also welcomed the public to come to the plant to supervise (Int.SH-49). Few interviewed residents said that the operating incineration plant had no effect on their lives (Int.SH-29) while some of the interviewed residents said that the incineration plant had few effects on their lives. They were seldom troubled by the odor problem from the plant and found the current operating plant acceptable (Int.SH-30, Int.SH-37-45, Int.SH-48).

In the Hong Kong SENT landfill case, public hearing and advisory committees were employed, which was reflected in the project EIA stage. The public hearing for the project environmental impact was held during the planning stage. When the project proponents were accepting the inquiry by the Advisory Council on the

⁹⁴ <http://www.hcwte.com>, accessed on February 10, 2018.

Environment (ACE) about the project, the selected public had a hearing in another room (Int. HK-3). The interviewed experts indicated that few public participation approaches could not answer all the public's concerns (Int. HK-2 and Int. HK-3). The interviewed membership of ACE argued that the reasons for public protests were mainly due to the fact that the EIA was the only window for public engagement (Int. HK-2). The EIA Subcommittee only evaluated the project's environmental impact according to the EIA ordinance rather than provide social and economic assessment to the nearby citizens (Int. HK-2 and Int. HK-3). The health issue, the odor problem, the dust and mud on the road, PM2.5 (atmospheric particulate matter with a mean aerodynamic diameter of 2.5 μm , which have negative impacts on climate and human health), the landfill gas and government changing the land nature, and lacking a long term plan for solid waste management in Hong Kong were summarized as the public opposition reasons (Int. HK-1, Int. HK-4, Int. HK-9, Int. HK-15, Int. HK-16, Int. HK-21, Int. HK-26 and Int. HK-28).

Bottom-up participation in the Hong Kong case was the joint letters, writing to EIA, and informal participation like protesting through holding banners at the gates of the government building. Top-down participation in the Hong Kong case was public hearings in EIA and public consultations for planning.

The scale of public protest in NIMBY conflict event relates to the number of participants in protest initiated by residents (Li, 2016). The number of 5000 is chosen as the cross-over point to dichotomize large-scale protests and small-scale

protest (Li, 2016). In the Hongyang substation case, a small-scale protest was initiated by the local citizens. There were 762 households in the Zhengwen Garden II residential community, with approximately 2,500 residents. Therefore, it could be inferred that the number of participants in the community in protest did not exceed 5,000. Finally the residents had to accept the project. In the Yangpu substation case, a large-scale protest was initiated by the local citizens. According to newspaper reports reprinted by the Internet, a total of 1980 households jointly wrote letters to the Yangpu District Government and the municipal government in early December, 2012. Therefore, it could be inferred that the number of protesters was more than 5,000, which finally pushed the government to cancel the project. In the Maglev Transportation Infrastructure case, a small-scale protest was initiated by the local citizens. Thousands of residents gathered in the People's Square to protest against the Maglev Transportation Infrastructure project, which finally pushed the government to delay the project. In the Jiangqiao Waste Incineration Plant case, a large-scale protest was initiated by the local citizens. According to the online forum data, residents protested through 10,000-person signatures, so it could be inferred that the number of protesters exceeded 5,000, which finally pushed the government to cancel the extension project. In the Hong Kong SENT landfill case, a small-scale protest was initiated by the local citizens. The interviewed government official said that about two thousand citizens went to the TPB to protest (Int. HK-13). Finally the residents accepted the extension project.

In summary, without transparency and trust, formal and top-down organized participation approach will not have positive impacts on public acceptance of a NIMBY conflict facility. However, bottom-up participation such as a formal petition and informal approaches like protesting through holding banners at the gates of the government building, postings in online forums and social media, writing joint names letters, gatherings, and walking on the street will put pressure on the government to react to public protests. Large-scale public protests will lead to project cancellation.

5.2.4 Timing

The Shanghai Hongyang case shows late public participation during the NIMBY conflict process. After the substation siting was approved in 2005, the residents organized frequent and long-lasting protests such as petition and congregating at the gates of the government administration building. However it was not until July 2012 that the local government organized formal dialogues with the residents, which still did not relieve public concerns (Int.SH-1, Int.SH-2, Int.SH-4, Int.SH-5 and Int.SH-11). Thus, late public participation has a negative impact on public acceptance of a NIMBY facility.

The Shanghai Yangpu substation case shows late public participation during the NIMBY conflict process. The siting planning of the Yangpu substation was posted on the wall of a vegetable market, which was near the siting

location (Int. SH-13)⁹⁵. The open time was from November 25, 2011 to December 24, 2011. But not until a few days before the deadline of the open time, were residents of Tongji Beiyuan community informed by the market staff of the planning announcement of Yangpu substation (Int. SH-13)⁹⁶. Then residents started to protest and asked for feedback from the government. Thus, late public participation has a negative impact on public acceptance of a NIMBY facility.

The Shanghai Maglev Transportation Infrastructure case shows late public participation during the NIMBY conflict management process. In the absence of the approval of the State Environmental Protection Administration for the project EIA, Shanghai Maglev Corporation, the project developer, posted the demolition announcement for the “Shanghai-Hangzhou Maglev Shanghai Airport line” project to the residential community bulletin board along the line. Then the public began to protest against the 22.5 meters safety and housing demolition distance on the project-planning announcement (Zheng, 2009). Zheng (2011) argued that the short time of 14 days for accessing the project EIA report, which is not easily accessible to the public, was one of the issues in the NIMBY conflict in this case.

The Shanghai Jiangqiao incineration plant case shows late public participation during the NIMBY conflict management process, which had a negative impact

⁹⁵ http://blog.sina.com.cn/s/blog_60f20ce901010a0e.html, accessed on February 10, 2018.

⁹⁶ http://blog.sina.com.cn/s/blog_60f20ce901010a0e.html, accessed on February 10, 2018.

on the process. Since the residents obtained the information of the extension plan, they protested through a 10,000-person signature, the mayor's mailbox, and petitions to the Shanghai Environmental Protection Bureau and the State Environmental Protection Administration^{97, 98}. It was not until January 2009 that the government organized meetings with the project stakeholders⁹⁹. But the ineffective meetings led to thousands of people taking to the streets in April 2009 to protest¹⁰⁰.

In the Hong Kong case, during the planning stage, the government opened the landfill extension-planning proposal and project EIA report in time and further collected public comments in a timely manner. Over the following four years, the government took several specific measures to resolve the issues caused by the SENT landfills as reflected by the nearby residents, such as spraying scent to cover the odor problem, refitting and installing covers for the garbage trucks going to the SENT landfill, decreasing the number of the trucks per day, and implementing the waste division plan. The interviewed residents said that the odor problem was relieved greatly and at the same time the dust was not as serious as it was before (Int. HK-16, Int. HK-22-24, Int. HK-26, Int. HK-28 and Int. HK-31). The interviewed expert argued that the NIMBY phenomenon was good because it could make citizens smart and made the government take more

⁹⁷ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

⁹⁸ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on February 10, 2018.

⁹⁹ http://hengshengtixiangwan.fang.com/bbs/1210078640~1~3332/69941486_69941486.htm, accessed on January 20, 2018.

¹⁰⁰ <http://www.infzm.com/content/27110>, accessed on January 20, 2018.

responsibility for public affairs (Int. HK-1). Although there was no public participation during the decision-making stage, timely public participation still had a positive impact on public acceptance of the NIMBY facility.

In summary, this study finds that in the planning stage, including the time before the construction stage and project EIA stage, timely public participation has a positive impact on public acceptance of NIMBY facilities. Late public participation will increase public discontent and further decrease the possibility of the public accepting a NIMBY facility.

The next section analyzes the impact of environmental information disclosure on the NIMBY conflict management process.

5.3 Environmental information disclosure in the conflict management process

This study shows that in the selected five cases different degrees of EIA report were disclosed and different levels of EID procedures were conducted in the planning implementation stage. Despite the residents in the Hongyang substation case still being dissatisfied with the outcome of the EID, the outcome of the conflict management process finally got a compromise between the residents and the government. Although EID of the extension of Jiangqiao Waste Incineration Plant could not relieve public environmental concerns, which had a negative impact on the NIMBY conflict management process, EID during the operating stage of the old plant to some extent relieved public environmental concerns of

the old plant and finally gained public acceptance of the old operating plant, which can be seen as a compromise between the residents and the government. Because of public dissatisfactions with the outcome of the science method of the technical standard for NIMBY facilities and public participation in project EIA, the Yangpu substation project and the Maglev Transportation Infrastructure were cancelled. The outcome of EID in the Hong Kong case succeeded in persuading the public to accept the NIMBY project. The following subsection analyzes the two aspects of EID that impact the NIMBY conflict management process.

5.3.1 EIA report and EIA procedure

In the project planning stage of the Shanghai Hongyang substation, the EIA report was not sufficient to satisfy the public's environmental concerns over the NIMBY facility. The public doubted the scientific methods used in the EIA report, which was one reason for the NIMBY conflict. In the project planning stage of the Shanghai Hongyang substation, local government actively disclosed an EIA table. However, the disclosed EIA table could not convince the interviewed residents to accept the substation siting. The residents doubted how such a large kind of substation could only have a simple EIA table, which was insufficient and could not satisfy their environmental, health and safety concerns over the substation (Int. SH-1, Int. SH-2, and Int. SH-6). In addition, the safety of the Hongyang substation based on the electromagnetic field strength standard of 500kV substation was the issue between the residents and the government. The interviewed residents argued that since there were only industry standards and

international standards for evaluating substations in China and there was no national standard, they rejected the contention that the substation was safe with the EIA regulatory standard taken by SEPB (Int.SH-1, Int.SH-4, Int. SH-5), while the experts argued that Hongyang substation was in line with the Chinese standard and was safe (Ye, 2001; Lin, 2011; SH-16).

Before the project construction stage of the Shanghai Hongyang substation, insufficient and opaque EIA procedures, which could not satisfy the public's environmental concerns over the NIMBY facility, was one reason for the NIMBY conflict. In order to relieve the NIMBY conflict, the government organized six dialogues with the affected residents. During the dialogues, the government provided a copy of the experts' brief opinions on the Hongyang substation (Int. SH-1, Int. SH-5, and Int. SH-6). This showed the views and signatures of the invited four experts claiming that the Hongyang substation would not have significant environmental impact on the nearby residents (Int. SH-1, Int. SH-5, and Int. SH-6). However, providing the viewpoints of the experts without the detailed records of the experts' consultation meeting did not convince the interviewed residents that they should accept the experts' evaluation of the substation (Int. SH-1, Int. SH-2, Int. SH-5, and Int. SH-6). In addition, the affected residents also doubted that the government's invited experts would be objective and neutral (Int. SH-1, Int. SH-2)¹⁰¹. Moreover, the government could not provide the details of the public consultation to prove that they had the key

¹⁰¹ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on January 20, 2018.

public stakeholders' support for the project EIA. The government argued that the public surveys for the project EIA could provide public support for the project EIA. However, when the interviewed residents asked the government to disclose the public consultation forms for the project EIA, the government did not respond to them (Int.SH-2, Int.SH-6).

By the time the residents were interviewed by the author in 2017, the substation was being constructed. Based on public protest and feedback on the substation, the government modified the design of the substation planning from on the land to under the land at the same siting place. The interviewed residents said after the government's design modification of the substation, that residents living within different distances of the substation in the community had different opinions on the impact of the substation's electromagnetic field strength. So it was hard to unify all the residents to protest again. Thus, the interviewed residents said they had to accept the substation (Int.SH-2).

In the Shanghai Yangpu substation case, there is no evidence shown that the EIA report and EIA procedure had an impact on the NIMBY conflict management process. However, the public doubted the scientific methods used for assessing the technical standard of the substation and also doubted the technical safety of the substation, both of which had a negative impact on the NIMBY conflict management process. NIMBY conflict occurred in the project planning stage before the implementation of the project EIA. Later, owing to public protest, the government cancelled the project. In the planning stage, the

Yangpu district government had a meeting with the residents for getting public opinions on the substation. Responding to public questions about the substation, the government reaffirmed the written reply at the end of 2011, saying that since the safe distance for 220kV substation was 30 meters according to the Technical Standards for Shanghai Regulatory Planning, the Yangpu 220kV substation project was in compliance with the regulation and it would not present a safety or health hazard to the surrounding residents¹⁰². However, the government's explanation did not dispel the residents' doubts or relieve environmental concerns over the substation and so the public continued to protest (Int.SH-13)¹⁰³.

In the Shanghai Maglev Transportation Infrastructure case, the public doubted the science method used in the project EIA report and insufficient EIA procedures, which could not satisfy the public's concerns, were causes of the NIMBY conflict, and have negative impacts on the conflict management process. Based on searching relevant information of the distance between the Maglev Transportation Infrastructure and the nearby community, the public could not believe that the 22.5 meters written in the project EIA report was a safe distance and had no safety and health effects on nearby residents¹⁰⁴. Zheng (2009) quoted a resident's words on an online forum, "If the government convinced the residents along the (Maglev Transportation Infrastructure) line, the government

¹⁰² http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on January 20, 2018.

¹⁰³ http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on January 20, 2018.

¹⁰⁴ Zhang Fengan and Li Fan, Maglev economic bills: Shanghai Maglev Company has lost more than 1 billion in three years, 21st Century Business Herald, January 15, 2008, <http://news.hexun.com/2008-01-15/102865412.html>, accessed on January 20, 2018.

needs to select a third party EIA company which can be accepted both by the developer and the residents living along the Maglev Transportation Infrastructure line, and invite the representative residents to join in the project EIA. Only in this way can the facility siting can be open, fair and reasonable (Zheng, 2009)". Furthermore, the project EIA lacking the procedures and details of public consultation was also a cause of public protest. After the Maglev Transportation Infrastructure project plan was announced, the public began to protest against the 22.5 meters safety and housing demolition distance in the announcement (Zheng, 2009). Under the pressure of public protests, the government then optimized the project and disclosed a brief EIA report for the project. However, the residents did not obtain satisfactory responses from the government about the safe distance, impact on health and safety, and real estate devaluation as a result of the siting of the Maglev Transportation Infrastructure. This ultimately led to thousands of people protesting in Shanghai People's Square (Zheng, 2009)¹⁰⁵.

In the Shanghai Jiangqiao incineration plant case, the public doubted the sufficiency and the scientific methods used in the project EIA report as well as the independence and fairness of the project EIA procedures, both of which were causes of the NIMBY conflict that had negative impacts on the conflict management process¹⁰⁶. The Jiangqiao Waste Incineration Plant was 500 meters

¹⁰⁵ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018

¹⁰⁶ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on January 20, 2018.

away from the nearest residential area, the Yangguang Weinisi Community, which housed about 50,000 persons. The residents did not believe in the monitoring data in the EIA report. Residents pointed out that the incineration plant had been in operation for many years, and wondered why the maximum landing concentration from the incineration plant was predicted by model instead of using the actual monitoring data¹⁰⁷. Moreover, they argued that the monitoring data of the incineration plant did not include the monitoring data for dioxin which is a carcinogen and non-degradable¹⁰⁸. Furthermore, the residents doubted the qualification of the Shanghai Academy of Environmental Sciences (SAES) for evaluating the environmental impact of the incineration plant. At the protest, the residents said, “Shanghai Environmental Protection Bureau (SEPB) is the official department for approval of the expansion of the Jiangqiao Waste Incineration Plant project. SAES was established in 1979 and subordinated to SEPB. Therefore as the EIA agency has an affiliation with the approval authority, there must be an interest relationship between them¹⁰⁹.”

The EID for the extension of Jiangqiao incineration plant could not relieve the public’s environmental concerns, which had a negative impact on the NIMBY conflict management process. However, EID during the operating stage of the old Shanghai Jiangqiao Incineration Plant to some extent relieved public environmental concerns of the NIMBY facility, which had a positive impact on

¹⁰⁷ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

¹⁰⁸ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

¹⁰⁹ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on January 20, 2018.

the NIMBY conflict management process. In response to public concerns about the odor, and environmental and health impact from the waste incineration plant, the public sector upgraded the sealing technology of the garbage trucks, and arranged for the road in front of the incineration plant to be flushed with sprinklers every day (Int. SH-49). As the project operation management unit, Shanghai Huancheng Renewable Energy Co., Ltd. also built an electronic display in front of the incineration plant, dynamically disclosing waste incineration flue gas emission data and noise monitoring data every day. In addition, it disclosed transparent flue gas emission data and noise test data on the company website. Moreover, the interviewed project developer said that public inquiries and public supervision were also welcomed (Int. SH-49)¹¹⁰.

By the time the authors did interviews in October 2017, a few interviewed residents said that the operating incineration plant had no effect on their lives (Int.SH-29) while some of the interviewed residents said that the incineration plant had few effects on their lives. Because they were seldom troubled by the odor from the plant, the residents accepted the operating NIMBY facility (Int.SH-30, Int.SH-37-45, Int.SH-48).

In the Hong Kong SENT landfill case, a sufficient, disclosed EIA report with sound scientific methods, independent, transparent and social inclusive EIA procedures, which could satisfy public environmental concerns in the planning stage and information provided about how the environmental performance of the

¹¹⁰ <http://www.hcwte.com>, accessed on February 10, 2018.

project during the operation stage would be measured, had a positive impact on public acceptance of the NIMBY facility. The EIA report on the SENT Landfill Extension project was initially disclosed in 2008. However, owing to public protests and insufficient government arguments on the environmental impact of the SENT Landfill Extension project, the project was delayed. Then in 2013, although the decision-making process for selecting facility siting was not open to public (Int.HK-8, Int. HK-13), the government released the siting draft and EIA report again for the SENT Landfill Extension project. Besides the EIA report, the Legislative Council (LegCo) meeting also disclosed the records of the SENT Landfill Extension project to the public (HKLegCo, 2015). Through the LegCo meeting records, the debates on the SENT Landfill Extension project between the district councilors and Environmental Protection Department (EPD) were publicized. The LegCo meeting records also reflected the strategies between the different stakeholders and the project process of the SENT Landfill Extension project. How the environmental performance of the SENT Landfill Extension project would be measured was also disclosed on the EPB's website during the operation stage of the extension project (HKGGOV, 2015).

In Hong Kong, the EIA of a proposed project is done by EIA private companies designated by the project proponents. An EIA Subcommittee from the Advisory Council on the Environment (ACE), whose members came from academics and society in the environment management field, evaluated the EIA report according to the EIA ordinance and finally gave the evaluation result and

their recommendations to the Environment Protection Department (EPD) director to make a decision (Int. HK-2 and Int. HK-3).

However, the interviewed district councilor and the interviewed expert doubted the justice of the EIA report because they thought the government, as the project's proponent, paid for the EIA private company and it was possible that the company produced a report to the government's liking (Int. HK-4 and Int. HK-9). Facing these doubts, an interviewed ex-ACE member argued that they worked in ACE without money and they reviewed the EIA report as a way of contributing to society rather than doing it for the government (Int. HK-2). But he thought that if ACE agreed with the EIA report, it was possible to mislead the public and the media that it was ACE that agreed to the project planning. But in fact, they only agreed with the environmental part. It was possible that the government transferred the pressure to ACE for them to face the public protests (Int. HK-2). He advised that even given that the ACE agreed with the EIA report, it was still necessary for the government to open all the detailed EIA reports and argumentation processes used by the private company and disclose the EIA evaluation report by the ACE. The public had 30 days to write comments on the disclosed EIA report. But whether the government adopted public comments, the public could not know without a response (Int. HK-3).

The interviewed expert thought it was very hard for government to disclose the project EIA information. In fact, the EIA was in the very last stage of a project process (Int. HK-2). This interviewed expert said, "Government invested time,

human resources and money in this project and it was not possible to cancel the project for environmental reasons, only for social impact reasons. The government would delay the project for full preparation based on their bottom line”. Trust as a key factor for policy implementation was lost at this stage (Int. HK-2 and Int. HK-3). The communication between citizens and government should be done earlier in the policy stage (Int. HK-1, Int. HK-2 and Int. HK-8).

Based on the government actions of improving the environmental issues of the landfill, the government obtained public trust and finally residents accepted the extension of the landfill. The interviewed residents said that despite they had been troubled by the odor from the landfill before the government took measures, now they trusted the disclosed environmental information on the SENT Landfill Extension project after the improvement by the government (Int. HK-15, Int. HK-20, and Int. HK-26). Finally, the interviewed residents were satisfied with the solutions and accepted the extension landfill (Int. HK-16, Int. HK-22-24, Int. HK-26, Int. HK-28 and Int. HK-31).

Based on the findings in the selected cases in Shanghai and Hong Kong, it can be summarized that, in the siting planning, the disclosed EIA report with sufficiency and scientific methods, independent, transparent and social inclusive EIA procedures, which could satisfy public environmental concerns, positively influenced public acceptance of NIMBY facilities while in the operating stage. Furthermore, the disclosed dynamic pollutant emission monitoring data of the NIMBY facility positively influenced public acceptance of the NIMBY facility.

5.4 Findings summary

Multiple case studies in Shanghai and Hong Kong were conducted to examine the impact of public participation and environmental information disclosure on the NIMBY conflict management process. This study shows that involved stakeholders, the degree of participation, participation approach, participation timing, EIA report and EIA procedure has an impact on the NIMBY conflict management process. Based on the findings in this chapter, this study argues that public participation and environmental information disclosure have both positive and negative impacts on the NIMBY conflict management process at the planning and operating stages.

The main findings of the impact of public participation on the NIMBY conflict management process are as follows:

(1) There is no public participation during the project decision-making stage in the selected cases. The involved stakeholders during the planning stage and before the construction stage have impacts on public acceptance of NIMBY facilities. The impact could be positive or negative. The involved key stakeholders during the planning stage and before the construction stage have impacts on public acceptance of NIMBY facilities. Moreover, the capacity for the government to address the issues from the key stakeholders directly positively influences public acceptance of the NIMBY facility while public participation without key public stakeholders during the planning

implementation stage and in the project EIA negatively influences public acceptance of the NIMBY facility.

(2) The types and degree of public participation have impacts on public acceptance of NIMBY facilities. In Mainland China, manipulation and therapy participation still exist; informing is implemented but it is surface participation. Manipulation, therapy participation, informing and holistic consultation led to negative impacts on public acceptance of NIMBY facilities. Separate consultation and placation could realize communication between government and public, which to some extent have positive impacts on public acceptance of NIMBY facilities.

(3) Without transparency and trust, a formal and top-down organized participation approach will not have positive impacts on public acceptance of the NIMBY conflict facility, while bottom-up participation such as a formal approach through petitioning and informal approaches through holding banners at the gates of government buildings, postings in online forums and social media, writing joint name letters, and gatherings and walking on the street, will put pressure on the government.

(4) During the planning stage, timely public participation has positive impacts on public acceptance of NIMBY facilities. Late public participation will increase public discontent and further decrease the possibility of the public accepting NIMBY facilities.

The summarized results of EID impact on NIMBY conflict management processes are as follows:

(1) In the siting planning stage, the disclosed EIA report with sufficiency and scientific methods, independent, transparent and social inclusive EIA procedures, which could satisfy public environmental concerns, positively influence public acceptance of the NIMBY facility.

(2) In the operating stage, the disclosed dynamic pollutant emission monitoring data of the NIMBY facility positively influenced public acceptance of the NIMBY facility.

In the next chapter, the study continues to examine the impact of the government role on NIMBY conflict management processes. Chapter 7 investigates the effectiveness of the urban NIMBY conflict management model from the perspective of public participation and government role, Chapter 8 presents discussion of the findings in this thesis and Chapter 9 concludes the whole research based on findings from the previous eight chapters.

CHAPTER 6 THE IMPACT OF GOVERNMENT ROLE ON THE NIMBY CONFLICT MANAGEMENT PROCESS

6.1 Introduction

Based on the relationship between policy process and government public relations, this chapter examines the impact of the government role on the NIMBY conflict management process in the policy decision-making and implementation stages.

The chapter analyzes the impact of government role on the NIMBY conflict management process from the aspects of policy aim, government administrative processes and administrative procedures, government responses, government role as an organizer, a coordinator and a leader in the NIMBY conflict management process, and policy space and policy stage.

6.2 The role of local government in the conflict management process

From the perspective of conflict management, the government role in the Hongyang substation case succeeded to relieve the NIMBY conflict and reached a compromise with the residents. At last the affected residents had to accept the substation. The government role in the Yangpu substation case, the Maglev Transportation Infrastructure case and the Jiangqiao Incineration Plant case did not help to relieve the conflict with the affected residents and the three projects were eventually cancelled. In the Hong Kong SENT landfill case, the role of government succeeded

in resolving the conflict with the affected residents, gained public satisfaction and persuaded the public to finally accept the extension project. The following six subsections analyzed the six aspects of government role impacting the NIMBY conflict management process in each case.

6.2.1 Policy goals

In the Hongyang substation case, that the government only considered the economic constraints and technical constraints for policy implementation, without considering public acceptance of the NIMBY project policy decision, had a negative impact on the NIMBY conflict management process. Government undertook the decision-making alone without considering public acceptance of the policy decision, with a lack of certainty in the project planning decisions, and with insufficient planning, which causes the NIMBY conflict in this case. The economic constraints referred to that the government determined the land use and changed the scale of the land use for the substation based on the principle of administrative costs minimization and economic costs minimization alone.

In order to increase its own economic interests, the local government sold part of the planning land for Hongyang substation to the real estate developer for building the Zhengwen Garden II residential community. Thus, the land area for Hongyang

substation construction was reduced¹¹¹. Zhengwen Garden II residential community shared a wall with the planned Hongyang substation. This caused the NIMBY conflict. The technical constraints were that under the premise of the reduced land area of the substation and taking account of the public protests, in order to implement the substation siting planning decision, based on the technical rationality and cooperating with the construction unit, the government changed the design of the substation construction from on the ground to under the ground. However, in face of the changed design of the substation, the residents did not accept the government's argument that the design planning was changed due to public concerns over the impact of the substation's electromagnetic field strength. Residents argued that the substation design change was because of insufficient land for the substation resulting from the reduced land area given by the government¹¹². This case study shows that the government, as a stakeholder of the substation project, individually changed the land function and reduced the land area for the substation, totally ignoring the interests of nearby residents. This had a negative impact on the NIMBY conflict management process.

¹¹¹ For the conflict of the changing area of the Hongyang substation, please refer to section 4.2.5 in Chapter 4 in this thesis. This subsection has a detailed analysis that can support the impact of economic constraints of the policy decision on public acceptance of the NIMBY facility. Therefore, it is not repeated here.

¹¹² For the conflict of electromagnetic strength of the Hongyang Substation, please refer to subsection 4.3.2 in Chapter 4 in this thesis, This subsection has detailed analysis, which can support the relationship between the technical constraints in the policy implementation and public acceptance of the NIMBY facility proposed in this study. Therefore, it is not repeated here.

In the Yangpu substation case, the government changing the site of the substation in the planning decision-making alone, without considering public acceptance of policy decision had a negative impact on the NIMBY conflict management process. For the substation policy implementation, the government changed the siting plan of the substation internally. The fact that there was a lack of openness and public participation procedures in the changing process was one of the reasons for the NIMBY conflict in this case. When explaining why the original planned plot was not used to construct the Yangpu substation, the Yangpu District Planning and Land Management Bureau stated that, “there would be a subway line crossing the area. If a 22 kV substation was built, the majority of the construction land could not be used; the function of the original planned plot could not be fulfilled¹¹³.” So the government changed the original siting of the substation alone. However, the relocation of the Yangpu substation led to strong public protests¹¹⁴. Residents argued that the plot of the substation was obviously for the sake of the government’s economic interests. It was said that the plot of the relocation of the substation also involved land belonging to the army (Int.SH-13). Because the information was opaque, residents did not know the specific land ownership of the relocated plot (Int.SH-13). But an interviewed resident inferred that the government cooperated with the project

¹¹³ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on January 20, 2018.

¹¹⁴ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on February 10, 2018.

developer and the army for the place of the substation; they wanted to conduct a win-win thing (Int.SH-13). The interviewed resident argued that changing the plan of the substation was interest-driven, which included the interest of the government, project developer, military, and residents. “Residents need to protect their legitimate interests,” said the interviewed resident (Int. SH-13). Thus, this case shows that for changing the plan of the NIMBY facility, the government made the decision alone, ignoring the interests of key public stakeholders, which had a negative impact on the NIMBY conflict management process.

In the case of the Maglev Transportation Infrastructure project, the government only considered the economic constraints and technical constraints of policy quality constraints for policy implementation as the policy aim in the policy decision-making, without considering public acceptance of the NIMBY project policy decision, which had a negative impact on the NIMBY conflict management process. Economic constraints and technical constraints were also reasons for the public protests. Economic constraints and technical constraints mean that the government determined the safety distance according to the principle of economic costs minimization and technical rationality alone. In the siting planning, the distance between the line of the Maglev Shanghai Airport and the residential area was 22.5 meters. The residents obtained the information of two practical operating maglev

projects where there was a 175-meter isolation zone between the maglev demonstration line and the residential area in one case, and there was the 500-meter separation between the German maglev and the residential area in another case. Therefore, the public could not believe that the 22.5-meter space in the project EIA report had no negative impact on human health and safety¹¹⁵. But increasing the distance would increase construction costs, which might exceed the government's economic ability. Experts argued that the Shanghai Maglev Transportation Development Co., Ltd., in which Shanghai government held shares, as the investor and construction unit of the maglev project, had spent huge amounts on new technology and construction costs and that the Maglev demonstration line project was running at a loss. Therefore, it was expected that the Maglev Airport Line project would be built as soon as possible. The expert argued that the government would not consider paying more demolition costs for increasing the distance between the Maglev Airport Line and the residential area¹¹⁶. This case shows that economic costs and technical rationality were the key factors for government to make decisions

¹¹⁵ Zhang Fengan and Li Fan, Maglev economic bills: Shanghai Maglev Company has lost more than 1 billion in three years, 21st Century Business Herald, January 15, 2008, <http://news.hexun.com/2008-01-15/102865412.html>, accessed on January 20, 2018.

¹¹⁶ Zhang Fengan and Li Fan, Maglev economic bills: Shanghai Maglev Company has lost more than 1 billion in three years, 21st Century Business Herald, January 15, 2008, <http://news.hexun.com/2008-01-15/102865412.html>, accessed on January 20, 2018.

for the NIMBY project siting, and the government ignored the interests of nearby residents who influenced the project policy implementation, which had a negative impact on the conflict management process.

In the Jiangqiao Waste Incineration Plant case, the government only considered the economic constraints and technical constraints of policy quality constraints for policy implementation as the policy aim in the policy decision-making, without considering public acceptance of the NIMBY project policy decision, which had a negative impact on the NIMBY conflict management process. Technical constraints were the reasons for public protests in this case. Due to the technical limitations of the old Jiangqiao Waste Incineration Plant, nearby residents were dissatisfied with the environmental and health issues such as the odor and dioxin emissions from this plant¹¹⁷. Therefore, when the nearby residents were informed of the incineration plant extension project to be planned alongside the old plant, it triggered a large-scale and strong public protest. In addition, when the Shanghai Academy of Environmental Sciences, the EIA unit of the project, explained to the public why the extension project was to be built near residential areas, it stated that “the layout of the domestic waste incineration plant depended on the needs of its service scope and

¹¹⁷ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 23, 2018.

also related to the economic cost of the transportation distance.¹¹⁸ This case study shows that the economic costs and technical limitations are the key factors for government to make the planning decision to build an extension project near the original waste plant. The government ignored the environmental and health drawbacks to nearby residents, which had a negative impact on the NIMBY conflict management process.

In the Hong Kong SENT landfill case, the government only considered the economic constraints and technical constraints of policy quality constraints for policy implementation as the policy aim in the policy decision-making, without considering public acceptance of the NIMBY project policy decision, which had a negative impact on the NIMBY conflict management process. Because of the noise, traffic congestion and serious dust and mud caused by the garbage trucks on the road, as well as the odor generated by the old landfill¹¹⁹, the residents living in LOHAS Park community made a strong protest against the extension plan¹²⁰. The LOHAS Park community was about one thousand meters away from the landfill. The

¹¹⁸ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 23, 2018.

¹¹⁹ Takungpao, Dui tian qu shou wei shen bo bian shu duo [The issues of Tseung Kwan O Landfill have not properly been resolved and there is uncertainty for waste management]. <http://news.takungpao.com/paper/q/2014/0707/2581898.html>, , accessed on January 20, 2018.

¹²⁰ Shenzhen-Hong Kong Online, Latest news from Tseung Kwan O landfill: The Government has introduced a number of measures to improve, <http://hk.szhk.com/2014/07/03/282876982435461.html>, accessed on January 20, 2018.

economic cost was considered in the extension plan said a government official (Int.HK-13). This case shows that the economic costs and technical limitations were the key factors for the government to make the extension decisions alone. The government ignored the environmental and health risks to the nearby residents, which had a negative impact on the NIMBY conflict management process.

In summary, it is found that in facility siting planning decisions, the government only considered the economic constraints and technical constraints for policy implementation in the policy decision-making, without considering the public acceptance of the NIMBY project policy decision as one of the policy aims. This had a negative impact on the NIMBY conflict management process. The economic constraints and technical constraints damaged the interests of key public stakeholders, which was the main reason for the NIMBY conflict and which had a negative impact on the NIMBY conflict management process.

6.2.2 Administration processes and procedures

In the Shanghai Hongyang case, unfair administrative process and unjust administrative procedures had a negative impact on the NIMBY conflict management process. Unfair administrative processes and unjust administrative procedures were reasons for the NIMBY conflict in this case. Planning management was not standardized which is why the land area of the substation was changed

several times and was the main reason for public protests in this case¹²¹. In addition, public participation in the project planning and project EIA was also one of the reasons for the conflict. There was ineffective public participation in the project planning and project EIA. After making the project policy decision alone, the government conducted public participation in the project EIA of the planning implementation phase. Before the State Environmental Protection Administration approved the project, the EIA agency had held public consultations for the project EIA in the Wujiaochang streets of the Yangpu District. But it was one of reasons for public protest in this case¹²². Because of the dissatisfaction with the project EIA report and the “secret” public participation in the project EIA, residents sued the Shanghai Environmental Protection Bureau. However, the court supported the Shanghai Environmental Protection Agency’s EIA review decision and also supported expert opinions that it was a form of public participation in accordance with the relevant laws and regulations. However, the court ruling dissatisfied the interviewed residents (Int.SH-1, Int.SH-2, Int.SH-5, and Int.SH-6).

¹²¹ For the administrative process and procedures of the Hongyang Substation case, please refer to the subsections 4.3.1 and 4.2.5 in Chapter 4 of this thesis. Because this subsection has a detailed analysis that can support the impact of administrative process and procedures on NIMBY conflict management. Therefore, it is not repeated here.

¹²² For public participation in EIA of the Hongyang Substation case, please refer to the subsection 5.2.2 in Chapter 5 of this thesis. Because this subsection has a detailed analysis that can support the impact of administrative process and procedures on NIMBY conflict management. Therefore, it is not repeated here.

In the Yangpu substation case, unfair changing of the siting plan had a negative impact on the NIMBY conflict management process. The Yangpu substation case NIMBY conflict occurred in 2011. The People's Republic of China Urban and Rural Planning Law (PRCURPL) was promulgated and implemented in 2008. Article 48 of the new PRCURPL stipulates that "where the control detailed planning is revised, the organizing organ shall demonstrate the necessity of the modification, solicit the opinions of the interested parties in the planned lot, and submit a special report to the original approving authority. The revised plan may be prepared only after the approval of the original approving authority." However, in this case there was no evidence shown that the government obeyed the new planning law to solicit the opinions of the interested parties in the planned lot. The changing of the siting plan and the ineffective public participation procedures were reasons for the NIMBY conflict. The public demanded openness for the changing plan procedures (Int.SH-13). Why the substation was built near residential areas and why the public were not consulted over the changes was one of the reasons for public protests (Int. SH-13).

In the Maglev Transportation Infrastructure case, unfair administrative process and unjust administrative procedures had a negative impact on the NIMBY conflict management process. That the project administrative process was not in compliance with legal procedures was one of the causes of the conflict. Before the approval of

the EIA report by the State Environmental Protection Agency, Shanghai Maglev Transportation Development Co., Ltd. posted the project planning announcement to the bulletin board along the line, indicating that the demolition distance was 22.5 meters, which led to the NIMBY conflict (Zheng, 2011).

In the Jiangqiao Incineration Plant case, unjust administrative processes and administrative procedures had a negative impact on the NIMBY conflict management process. Unfair administrative processes and unjust administrative procedures were reasons for the NIMBY conflict in this case. The public questioned whether the expansion of the Jiangqiao Waste Incineration Plant complied with relevant national regulations. The residents argued that urban built-up areas were generally not allowed to build new domestic waste incineration power generation facilities. However, the Shanghai Academy of Environmental Sciences replied that the old plant was to be a technical upgrade and expansion, not a new project, although the project was located in the urban built-up area, which put forward higher requirements for project design¹²³. For the public survey in the EIA report conducted by the Shanghai Academy of Environmental Sciences, the public questioned why the

¹²³ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

survey did not separately ask public opinions on the old project and the extension project¹²⁴.

In the Hong Kong SENT landfill case, fair administrative process and justice administrative procedures had a positive impact on the NIMBY conflict management process. In 2009, the Hong Kong Government had considered expansion for the SENT landfill and conducted public consultation of project planning and project EIA. However, the nearby residents and environmental groups were opposed to this government proposal and petitioned in the court for a judicial review¹²⁵. In 2010, the Legislative Council voted to abolish this government proposal and the SENT landfill extension proposal was delayed¹²⁶. Facing the pressure of Hong Kong solid waste treatment and the discontent of the residents living in Tseung Kwan O, the Hong Kong Government launched many measures to improve the quality of the SENT landfill work. Finally, the nearby interviewed residents were satisfied with the solutions and accepted the SENT landfill extension (Int. HK-16, Int. HK-22-24, Int. HK-26, Int. HK-28 and Int.

¹²⁴ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

¹²⁵ Sing Tao Daily, Residents living in Tseung Kwan O landfill apply for juridical review for the part of country park changing for landfill (2009) 20090712.

¹²⁶ Chen, L.J., 2015. The Study of Change in Social Relations and Conflicts in Hong Kong. Chunghwabook Co., Ltd, Hong Kong.

HK-31). The Legislative Council passed the expansion plan and the extension project was implemented¹²⁷.

In summary, the selected four Shanghai cases show that unfair administrative processes and unjust administrative procedures have a negative impact on the NIMBY conflict management process. Because of the opaque information, there is a lack of accountability and supervision of the government's administrative process and administrative results. The government's unfair and unjust administrative actions in the administrative processes and administrative procedures are reasons for NIMBY conflicts. Shanghai Hongyang case shows that from the perspective of the traditional bureaucratic model, there is a limitation for the government administrative accountability on NIMBY conflict management in the legal accountability mechanism. The Hong Kong SENT landfill case shows that transparent and open administrative processes, the project administrative process and procedural accountability pushed the government to respond to public concerns and the Legislative Council supervision was effective, which had a positive impact on the NIMBY conflict management process. The Hong Kong SENT landfill case shows that outcome-oriented and response to public concerns-

¹²⁷ Takungpao, Jiang jun ao dui tian qu huo bo kuan[Tseung Kwan O Landfill receives funding] <http://news.takungpao.com.hk/paper/q/2014/1206/2849535.html>, accessed on January 20, 2018.

oriented government accountability mechanisms have a positive impact on the NIMBY conflict management process.

6.2.3 Government responses

In the Shanghai Hongyang case, late government response time, insincere government response attitude and government response content that did not match public concerns had a negative impact on the NIMBY conflict management process.

Ineffective government response intensified NIMBY conflict in this case. The public began to protest in 2007 but it was not until July 2012 that the local government organized formal face-to-face dialogues with the residents. In 2012, the government organized six dialogues with the affected residents' representatives. However, in the dialogues it became apparent that the function of the same land was different in two different charts that showed the “Hongyang 500 KV power transmission project Expert Consultation opinion”. Government staff responded to residents by saying that the substation was being constructed for the community (Int.SH-2), which left the residents' representatives feeling strongly dissatisfied¹²⁸. As the public learned more about the substation and grasped more information, they doubted the credibility of the government because of its stakeholder role. Economic interests that

¹²⁸ For government responses of the Hongyang Substation case, please refer to the subsections 4.3.3 and 4.3.5 in Chapter 4 of this thesis. Because this subsection has a detailed analysis that can support the impact of government responses on NIMBY conflict management. Therefore, it is not repeated here.

pushed the local government to change the land area were one issue between the residents and the government¹²⁹.

In the Yangpu substation case, late government response time, insincere government response attitude, and government response content not matching public concerns had a negative impact on the NIMBY conflict management process. Ineffective government response intensified the NIMBY conflict in this case. The change of plan opened to the public from November 25, 2011 to December 24, 2011. After the public was informed of the information feedback, the Shanghai Yangpu District Planning and Land Management Bureau responded to the public comments on December 30, 2011. The Yangpu District Planning Land Administration explained that since the original siting plot of the substation affected the surrounding land function, the substation was relocated¹³⁰. The government argued that the distance between the relocated substation and the nearest residential building was more than 30 meters, which was beyond the regulation 30-meter protection distance of a 220kV substation and would not affect the health and safety of residents¹³¹. The reasons for the planning change and the interpretation of the safe protection distance

¹²⁹ For economic interests pushed the local government change the land area of the Hongyang Substation case, please refer to the subsection 4.3.5 in Chapter 4 of this thesis. Because this subsection has a detailed analysis that can support the impact of government responses on NIMBY conflict management. Therefore, it is not repeated here.

¹³⁰ http://blog.sina.com.cn/s/blog_60f20ce901010a0e.html, accessed on January 20, 2018.

¹³¹ http://jiayuanxjw.fang.com/bbs/1210594622~-1/509137355_509137355.htm, accessed on January 20, 2018.

were not convincing to the public. The interviewed residents said that in January 2012, after not receiving a reply from the government-planning sector in time, hundreds of residents protested outside the Yangpu District Government offices and the special police was dispatched to keep order (Int.SH-13). Public opposition initially resulted from the environmental impact, the land function issue and concerns over real estate devaluation^{132, 133}. But with more information obtained, the public was more dissatisfied with the planning change procedures for land use, in particular they were dissatisfied with the opaque information and the lack of public participation in the project planning change (Int.SH-13). But the residents did not obtain a satisfactory response from the government.

In the Maglev Transportation Infrastructure case, there is no evidence that the government response time had impact on the NIMBY conflict management process. Insincere government response attitude and government response content did not match public concerns, which had a negative impact on the NIMBY conflict management process. Residents along the Maglev line were mainly concerned about the negative impact of the 22.5 meters safe distance, radiation risks, noise impact,

¹³² http://blog.sina.com.cn/s/blog_60f20ce90101010aej.html, accessed on February 10, 2018.

¹³³ <http://tieba.baidu.com/p/1331542164?traceid=>, accessed on February 10, 2018.

vibration, safety, and real estate depreciation^{134,135}. However, the public and the government could not reach a consensus on the technical and scientific safety standards of the Maglev project. Zheng (2011) argued that the “Shanghai Technical Regulations for Urban Planning and Management” stipulated that for new, reconstructed and expanded buildings on both sides of the magnetic levitation, the distance of the center line of the retreating track shall not be less than 50 meters, but these were not official safety distance standards. At that time there was no organization publishing experimental reports and data on magnetic levitation damage to human bodies, and there was no research anywhere in the world on the noise of magnetic levitation and safety distance standards of electromagnetic radiation (Zheng, 2011). Therefore, the public did not believe that the distance of 22.5 meters had no impact on human health and safety. With the public learning related knowledge of the maglev project and grasping more information, the government’s credibility was questioned by the public because of its own stakeholder role (Zheng, 2011). In addition, in this case, the depreciation of housing prices was one of the

¹³⁴ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

¹³⁵ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018., , accessed on January 20, 2018.

reasons for public protest¹³⁶, but the government and the magnetic levitation company did not respond (Zheng, 2011).

In the Jiangqiao Incineration Plant case, late government response time, insincere government response attitude and government response content did not match public concerns, which had a negative impact on the NIMBY conflict management process. The protesting public doubted the sufficiency and the science methods adopted in the project EIA report and the independence of the project EIA procedure¹³⁷. Jiangqiao Waste Incineration Plant was 500 meters away from the nearest residential area, the Yangguang Weinisi Community, which housed about 50,000 people. The residents did not believe in the monitoring data in the EIA report. They argued that the monitoring data of the incineration plant did not include the monitoring data for dioxin which is a carcinogen and non-degradable¹³⁸. Residents pointed out that the incineration plant had been in operation for many years, and questioned why the maximum landing concentration from the incineration plant was predicted by a model instead of using actual monitoring data¹³⁹. With the public learning related knowledge of waste incineration plants, the government's credibility was questioned by the public because of its weak explanation. In January 2009, the government

¹³⁶ <http://news.sina.com.cn/c/2007-06-15/094813236226.shtml>, accessed on February 10, 2018.

¹³⁷ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on January 20, 2018.

¹³⁸ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

¹³⁹ <http://wm600.eastday.com/w/20090105/u1a521004.html>, accessed on January 20, 2018.

organized a hearing with related stakeholders on the expansion project. In the hearing, residents' representatives asked for examples of where an incineration plant was close to a residential area and asked for details of which country, where, and what was the name of the plant¹⁴⁰. Residents' representatives also pointed out that the details of the project EIA report were not scientific, that the report was short on facts and that there were many inconsistencies¹⁴¹. Eleven out of sixteen representatives disagreed with the expansion project at the hearing. Then, in April 2009 hundreds of nearby residents protested against the expansion project by walking on the street¹⁴².

In the Hong Kong case, government response time, government response attitude and government response content had a positive impact on the NIMBY conflict management process. The Town Planning Board (TPB) announced the draft for the siting place for the landfills (Int. HK-13). The Environmental Protection Department (EPD) announced Hong Kong Blueprint for Sustainable Use and Resources 2013-2022 (HKEPD, 2013). This blueprint describes the SENT landfill extension plan (Int.HK-8). The interviewed government official said that about two thousand

¹⁴⁰ http://hengshengtixiangwan.fang.com/bbs/1210078640~-1~3332/69941486_69941486.htm, accessed on January 20, 2018.

¹⁴¹ http://hengshengtixiangwan.fang.com/bbs/1210078640~-1~3332/69941486_69941486.htm, accessed on January 20, 2018.

¹⁴² <http://www.infzm.com/content/27110>, accessed on January 20, 2018.

citizens came to TPB to protest (Int. HK-13). One of the district councilors said that nearly one thousand residents living in Tseung Kwan O went to protest and on that day and the public hearing continued for a long time (Int. HK-9). The government took several and specific measures to resolve the issues caused by the SENT landfills and reflected by the nearby residents, such as spraying air freshener to cover the odor, refitting and installing covers for the garbage trucks going to the SENT landfill, decreasing the number of the trucks per day, and implementing the waste division plan. The interviewed residents said that the odor problem was relieved greatly and at the same time the dust was not as serious as before (Int. HK-16, Int. HK-22-24, Int. HK-26, Int. HK-28 and Int. HK-31). Finally, the nearby interviewed residents were satisfied with the solutions and accepted the SENT landfill extension (Int. HK-16, Int. HK-22-24, Int. HK-26, Int. HK-28 and Int. HK-31).

In summary, local government's timely response, the sincere attitude of the government staff and government response content satisfied public concerns, which had a positive impact on the NIMBY conflict management process. Insincere government response content, which could not match public concerns, has a negative impact on the NIMBY conflict management process. In the process of communicating with the government, the public not only raised questions, but also was educated by learning about NIMBY facilities-related knowledge and generally

acquired more information. If the public found that the government had self-interests of the NIMBY facility, the credibility of the government would be questioned.

6.2.4 Government roles

In the project planning management stage of the Hongyang substation, local government's roles as an organizer, a coordinator, and a leader in the conflict management process had a positive impact on the NIMBY conflict management process. From July to October 2012, the government organized relevant departments, the project developer and experts to conduct six dialogues with resident representatives. Although the six conversations answered some questions the public was still dissatisfied with government responses. The interviewed residents dissatisfied with the government's interpretation of the facility siting plan (Int.SH-1, Int.SH-2). But after face-to-face communication, the government grasped the public demands and information as well as information from other related public sectors, the project developer and experts. In order to eliminate the public environmental and health risk perceptions, the government and the project developer changed the design of the substation from on the ground to under the ground. It was technically in line with standards in China. In addition, a green belt was built between the above-ground facilities of the substation and Zhengwen Garden II residential community. Therefore, based on the interests of the whole city and the reasonable interests of the

nearby residents, the government used its legal administrative power, resources and information to integrate the interests of nearby residents into the planning management, and finally reached a compromise with the residents (Int.SH-1, Int.SH-2). The substation was to be constructed.

In the Yangpu substation case, local government's roles as an organizer, a coordinator, and a leader in the conflict management process, had a negative impact on the NIMBY conflict management process. After the residents' first protest, the Shanghai Yangpu District Planning and Land Management Bureau responded to the public comments. There is no empirical evidence showing that after the conflict occurred, the relevant departments of the government organized face-to-face communications with the affected residents' representatives. In January 2012, after no receiving a reply from the government planning department in time, hundreds of residents went to the Yangpu District Government offices to protest¹⁴³. Eventually, the expended project was cancelled. In this case, the government did not show the role of an organizer, a coordinator, and a leader in the NIMBY conflict management process, which had a negative impact on the NIMBY conflict management process.

In the Maglev Transportation Infrastructure case, local government's roles as an organizer, a coordinator, and a leader in the conflict management process had a

¹⁴³ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on February 10, 2018.

negative impact on the NIMBY conflict management process. During the implementation phase of the project planning, when residents knew the maglev project from the planning announcement, they began to petition and protest. The Shanghai Petition Office organized a coordination meeting between relevant government sectors, experts and resident representatives, but it failed to reach a consensus (Zheng, 2009). After the second EIA public announcement, the government also organized a dialogue with the magnetic company and the public. However, the government and the public still did not reach a consensus on the safety and credibility of the 22.5-meter safety distance. Because the public failed to get a satisfactory response from the government, later thousands of residents gathered in the People's Square to protest against the Maglev Transportation Infrastructure project, which finally pushed the government to delay the project (Zheng, 2009).

In the Jiangqiao Incineration Plant case, local government's roles as an organizer, a coordinator, and a leader in the conflict management had a negative impact on the NIMBY conflict management process. In January 2009, the government organized a hearing on the expansion project with various stakeholders. Among the 16 participating representatives, 11 were opposed and stated their reasons¹⁴⁴. However, at this hearing, the government and the residents did not reach a consensus on the

¹⁴⁴ http://hengshengtixiangwan.fang.com/bbs/1210078640~-1~3332/69941486_69941486.htm, accessed on January 20, 2018.

reliability and credibility of the expansion project near the large residential area. Then, in April 2009, hundreds of nearby residents protested the expansion of the project through walking on the street¹⁴⁵. At last the proposal of the expansion project was cancelled.

In the Hong Kong SENT landfill case, local government's roles as an organizer, a coordinator, and a leader in the conflict management had a positive impact on the NIMBY conflict management process. At the planning decision stage, the Town Planning Board (TPB) announced the draft plan for siting the landfills (Int. HK-13). The Environmental Protection Department (EPD) announced the extension of the SENT landfill (Int. HK-8). Through placation, EPD and TPB collected public comments for the siting plan and project EIA. The public had 30 days to write comments for the disclosed EIA report to the government (Int.HK-2, Int.HK-3). Based on the public feedback of the operating landfill, Government took a number of measures to improve the SENT landfill works, such as spraying air freshener to mask the odor refitting and installing covers for the garbage trucks that are sent to the SENT landfill, decreasing the number of the trucks per day, and implementing the waste division plan. In addition, the government opened up on how the environmental performance of the SENT Landfill Extension project was measured

¹⁴⁵ <http://www.infzm.com/content/27110>, accessed on January 20, 2018.

and the pollutant emission monitoring data from planning to construction and operation stages on the official website (Int.HK-8, Int.HK-13). Finally, the interviewed residents were satisfied with the solutions and accepted the extension landfill (Int. HK-16, Int. HK-22-24, Int. HK-26, Int. HK-28 and Int. HK-31).

In summary, when there is a NIMBY conflict event at the planning and operating stages, if the government can sacrifice some efficiency (the economic input required to achieve the purpose) and replace “economic optimal” with “stakeholders satisfactory”, local government’s roles as an organizer, a coordinator, and a leader in the conflict management process will have a positive impact on the NIMBY conflict management process. The selected cases in Shanghai and Hong Kong show that when organizing face-to-face communication with residents, under the prerequisite that identifies the public’s reasonable and unreasonable appeals on the basis of understanding public perceptions of the NIMBY facility, the government mobilizing resources and taking effective measures to respond to the public’s reasonable demands, coordinating of interest conflicts, and managing results accepted by the public, will have a positive impact on the NIMBY conflict management process.

6.2.5 Policy space

In the Shanghai Hongyang case, adjusted policy space of the substation had a positive impact on public acceptance of the substation. The government having not

left enough land area for the substation, and that consequently the substation shared a wall with the Zhengwen Garden II residential community were causes of the NIMBY conflict in this case¹⁴⁶. For not changing the location of the substation, the government cooperated with the project developer to change the design of the substation from on the ground to under the ground. But the interviewed residents did not agree with the reason for relieving public concerns over the substation's electromagnetic radial impact by changing the design of the substation. They argued that the shrinking of the land area for the substation was the root cause for changing the design (Int.SH-1, Int.SH-2). However, based on the substation's electromagnetic radial impact after the changing design, the residents had to compromise with the government. The substation was finally built.

In the Yangpu substation case, the lack of flexible and adjusted policy space for the changed plan had a negative impact on the NIMBY conflict management process. The project policy lacked flexible and adjusted space, and the relocation of the substation being close to the residential area was one of the main reasons for public protest. When explaining why the original planned plot was not used to construct the Yangpu substation, the Yangpu District Planning and Land Management Bureau

¹⁴⁶ For the policy space of the Hongyang Substation case, please refer to the subsection 4.3.6 in Chapter 4 of this thesis. Because this subsection has a detailed analysis that can support the impact of NIMBY project policy space on NIMBY conflict management. Therefore, it is not repeated here.

stated that, “There will be a subway line crossing. If a 22 kV substation is to be built, the majority of the construction land cannot be used. The function of the original planned plot is not needed.¹⁴⁷” So the government changed the original substation siting plan. However, the relocation of the Yangpu substation led to strong public protests¹⁴⁸. The interviewed resident said that according to the detailed planning, the plot for relocation of the substation had been planned for green spaces and kindergartens (Int.SH-13). The changed plan of the Yangpu substation was eventually cancelled.

In the Maglev Transportation Infrastructure case, the flexible and adjusted policy space had a positive impact on the NIMBY conflict management process. The distance between the two sides of the maglev traffic line and the residential area of 22.5-meter was one of the reasons for public protests. The public doubted the reliability of the EIA report provided by the government regarding the distance between the two sides of the maglev traffic line and the residential area of 22.5 meters. But the government was not willing to increase the safety distance; instead they arranged experts to persuade the public (Zheng, 2011). However, the public was dissatisfied with experts’ explanation and continued protesting. Due to strong public protests, in 2008 this project was delayed (Zheng, 2011). Subsequently, the

¹⁴⁷ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on January 20, 2018.

¹⁴⁸ http://blog.sina.com.cn/s/blog_60f20ce901010aej.html, accessed on January 20, 2018.

government made policy adjustments based on the actual environment and public opinions. The Maglev Airport Link was changed to the rail transit airport link line, which was included in the “Shanghai Rail Transit Network Plan (2016-2040)”. The “Shanghai Rail Transit Construction Plan (2017-2025)¹⁴⁹”, which was first publicized in 2016, showed that the rail transit airport link line project would be built to replace the original maglev project. The rail transit airport link line project was still at the planning EIA approval stage and there were petitions from residents along the line. However, by increasing the safe distance of the rail transit project, the government’s effective implementation of project EIA and public participation meant that there were no large scale protests as before¹⁵⁰.

In the Jiangqiao Incineration Plant case, that the extension project lacked flexible and adjusted policy space had a negative impact on the NIMBY conflict management process. The expansion project being close to many residential communities was one of the main reasons for the NIMBY conflict. With the rapid development of Shanghai, the residential communities around the Jiangqiao Waste Incineration Plant have developed rapidly and the living population has increased dramatically. A protesting citizen wrote that, “The distance between the project and

¹⁴⁹ Nanfang Metropolis Daily, Shanghai maglev line proposal causes conflict from residents living along the line, Nanfang Metropolis Daily, 2008, <http://news.sina.com.cn/c/2008-01-13/032114729363.shtml>, accessed on January 23, 2018.

¹⁵⁰ <http://www.shdrc.gov.cn/xxgk/cxxxgk/25118.htm>, accessed on January 20, 2018.

Yangguangweinisi community with a population of more than 50,000, and Zhenjian Huayuan community, is 500 meters in a straight line. The distance between the project and Shanghai Jiacheng community is less than 1.5 kilometers. There is also Yixiangyuan community, Xiangzhangyuan community and Kunlunhuayuan community nearby. In addition, there are a large number of residential areas within 3 kilometers – Taopuxincun community, Hengjiahuayuan community, Fengzhuang Residential Area, Chunguangjiayuan community, Zhenjianxincun community, and Zhenxinxincun community; it is a densely populated area with a population of 300,000.¹⁵¹ Therefore, the social impact of continuing to build extension project near the original location cannot be underestimated. The expansion plan was eventually cancelled because of public opposition.

In the Hong Kong SENT landfill case, the flexible and adjusted policy space had a positive impact on the NIMBY conflict management process. The government's expansion project alongside the original place was the cause of nearby residents' protests. The interviewed expert said, "government invested time, human resources and money in this project and it was not possible for environmental reasons to cancel the project instead they would cancel the project owing to the social impact. The government would delay the project for full preparation based on their bottom line"

¹⁵¹ <http://bbs.tianya.cn/post-free-1506849-1.shtml>, accessed on January 20, 2018.

(Int.HK-2). Besides the environmental issues of the landfill, a further concern of the affected public was whether the expansion project would continue to be expanded if it became necessary in the future; this was one reason for public protests. The government took several and specific measures to resolve the issues caused by the SENT landfills and reflected by the nearby residents, such as spraying air freshener to cover the odor, refitting and installing covers for the garbage trucks to the SENT landfill, decreasing the number of the trucks per day¹⁵², implementing the waste division plan¹⁵³ and encouraging the industry to transport waste to the Tuen Mun landfill by sea (one of the three major landfills in Hong Kong)¹⁵⁴. At last, the expansion project reached a consensus between the government and local residents and the expansion project was built and operated.

In summary, the selected cases in Shanghai and Hong Kong show that flexible and adjusted NIMBY project policy space has a positive impact on the NIMBY conflict management process. The growth of urban population and population density over the old urban planning is one of the reasons for the NIMBY conflict. Therefore,

¹⁵² Takungpao, Dui tian qu shou wei shen bo bian shu duo [The issues of Tseung Kwan O Landfill have not properly been resolved and there is uncertainty for waste management], <http://news.takungpao.com/paper/q/2014/0707/2581898.html>, accessed on January 20, 2018.

¹⁵³ http://www.epd.gov.hk/epd/sc_chi/top.html, accessed on January 20, 2018.

¹⁵⁴ Shenzhen-Hong Kong Online, Latest developments in landfills in Hong Kong: Tseung Kwan O only accepts construction waste, <http://hk.szhk.com/2014/01/23/282865412513747.html>, accessed on January 20, 2018.

project planning policies need to achieve the flexibility needed for development. However, there is a lack of flexibility of NIMBY project policy in China. In addition, there is also a lack of a dynamic adjusted mechanism for NIMBY project policy based on legal procedures.

6.2.6 Policy stage

In the policy process, there may be NIMBY conflicts at the policy decision stage and at the policy implementation stage. The cases show that NIMBY conflicts could occur not only in the planning decision and planning management stages, but also at the operating stage. The Hongyang substation NIMBY conflict, the Yangpu substation NIMBY conflict, and the Maglev Transportation Infrastructure NIMBY conflict occurred at the planning management stage. The Jiangqiao Incineration Waste Plant NIMBY conflict and the Hong Kong SENT landfill NIMBY conflict occurred at the operating stage of the old project and also at the planning decision stage of the extension project. There is no evidence in this study to show that a NIMBY conflict occurred at the project construction stage.

6.3 Findings summary

Multiple case studies in Shanghai and Hong Kong were conducted to examine the impact of government role on the NIMBY conflict management process. This study shows that policy goals, administration processes and procedures,

government responses, the role of government, policy space and policy stages have impacts. Based on the findings in this chapter, it is apparent that the government role has both positive and negative impacts on the NIMBY conflict management process. The main findings of the impact of the government role on the NIMBY conflict management process are as follows:

(1) In the facility siting planning decision, the government only considering the economic constraints and technical constraints of policy quality constraints without considering public acceptance of the NIMBY project policy decision, has a negative impact on the NIMBY conflict management process. The economic constraints and technical constraints damaging the interests of key public stakeholders is the main reason for NIMBY conflict, which has a negative impact on the NIMBY conflict management process. Unfair administrative process and unjust administrative procedures have a negative impact on the NIMBY conflict management process. Because of the opaque information, there is a lack of accountability and supervision of the government's administrative processes and administrative results. The government's unfair and unjust administrative actions in the administrative processes and administrative procedures are reasons for NIMBY conflicts.

(2) Local government's timely response, the sincere attitude of the government staff and government response content matching public concerns, has a positive

impact on the NIMBY conflict management process. Government response content not matching public concerns has a negative impact on the NIMBY conflict management process. In the process of communicating with the government, the public not only raises questions but also educate themselves, learn about NIMBY facilities and acquire more information. If the public finds that the government has a vested interest in the NIMBY facility, the credibility of the government would be in question.

(3) When there is a NIMBY conflict event during the project planning and operating stages, if the government can sacrifice some efficiency (the economic input required to achieve the purpose) and replace “economic optimal” with “stakeholders satisfactory”, local government’s roles as an organizer, a coordinator, and a leader in the NIMBY conflict management process will have a positive impact. The selected cases in Shanghai and Hong Kong show that when organizing face-to-face communication with residents, under the prerequisite that the government identifies the public’s reasonable and unreasonable appeals on the basis of understanding the public's perception of the NIMBY facility, the government mobilizes resources and takes effective measures to respond to the public’s reasonable demands, coordinated interest conflicts and the management results

accepted by the public, will have a positive impact on the NIMBY conflict management process.

(4) The selected cases in Shanghai and Hong Kong show that flexible and adjusted NIMBY project policy space has a positive impact on NIMBY conflict management. The growth of urban population and population density over the old urban planning is one of the reasons for NIMBY conflicts; project planning policies therefore need to be flexible. However, there is a lack of flexibility of NIMBY project policy in China. In addition, there is also a lack of a dynamic adjustment mechanism for NIMBY project policy based on legal procedures.

(5) In the policy process, there may be NIMBY conflicts at the policy decision stage and at the policy implementation stage.

CHAPTER 7 NIMBY CONFLICT MANAGEMENT MODEL

7.1 Introduction

Based on the research hypothesis on the NIMBY conflict management model and findings of public participation and the impact of EID and government role on the NIMBY conflict management process in Chapter 5 and Chapter 6, this chapter presents the results of the NIMBY conflict management model.

7.2 Findings of the NIMBY conflict management model based on government role and public participation

The results of the NIMBY conflict management model show that a government oriented NIMBY conflict management model could get a compromise or a consensus at the policy decision and implementation stages. In addition the conditions for an effective NIMBY conflict management model at the policy decision and implementation stages were summarized from the successful management experiences of the Hong Kong SENT landfill case and the Hongyang substation case.

7.2.1 NIMBY conflict management model

The findings support the research hypothesis of the NIMBY conflict management model based on the government role and public participation. Table 7.1 presents the four NIMBY conflict management modes related to the selected cases of this study.

Table 7. 1 NIMBY conflict management mode related to the selected cases of this study

		Effectiveness of impact of government role on NIMBY conflict management	
		Higher	Lower
Effectiveness of impact of public participation (including EID) on NIMBY conflict management	Higher	1 Consensus mode: win-win, project implementation Hong Kong SENT landfill case	3 Policy failure mode: public win, project cancelled Jiangqiao Waste Incineration Plant case
	Lower	2 Compromise mode: public accept, project implementation Hongyang substation case	4 Lose-lose mode: project delayed or cancelled Maglev Transportation Infrastructure case; Yangpu substation case

(1) The Hong Kong SENT landfill case shows that higher effectiveness of government role and higher effectiveness of public participation can help to reach a consensus in the NIMBY conflict management process at the policy decision and implementation stages. This finding could provide evidence for a state-centered governance approach (Sellers, 2011).

This case shows high effectiveness of public participation and EID on NIMBY conflict management. Key stakeholders involved in the planning implementation and project EIA had a positive impact on NIMBY conflict management. Informing, consultation, and placation had a positive impact on NIMBY conflict management. During the planning stage, the government opened the landfill extension-planning proposal and project EIA report in time and further collected public comments in a

timely manner. Bottom-up participation in this case was the joint letters, writing to EIA, and informal participation like protesting through holding banners at the gates of the government building. Top-down participation in this case was public hearings in EIA and public consultations for planning. Bottom-up participation and top-down participation had a positive impact on NIMBY conflict management. A sufficient, disclosed EIA report with sound scientific methods, independent, transparent and social inclusive EIA procedures, which could satisfy public environmental concerns in the planning stage and information provided about how the environmental performance of the project during the operation stage would be measured, had a positive impact on public acceptance of the NIMBY facility.

This case shows high effectiveness of government role on NIMBY conflict management. In this case, the government only considered the economic constraints and technical constraints of policy quality constraints for policy implementation as the policy aim in the policy decision-making, without considering public acceptance of the NIMBY project policy decision, which had a negative impact on the NIMBY conflict management process. Fair administrative process and justice administrative procedures had a positive impact on the NIMBY conflict management process. Government response time, government response attitude and government response content had a positive impact on the NIMBY conflict management process. Local

government's roles as an organizer, a coordinator, and a leader in the conflict management had a positive impact on the NIMBY conflict management process. The flexible and adjusted policy space had a positive impact on the NIMBY conflict management process. This case shows NIMBY conflict could occur at the operating stage of the old project and also at the planning decision stage of the extension project.

(2) The Hongyang substation case shows that higher effectiveness of government role and lower effectiveness of public participation can get a compromise between government and affected residents for the NIMBY conflict management process at the policy decision and implementation stages.

This case shows high effectiveness of government role on NIMBY conflict management. This case shows that local government's roles as an organizer, a coordinator, and a leader in the conflict management process had a positive impact on the NIMBY conflict management process. Adjusted policy space of the substation had a positive impact on public acceptance of the substation. The government only considered the economic constraints and technical constraints of policy quality constraints for policy implementation as the policy aim, without considering public acceptance of the NIMBY project policy decision, had a negative impact on the NIMBY conflict management process. Unfair administrative process

and unjust administrative procedures had a negative impact on the NIMBY conflict management process. Late government response time, insincere government response attitude and government response content that did not match public concerns had a negative impact on the NIMBY conflict management process. This case shows that NIMBY conflict occurred at the planning management stage.

This case shows low effectiveness of public participation and EID on NIMBY conflict management. In this case, Informing and separate consultation made information accessible to the public and to some extent relieved residents' concerns and doubts. Citizen-initiated contacts with agencies could have had a positive impact on getting information and communicating with government but showed no evidence for public acceptance of the NIMBY facility, while ineffective public surveys had a negative impact on public acceptance of the NIMBY facility. Involved stakeholders have negative impacts on public acceptance of the NIMBY facility. Late public participation during the NIMBY conflict process in this case. In the project planning stage of the Shanghai Hongyang substation, the EIA report was not sufficient to satisfy the public's environmental concerns over the NIMBY facility. The public doubted the scientific methods used in the EIA report, which was one reason for the NIMBY conflict. Before the project construction stage of the Shanghai Hongyang substation, insufficient and opaque EIA procedures, which could not satisfying the

public's environmental concerns over the NIMBY facility, was one reason for the NIMBY conflict.

(3) The Jiangqiao Waste Incineration Plant case shows that lower effectiveness of government role and higher effectiveness of public participation can impact policy decision but get a policy failure outcome.

This case shows high effectiveness of public participation and EID on NIMBY conflict management. Involved stakeholders had a negative impact on public acceptance of the NIMBY facility. Holistic consultation adopted by the government had a negative impact on public acceptance of the NIMBY facility. During the extension project planning stage in the Jiangqiao Incineration Plant case, bottom-up participation and top-down participation public participation approaches had a negative impact on the NIMBY conflict management process. During the old project operating stage in the Jiangqiao Incineration Plant case, bottom-up participation and top-down participation public participation approaches had a positive impact on the NIMBY conflict management process. This case shows late public participation during the NIMBY conflict management process, which had a negative impact on the process. In the Shanghai Jiangqiao incineration plant case, the public doubted the sufficiency and the scientific methods used in the project EIA report as well as the independence and fairness of the project EIA procedures, both of which were causes

of the NIMBY conflict that had negative impacts on the conflict management process. The EID for the extension of Jiangqiao incineration plant could not relieve the public's environmental concerns, which had a negative impact on the NIMBY conflict management process.

This case shows low effectiveness of government role on NIMBY conflict management. The government only considered the economic constraints and technical constraints of policy quality constraints for policy implementation as the policy aim in the policy decision-making, without considering public acceptance of the NIMBY project policy decision, which had a negative impact on the NIMBY conflict management process. Unjust administrative processes and administrative procedures had a negative impact on the NIMBY conflict management process. Late government response time, insincere government response attitude and government response content did not match public concerns, which had a negative impact on the NIMBY conflict management process. Local government's roles as an organizer, a coordinator, and a leader in the conflict management had a negative impact on the NIMBY conflict management process. The extension project lacked flexible and adjusted policy space had a negative impact on the NIMBY conflict management process. This case shows that NIMBY conflict occurred at the operating stage of the old project and also at the planning decision stage of the extension project.

(4) The Maglev Transportation Infrastructure case and Yangpu substation case show that lower effectiveness of government role and lower effectiveness of public participation can lead to project delay or cancellation.

The Maglev Transportation Infrastructure case shows low effectiveness of public participation and EID on NIMBY conflict management. In this case, during the planning stage, involved stakeholders had negative impacts on public acceptance of the NIMBY facility. Therapy had a negative impact on the NIMBY conflict management process. Bottom-up informal participation and citizen-initiated contacts with agencies were employed in the planning stage. These approaches had a negative impact on NIMBY conflict management. Late public participation during the NIMBY conflict management process. The public doubted the science method used in the project EIA report and insufficient EIA procedures, which could not satisfy the public's concerns, were causes of the NIMBY conflict, and have negative impacts on the conflict management process.

The Maglev Transportation Infrastructure case shows low effectiveness of government role on NIMBY conflict management. In this case, the government only considered the economic constraints and technical constraints of policy quality constraints for policy implementation as the policy aim in the policy decision-making, without considering public acceptance of the NIMBY project policy

decision, which had a negative impact on the NIMBY conflict management process. Unfair administrative process and unjust administrative procedures had a negative impact on the NIMBY conflict management process. In this case, there is no evidence that the government response time had impact on the NIMBY conflict management process. Insincere government response attitude and government response content did not match public concerns, which had a negative impact on the NIMBY conflict management process. Local government's roles as an organizer, a coordinator, and a leader in the conflict management process had a negative impact on the NIMBY conflict management process. The flexible and adjusted policy space had a positive impact on the NIMBY conflict management process. This case occurred at the planning management stage.

Yangpu substation case shows low effectiveness of public participation and EID on NIMBY conflict management. During the planning changing stage, involved stakeholders had negative impacts on public acceptance of the NIMBY facility. Therapy has a negative impact on the NIMBY conflict management process. Bottom-up participation had a negative impact on the NIMBY conflict management process. Citizen-initiated contacts with agencies had a negative impact on NIMBY conflict management. This case shows late public participation during the NIMBY conflict process. In this case, there is no evidence shown that the EIA report and EIA

procedure had an impact on the NIMBY conflict management process. However, the public doubted the scientific methods used for assessing the technical standard of the substation and also doubted the technical safety of the substation, both of which had a negative impact on the NIMBY conflict management process.

Yangpu substation case shows low effectiveness of government role on NIMBY conflict management. This case shows that for changing the plan of the NIMBY facility, the government made the decision alone, ignoring the interests of key public stakeholders, which had a negative impact on the NIMBY conflict management process. Unfair changing of the siting plan had a negative impact on the NIMBY conflict management process. Late government response time, insincere government response attitude, and government response content not matching public concerns had a negative impact on the NIMBY conflict management process. Local government's roles as an organizer, a coordinator, and a leader in the conflict management process, had a negative impact on the NIMBY conflict management process. The lack of flexible and adjusted policy space for the changed plan had a negative impact on the NIMBY conflict management process. This case occurred at the planning management stage.

The findings of this study indicate that the government-oriented management model of NIMBY conflict in the policy process helps to get a compromise or a

consensus between local government and affected residents. Figure 7.1 shows the four NIMBY conflict management modes. The selected cases in this study show that government role is key for preventing and relieving NIMBY conflict. This finding indicates that in order to obtain a good NIMBY project policy outcome, the government role should be oriented toward policy process. It means that it should not only improve the government's internal management capability, but also should strengthen the government's external governance capacity. Government should actively guide and organize key stakeholders to participate in the policy process of the NIMBY project.

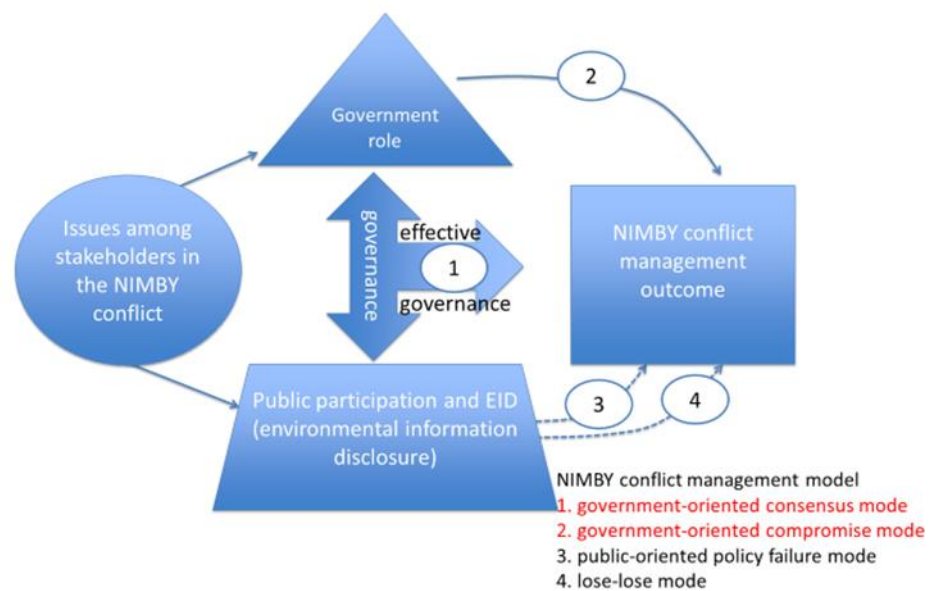


Figure 7. 1 Government-oriented NIMBY conflict management model and the management outcomes

7.2.2 The condition for NIMBY conflict management getting a compromise or a consensus

Based on the results of the impact of public participation, EID, and government role on NIMBY conflict management, this study separately adds the number of indicators of public participation, EID, and government role that have a positive impact for the statistics of each effective management strategy. Figure 7.2 shows the comprehensive positive impact of public participation, EID, and government role on the NIMBY conflict management process in each case.

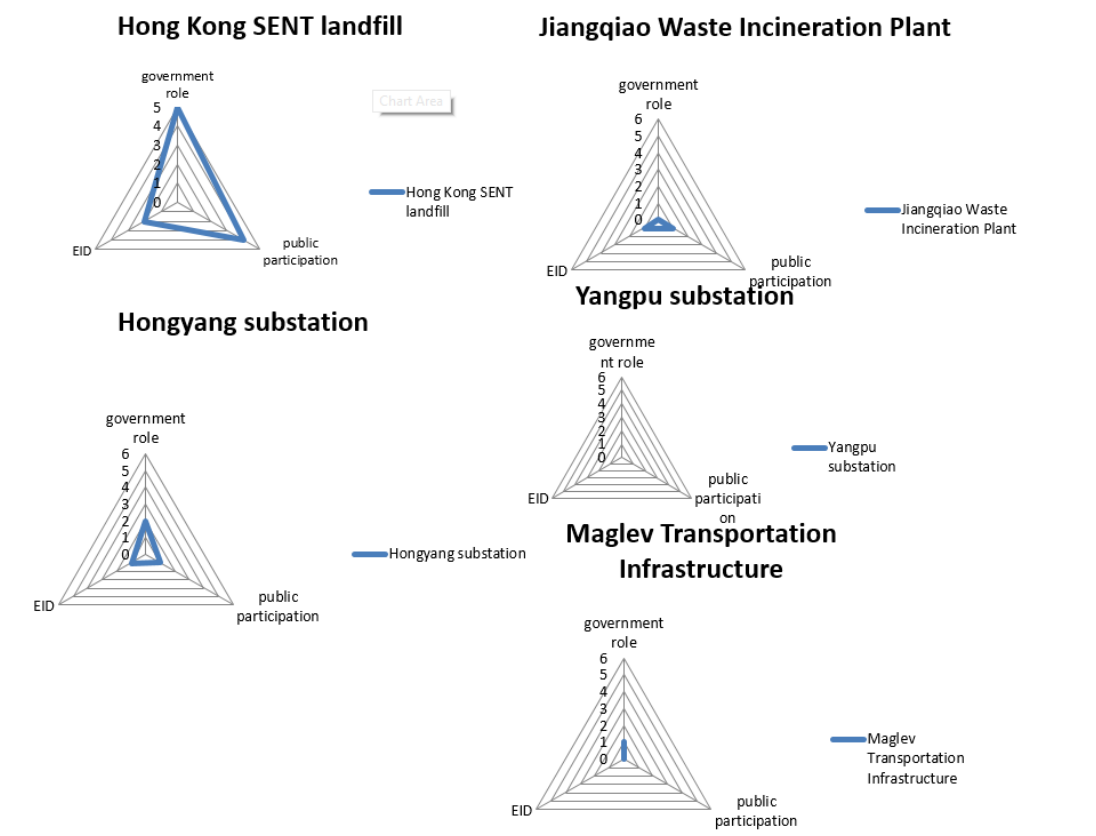


Figure 7. 2 Comprehensive positive impact of public participation, EID, and government role on the NIMBY conflict management process in each case

It can be summarized from the successful management experiences of the Hong Kong SENT landfill case and the Hongyang substation case that if the government makes siting decisions on the NIMBY project alone for policy implementation, the technical security in the constraints of NIMBY project policy quality has no impact on human health, the government as the organizer, the coordinator and leader, the flexible and adjusted policy space and public consultation is a necessary but insufficient condition for the success of the NIMBY conflict management process. In the Hong Kong SENT landfill case, the indicators of government role, public participation and EID all have a positive impact on the NIMBY conflict management process; a consensus was therefore reached between local government and affected residents. It can be summarized in this case that in the project planning stage, when the indicators of government role, public participation, and EID have positive effects, it can obtain a consensus management outcome in the NIMBY conflict management process. In the Hongyang substation case, project technical security, government as an organizer, a coordinator and a leader in the NIMBY conflict management process, flexible and adjusted policy space and public consultation have positive effects on the NIMBY conflict management process, and ultimately a compromise was achieved between the government and the affected residents. It can be summarized in this case that in the project planning and implementation stages, project technical

security, government as an organizer, a coordinator and a leader in the NIMBY conflict management process, flexible and adjusted policy space and public consultation is a necessary but insufficient condition for policy implementation.

In the Jiangqiao Waste Incineration Plant case, public consultation and citizen-initiated contacts with agencies have a positive impact on the NIMBY conflict management process. Although the extension project was cancelled, after technical upgraded, the old operating plant won the public's approval. It can be summarized in this case that during the operating stage, technical security of the operating project, and an effective public participation are necessary but insufficient conditions for a successful NIMBY conflict management process.

Although the Maglev Transportation Infrastructure was cancelled after the strong public protests, the flexible and adjusted policy space and citizen-initiated contacts with agencies, including a variety of protest actives, have a positive impact on the NIMBY conflict management process. The maglev project was changed to a rail transit project, and the rail transit project is currently under planning and demonstration. In the Yangpu substation case, only citizen-initiated contacts with agencies had a positive impact on the NIMBY conflict management process but the project was nevertheless cancelled. The two cases indicate that if the policy implementation of the NIMBY project requires public acceptance of the policy

decisions, then in the project planning implementation phase, the public must be actively involved, otherwise the project policy is difficult to implement.

7.3 Findings summary

Based on the research hypotheses and findings of the impact of public participation, EID, and government role on NIMBY conflict management in Chapter 5 and Chapter 6, this chapter presents the results of NIMBY conflict management model.

The main results of the urban NIMBY conflict management model are as follows:

(1) Higher effectiveness of government role and higher effectiveness of public participation can help to reach a consensus in the NIMBY conflict management process at the policy decision and implementation stages. Higher effectiveness of government role and lower effectiveness of public participation can get a compromise between government and affected residents for the NIMBY conflict management process at the policy decision and implementation stages. Lower effectiveness of government role and higher effectiveness of public participation can impact policy decision but get a policy failure outcome. Lower effectiveness of government role and lower effectiveness of public participation can lead to project delay or cancellation.

(2) It can be summarized from the successful management experiences of the Hong Kong SENT landfill case and the Hongyang substation case that if the

government makes siting decisions on the NIMBY project alone for policy implementation, the technical security in the constraints of NIMBY project policy quality has no impact on human health, the government as the organizer, the coordinator and leader, the flexible and adjusted policy space and public consultation is a necessary but insufficient condition for the success of the NIMBY conflict management process. In the Jiangqiao Waste Incineration Plant case, it can be summarized that during the operating stage, technical security of the operating project, and an effective public participation are necessary but insufficient conditions for a successful NIMBY conflict management process.

CHAPTER 8 DISCUSSION AND POLICY IMPLICATIONS

8.1 Introduction

This chapter first summarizes the findings of the thesis. It then discusses policy implications based on the study's findings.

8.2 Summary of findings in this thesis

This study aimed to explore an effective NIMBY conflict management model from the perspective of public participation and government role. To achieve the research aim, multiple case studies in Shanghai and Hong Kong were conducted to examine: (1) the major issues between stakeholders in the NIMBY conflict management process, (2) the impact of public participation and environmental information disclosure (EID) on the NIMBY conflict management process, (3) the impact of the role of local government on the NIMBY conflict management process, and (4) an effective NIMBY conflict management model between local government and affected residents. The main findings of this research are as follows:

(1) This study finds that public participation, EIA (environmental impact assessment), information disclosure, and the role of local government are the main issues.

(2) This study shows that involved stakeholders, the degree of participation, participation approach, and participation timing all have an impact. The key public

stakeholders should be involved in the stages of project planning implementation and project EIA. When the government has the ability to effectively address the concerns of the key public stakeholders, the participation of the key public stakeholders has a positive effect on the NIMBY conflict management process; separate consultation and placation has a positive effect on the NIMBY conflict management process. Without transparency and trust, formal and top-down organization of public participation will not have a positive effect on the conflict management process. The timely participation of the public in the planning phase has a positive effect on the NIMBY conflict management process. This study shows that a sufficiently and scientifically disclosed EIA report, independent, transparent and social inclusive EIA procedures, which could satisfy public environmental concerns during the planning and operating stages, positively influence public acceptance of the NIMBY facility.

(3) This study shows that policy goals, administration processes and procedures, government responses, the role of government, policy space and policy stages have impact. The economic constraints and technical constraints of the policy quality constraints as the policy aim for policy implementation harm the affected residents' interest and unfair and unjust administrative procedures of the NIMBY project policy have a negative impact on the NIMBY conflict management process. The sincere attitude of the government staff, local government's timely response and the

response content matching public concerns, local government's roles as an organizer, a coordinator, and a leader in the conflict management process and the flexible policy space have a positive effect on the NIMBY conflict management process. NIMBY conflict could occur both at policy decision and implementation stages.

(4) This study confirms the consensus mode, policy failure mode, compromise mode and lose-lose mode. The results show that higher effectiveness of government role and higher effectiveness of public participation (including EID) could reach a consensus through the NIMBY conflict management process. Higher effectiveness of government role and lower effectiveness of public participation (including EID) could get a compromise in the NIMBY conflict management process. Lower effectiveness of government role and higher effectiveness of public participation can lead policy failure for the NIMBY conflict management process. Lower effectiveness of government role and lower effectiveness of public participation can get a lose-lose relationship between government and affected residents for the NIMBY conflict management process.

Based on the main findings in this thesis, discussion and policy implications are conducted in the next section.

8.3 Discussion and policy implications

This study aimed to explore an effective urban NIMBY conflict management model.

Based on the findings summary in the above section, government-organized public participation mechanisms in the policy process, improving local government's external and internal capacities in the policy process, and a government-oriented NIMBY conflict management model based on common issues or shared key interests between government and public, are suggested for urban NIMBY conflict management.

8.3.1 Government-organized public participation mechanisms in the policy process

This study shows that public participation and environmental information disclosure are the causes of NIMBY conflict rather than the resolving strategies.

The results support Thomas (2013) who found that NIMBY project policy implementation needs public acceptance of the NIMBY facility. The findings also support Yung and Chan (2012) that without effective public participation, the negative effect of a new project will easily spread.

In addition, the findings show that an insufficient and opaque EIA report is one cause of NIMBY conflicts. A simple EIA report only gives residents access to limited information. The selected cases in Shanghai also support Xia (2008) who

found that in China the government monopolizes information about the environment. Without transparent EID, residents could not protect their environmental rights.

Thomas (1995) argued that accountability of public participation and the democratic value of legitimate public participation should be emphasized. Increasing public participation can enhance the accountability of governments and public managers by developing new channels of communication between citizens and governments and ensuring public supervision of the government. More effective public participation also improve public acceptance of policy decisions, which provides the basis for the legitimacy of government (Thomas, 1995).

Fung (2015) and Leung (2016) suggested that the effectiveness, rationality and the social justice value of public participation should be strengthened. Wang and Wang (2016) argued that the fair implementation process of urban planning should include universal and binding mechanisms for public participation.

Leung (2008) argued that public participation in North America encourages private interests to accuse each other and infringe upon each other. Zhu (2012) argued that in the era of emphasizing that private interest must obey the public interest, there is no reason for the existence of NIMBY phenomenon, but in the era of people-managed, respecting the rights and interests of stakeholders is the

premise of policy decisions and social stability. Leung (2008) suggested that it is necessary to find consensus and mutual interests based on the public interests to resolve conflicts during China's urban development progress. Leung (2003) argued that no one has more reliable but sometimes more biased opinions than those living near the facility siting place. Therefore, he suggested that urban planners should on the one hand deduct the whole interests for balancing all stakeholders' interests, and on the other hand help vulnerable groups to prevent people from going to extremes.

Therefore, different from the US-based market-led siting approach and Europe-based, social group-led siting approach, and based on China's political system and background, people-managed sustainable urban development ideal, the common wish for a better city life and the findings in this study, government-organized public participation mechanisms in the policy process, which include involving key stakeholders, enhancing the degree of participation, purposely participation approach, timing participation and promoting the disclosed EIA report with sufficiency and science, and improving the EIA procedures independent, transparent and social inclusiveness are suggested for NIMBY conflict management.

(1) Involving key stakeholders

The study shows that involved key stakeholders may have a positive or negative impact on public acceptance of a NIMBY facility. This finding supports Wu et al. (2011) who argued that in China the government implements public participation only according to the minimum legal requirements. Policy decision-making in China is one part of the administration's tasks, which is both responsible for the higher administration unit and compliance with laws and regulations.

Waheduzzaman et al. (2018) found that public bureaucrats in developing countries have no motivation to implement participation governance and also lack the skills and willingness to engage citizens. However, Leung (2016) argued that even if the land development dispute resolution is legal (match the political need), it cannot be guaranteed to be reasonable (match the need for human settlement). Therefore, the government work should shift from bureaucratic to public satisfaction and outcome-aimed. It is suggested that a policy decision-making approach transitioned from “decide-announce-defend” to “participation-deliberation-consensus” should be adopted (Thomas, 2013).

In addition, the results show that when the government has the capacity to address the concerns of key public stakeholders at the planning implementation stage and project EIA stage, key public stakeholders will have a positive impact on NIMBY conflict resolution. This positive impact will depend on including

representatives of the actual stakeholders (McComas, 2001). Zhu (2016b) argued that since NIMBY projects are to residential areas, it is essential to include the attitude of the surrounding residents for policy decision-making. The surrounding residents refer to the truly affected public rather than the public without a relationship to the project or who will benefit from the project (Zhu, 2016b). It is essential to obtain the key public stakeholders attitudes to the NIMBY facility for NIMBY facility policy decision-making. It is considered that social stability risk assessors should especially listen to objections when conducting social stability risk assessments on policy project plans (Zhu et al., 2014). In addition, if the project plan needs special support and cooperation from local residents, it is necessary to organize stakeholders to discuss and propose feedback (Zhu et al., 2014). Thomas (1995) argued that although the government needs to conform to technical and scientific criteria, it also needs to take the public's preferences seriously and ensure the legitimate interests of each other in negotiations.

(2) Enhancing the degree of participation

This study shows that segmented public consultation and placation to some extent have positive impacts on public acceptance of NIMBY facilities. Manipulation, therapy, informing and unitary public consultation have negative impacts on public acceptance of NIMBY facilities. The results support that informing is

surface participation that does not help policy makers understand the public's will (Kathlene and Martin, 1991). The results also support Thomas (1995) who argued that segmented consultation is effective for NIMBY conflict management. Although the degree of power sharing and influence level varies in the public participation process (Arnstein, 1969), if the policy implementation needs consensus to be reached, enhancing the degree of participation is essential (Kathlene & Martin, 1991; Hjortsø, 2004; Thomas, 2013). The findings also support Zheng (2013) that in China public participation has becoming one of the key issues of conflict management rather than a strategy. Thus enhancing the degree of participation for consensus building is suggested for NIMBY conflict management.

For strengthening the degree of participation, the public should be given the right to engage, speak and supervise the government, which could be helpful for increasing government credibility (The World Bank, 1997). However, the right of public participants should not override the right of public agency (Bouckaert, 2013). There needs to be a properly balanced relationship between participation mechanisms and enlightened government control (Bouckaert, 2013). Public acceptance of policy decisions requires public managers to consider citizens' attitude to public aims when conducting public participation events (Thomas,

1995). If public managers could predict that citizens would disagree with the policy aims, when inviting public to engage in policy decisions, the public managers could only share limited decision-making power with the citizens. In this case, public managers could consult with citizens. In the consultation, public managers could evaluate citizens' opinions but would hold the final decision authority (Thomas, 1995).

Thomas (1995) argued that public managers need to clearly understand how the public perceives the problem. On the one hand, public managers need to timely grasp the information of public preference and their knowledge level, on the other hand they should timely grasp public opinions and communicate in a language and way that the public can understand, and educate the public (Thomas, 1995).

Thomas (1995) also suggested that in the public participation dynamic mechanism, public managers need to learn from the public and communicate them. The process of communication is also a process in which both sides get to know each other and learn progressively from each other, which is very important for conflict management (Thomas, 1995). Buckwalter (2014) argued that two critical factors emerge as shapers of the tone of interaction between citizen-participants and agency administrators: 1) that citizen-participants maintain realistic

expectations for the review process in light of agency constraints; and 2) that administrators express a sincere level of buy-in to the participation process.

(3) Purposely participation approach

This study shows that without transparency and trust, formal and top-down an organized participation approach will not have positive impacts on public acceptance of the NIMBY conflict facility, while bottom-up participation through such formal approaches as petition and informal approaches such as protesting at the gates of the government building, postings in online forums and social media, writing joint name letters, gathered and walking on the street will put pressure on the government to face public protests.

Thomas (1995) argued that participation approaches need to be carefully selected for the incentives and that the two main purposes of public involvement are involving the public for information and involving the public to build acceptance (Thomas, 1995). This finding supports Fung (2006) that public participation can make the government recognize public concerns. Buckwalter (2014) argued that when citizen-agency interactions become more rule-bound, the state agency could more easily control the processes and outcomes of citizen participation. The less formal the interactions between the agency and the participating citizens, the greater the opportunity for establishing genuine

relationships and for citizens to feel empowered. Public participation in China is implemented according to relative laws and regulations and channels for public participation are limited (Fan, 2013). However, the information people obtain from other channels may lead to a negative effect, which lead people to lose trust in the government (Fan, 2013). The findings support Johnson (2010) that without multiple participation channels, people could not obtain enough information. Based on the development of new media technologies and the wide use of smart phones, mobile apps could be used as a way to facilitate public participation. Thus for conflict management, based on trust and transparency, city managers should carefully choose public participation approaches to achieve their goals.

(4) Timing participation

This study found that there was no public participation at the decision-making stage in the selected cases both in Shanghai and Hong Kong. Timely public participation during the planning implementation stage has positive impacts on public acceptance of the NIMBY facility. Thomas (2013) argued that time is vital for public participation in policy decision-making. The findings show that late participation increases people's discontent. Early and continuous public involvement could help avoiding public concerns over their input (Ibitayo and Pijawka, 1999; Thomas, 2013).

Thus, timely participation as a strategy is suggested for the NIMBY conflict management process, especially during the early stages.

(5) Promoting the disclosed EIA report with sufficiency and scientific methods

The results show that the disclosed project EIA report with sufficiency and scientific methods, which could satisfy public environmental concerns of NIMBY facilities, positively influences public acceptance of environmental NIMBY facilities. The findings show that an insufficient and opaque EIA report is one reason for NIMBY conflicts. A simple EIA report only gives residents access to limited information. The results support that involved citizens are eager to access environmental information about nearby public projects (Ibitayo and Pijawka, 1999), but the specific content of the projects is too limited to be disclosed during the planning stage (Diao, 2014) and the disclosed environmental information by the government may not completely address their concerns (Etzioni, 2014; Porumbescu, 2015). The selected cases in Shanghai support the claim by Xia (2008) that in China the government monopolizes information about the environment. Without transparent EID, residents could not protect their environmental rights. Zhou (2015) explained that in China, when the government staff does not have enough confidence to disclose information, the policy of keeping secrets is adapted as an excuse to make information inaccessible.

The results support Xue et al. (2011) that the technical safety and technical standards of NIMBY facilities are ones of the public perceived risks, which were also the causes of public protests in the selected cases in Shanghai. The public worry that NIMBY facilities are too close to residential areas, which will have a negative health impact on them (Xue et al., 2011). The results also support Johnson (2013) that the health factor is a key public concern of NIMBY conflicts in China. But from the selected case in Shanghai, it seems that the method for government to include health factors in the EIA report is weak. Naddeo et al. (2013) suggested that the current EIA method should integrate technical factors and social factors. Therefore, this puts strict requirements on the scientific methods used to assess project EIA for public acceptance of the NIMBY facility.

(6) Improving the EIA procedures: independent, transparent, and socially inclusive

The results show that independent, transparent and socially inclusive EIA procedures, which satisfy public environmental concerns positively influence public acceptance of environmental NIMBY conflict facilities. The results support Devine-Wright (2005) who claimed that the public is not satisfied with the EIA procedures for NIMBY facilities.

However, the results did not support Takahashi (1997) who argued that the public prefer to accept information from experts. The interviewed experts and interviewed project developer indicated that current technical standards were implemented in accordance with the most stringent international standards and they can prove that the project is technically safe. However, Zhu (2015) argued that although in China the technical experts could argue that the NIMBY project is technically safe, the power of persuasion of the technical experts is weak. Therefore, Zhu et al. (2014) argued that experts should provide neutral, professional, well-argued, independent and complete demonstration reports to help the public understand the relevant knowledge of the NIMBY project. China's Ministry of Environmental Protection said that from 2017, the EIA agencies and official environmental protection departments would be unrelated (Jiang, 2017). In the future EIA agencies will be more independent.

Furthermore, the results support that in China there are few opportunities to access the substance and the procedural details of NIMBY environmental information supplied by the government (Diao, 2014; Li, 2015). Therefore, Van der Horst (2007) recommended that EIA procedure should be transparent and accountable for the good of the NIMBY conflict management process.

8.3.2 Improving local government's external and internal capacities in the policy process

Based on the findings of the impact of the government role in the NIMBY conflict management process, the following suggestions are made for improving the NIMBY conflict management process: improving local government's external and internal capacities in the policy process, which includes a comprehensive plan of the NIMBY facility based on sustainability impacts; strengthening government administrative process and procedures for transparency, equality and accountability in a legitimate system; improving the quality of government response; strengthening the organization; coordination and leadership of local governments; improving the flexible and adjusted policy space of NIMBY projects; and building a NIMBY conflict management model based on the policy process.

(1) Comprehensive planning of the NIMBY facility based on sustainability impacts

The study found that at the facility siting planning decision stage, the government only considers the economic constraints and technical constraints, without considering public acceptance of the NIMBY project policy decision as one of the policy aims, which has a negative impact on the NIMBY conflict management

process. Economic constraints and technical constraints that damage the interests of key public stakeholders is the main reason for NIMBY conflicts, which has a negative impact on the NIMBY conflict management process.

Leung (2008) argued that under the premise of economic constraints in the project policy implementation, the government often regards the project's economic cost effect (optimal benefit/cost ratio) as the guiding principle when siting planning through the development management mechanism to develop the highest land use density. However, this economically optimal siting planning idea is separated from the spatial and time scenario of social and economic activities. It also ignores the human scale, the perceptions and attitudes of the nearby public and the environmental impact. Despite economic development still being of great significance to China's urban development, with the global consensus on sustainable development, China has made sustainable development the main goal of urban management. Zhu (2004) argued that economy, society and environment should be coordinated for development, but this is not to say that economic development is not important. Zhu (2016b) argued that from an economic perspective, NIMBY facility siting should not be too far away from the city. Zhu et al. (2015) argued that the key of sustainability science is to integrate the three dimensions of the object (economic impact, social impact, and environmental impact), subject (government, enterprise,

social organization) and process (state, pressure, response). Zhu et al. (2015) argued for a comprehensive assessment including the economic, social and environmental impacts of a project. The impact analysis of policies must balance the comprehensive effects of the economy, society, and environment (Zhu et al., 2014). Thus, this study suggests to conduct a comprehensive planning of any NIMBY facility based on the sustainability impacts.

(2) Strengthening government administrative processes and procedures for transparency, equality and accountability in a legitimate system

This study shows that unfair administrative process and unjust administrative procedures have a negative impact on the NIMBY conflict management process. Because of the opaque information, there is a lack of accountability and supervision of the government's administrative processes and administrative results. The government's unfair and unjust administrative actions in the administrative processes and administrative procedures were reasons for NIMBY conflicts in the case studies. It indicates that project planning in China focuses on technical document planning. There is a lack of legal validity, legal procedures and effective supervision mechanisms.

This results in the government arbitrarily modifying the project plan. People's Republic of China Urban Planning Law (PRCUPL) was promulgated and

implemented in 1990. In 2008 the People's Republic of China Urban and Rural Planning Law (PRCURPL) was promulgated and implemented to replace the PRCUPL. The PRCUPL did not include the requirement to solicit opinions from interested parties in the planned lots. At the old urban planning law implementation stage, when residents expressed doubts over the legitimacy of the site planning, the local government argued that the procedure was in accordance with laws and regulations. However since the new urban planning law was implemented in 2011, the Yangpu substation case shows that the local government did not obey the planning law to solicit the opinions of the interested parties in the revised planned lot. The Hong Kong SENT landfill case shows that transparent and open administrative processes, along with accountability for project administrative processes and procedures pushed the government to respond to public concerns and the Legislative Council supervision was effective, all of which had a positive impact on the NIMBY conflict management process.

Fan (2013) argued that the government's closed-ended decision-making approach and goal-oriented administrative processes is one cause of NIMBY conflicts in China. Wang and Wang (2016) argued that the government has an inadequate social supervision system in the planning process: the relevant officials or departments have arbitrarily broken through the original planning, the planning is not serious

enough, and the planning implementation effect lacks reporting and accountability mechanisms. Mao (2004) argued that it is essential to build a responsibility system based on the law and administrative procedures, in which equality can be guaranteed through procedures in the face of the responsibility system for reducing scapegoat problems in the accountability process. Denhardt and Denhardt (2000) argued that it is the responsibility of the government to ensure that the solutions generated in the administrative process are fair and equitable when dealing with issues of public interest. Hughes (2012) argued that bureaucratic accountability in the traditional model should be in line with relevant laws and regulations, but it is only accountable for the mistakes; and accountability based on the management perspective increases accountability for the receivers of public services. Thus, this study suggests strengthening government administrative processes and procedures for transparency, equality, and accountability in a legitimate system. In addition, in the future, more empirical studies should be conducted for the relation between the new and updated laws and regulations, government administrative processes and procedures for transparency, equality, and accountability, the occurrence and frequency of urban NIMBY conflicts and NIMBY conflict management for sustainable development.

(3) Improving the quality of government response

This study found that local government's timely response, the sincere attitude of the government staff and government response content matching the public's concerns, has a positive impact on the NIMBY conflict management process. This study supports Hu et al. (2013) who found that government responses to the public in a timely fashion would have a positive impact on NIMBY project planning implementation. In addition, this study supports Buckwalter (2014) that the smaller the gap between public opinion and government feedback, the better the public will feel that it is effective to participate in and their voice will be heard.

The findings of this study show that the public gained NIMBY facilities-related knowledge and acquired more information in the process of communicating with the government. If the public found that the government had a vested interest in the NIMBY facility, the credibility of the government would be questioned, which would have a negative impact on the NIMBY conflict management process. In addition, if government response content could not match public concerns, it would have a negative impact on the NIMBY conflict management process. The less citizens' expectations for the review process match the government's response for the NIMBY project, the less satisfactory is the interaction between the public and the government (Buckwalter, 2014). The finding in this study supports that the public indeed has certain professional knowledge of the NIMBY facility, are

active learners, and can make suggestions for better siting decisions (Zheng et al., 2015; Sun et al., 2016a). Buckwalter (2014) found that the higher the public's understanding of the government's language, culture and politics, the better the public's dialogues with the government and the decision-making.

This study supports that Chinese citizens protest against the irresponsible government, rather than for political power (Perry, 2008). After a NIMBY conflict is settled, the public did not continue to protest for political power. The public's concern over political power inequalities in the NIMBY facility decision-making process may lead to unequal distribution of risks, and negative external interests (Flyvbjerg et al., 2003). Thus, for NIMBY conflict management, this study suggests to improve the quality of government response.

(4) Strengthening the organization, coordination and leadership of local government

The findings of this study show that when there is a NIMBY conflict during the planning and operating stages, if the government can sacrifice some efficiency (the economic input required to achieve the purpose) and replace “economic optimal” with “stakeholders satisfactory”, local government's roles as an organizer, a coordinator, and a leader will have a positive impact on the NIMBY conflict management process. The selected cases in Shanghai and Hong Kong show that

face-to-face communications with residents will have a positive impact on the NIMBY conflict management process provided that the government identifies the public's reasonable and unreasonable appeals on the basis of understanding the public's perception of the NIMBY facility, the government mobilizes resources and takes effective measures to respond to the public's reasonable demands, and the government coordinates interest conflicts to the satisfaction of the public.

Thomas (1995) argued that effective action requires cooperation by multiple organizations in the face of a declining “capacity of single organizations, especially governments, to manage and to govern.” The World Bank (1997) argued that the defect of single government could be made up through cooperation with businesses and residents. Angel (2012) argued that urban expansion in the real world comes about through the merging of two spheres: the essential public actions that make cities habitable and the essential private actions that make them productive and livable. Neither the public nor the private sphere can survive or thrive on its own (Angel, 2012). Public goods such as arterial roads and water and sewer systems need the cooperation of all citizens acting as a public, rather than as private individuals (Angel, 2012). To be of any use to those who inhabit and thrive in cities, private goods such as serviced plots of land for homes and businesses, need the underlying public goods to be installed in a well-planned and timely manner (Angel, 2012).

For mega-projects, Flyvbjerg et al. (2003) suggested a rearrangement of government, public and private, and experts' responsibilities through transparency, performance specifications and explicit formulation of regulatory regimes, changing the role of government from a stakeholder to a judge and a coordinator. The World Bank (1997) proposed that the concept of government-led refers to effective public participation and government intervention that requires enlightenment, including improving the institutional environment that brings social and human capital. Denhardt and Denhardt (2011) argued for the role of leadership in governance to become one of engaging with various groups that are or might become members of the network to bring forth a common vision in which all can share. Thus, this study suggests strengthening the coordination and leadership of local government for more efficient and effective NIMBY conflict management.

(5) Improving the flexible and adjusted policy space of NIMBY projects

The findings of this study show that flexible and adjusted NIMBY project policy space has a positive impact on the NIMBY conflict management process. The growth of urban population and population density over the old urban planning is one of the reasons for NIMBY conflicts. Therefore, project planning policies need to be flexible. However, there is a lack of flexibility in NIMBY project policy in China. In addition, there is also a lack of a dynamic adjusted mechanism for NIMBY project

policy based on legal procedures. From the perspective of implementation, Sun (2016) argued that there are scientific problems in the current planning, and there are defects in the existing blueprints. In the process of planning, there are few combinations with implementation, few considerations of the status quo, and a lack of in-depth investigation (Sun, 2016). Wu and Li (2010) argued that control detailed planning is more technical and legally weak. Leung (2008) argued that planning discussions cannot be separated from the quality and quantity of space and environment. Thus, this study suggests improving the flexible and adjusted policy space of NIMBY projects.

(6) Building a NIMBY conflict management model based on the policy process

This study found that NIMBY conflicts could occur not only in the planning decision and planning implementation of policy decisions, but also at the operating stage of policy implementation. Lyu (2017) argued that since government is accustomed to responding to a social emergency event regardless of the cost, but lacks proactive measures, it fails to form a unified and complete supervision system before, during and after an event. The interviewed experts argued that if the government wants to resolve the problems of NIMBY conflict, it should address the root causes and reactive strategies for dealing with NIMBY conflicts together. Therefore, this study argues that proactive and responsive strategies are both needed

for NIMBY conflict management. From the perspective of policy process, the project policy requires systematic and holistic management from decision to implementation and evaluation (Figure 8.1). Thus, this study suggests building a NIMBY conflict management model based on policy processes.

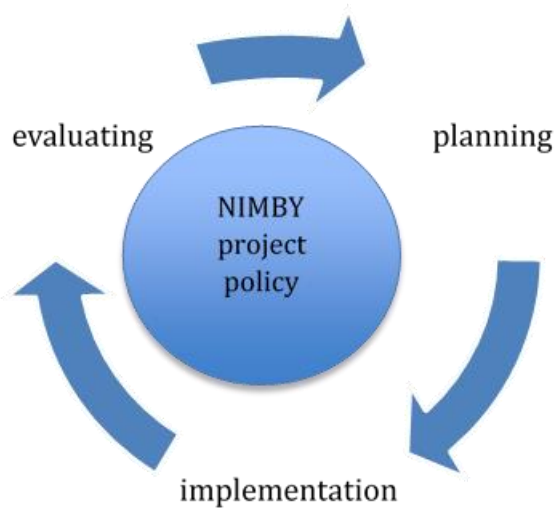


Figure 8. 1 NIMBY conflict management model based on policy processes

8.3.3 NIMBY management model based on the common issues or shared key interests between government and public

The four NIMBY conflict management modes proposed in this thesis are also the governance results of the common issues or shared key interests of the sustainability impact of NIMBY projects between the stakeholders. The sustainability impacts of NIMBY projects include the economic, environmental, and social impacts. Figure 8.2 is an analysis of the environmental, social, and economic impacts of NIMBY projects in the selected cases from the project life cycle perspective.

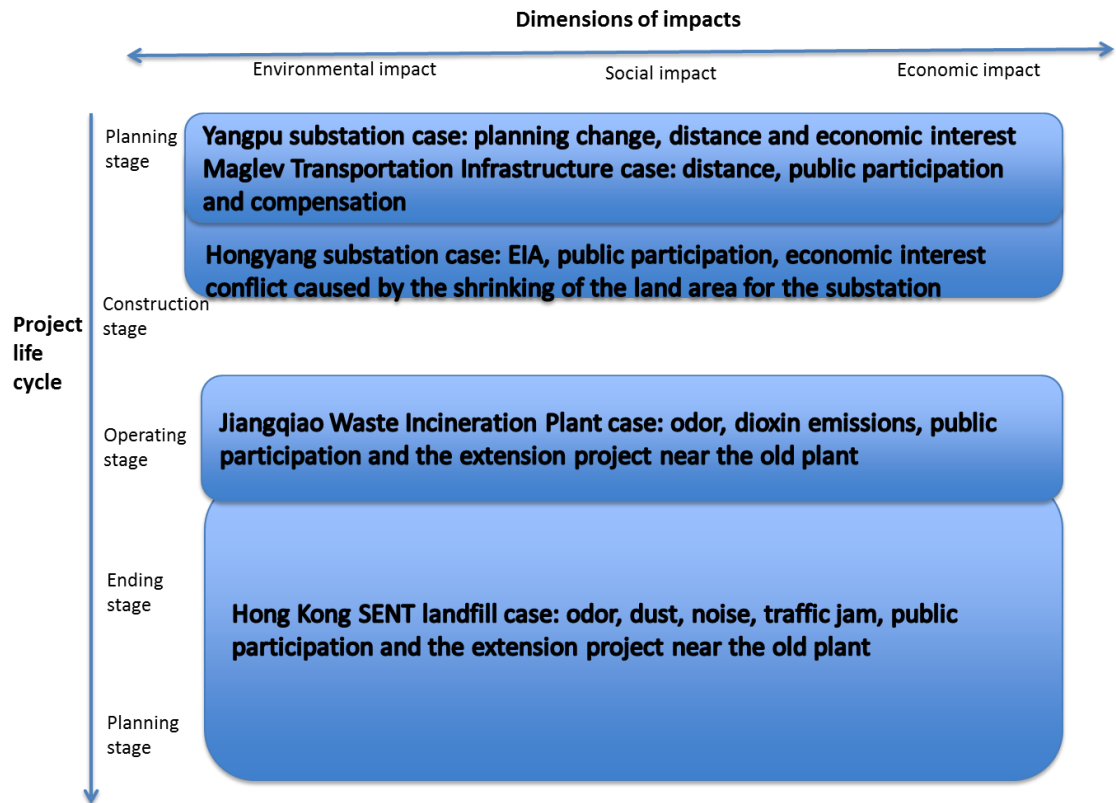


Figure 8. 2 Analysis of the sustainability impacts of NIMBY projects in the selected cases from the perspective of project life cycle

Sustainability management is actually the process of managing the shared value of different stakeholders (Zhu, 2016c). Therefore, a NIMBY conflict management model based on government role and public participation can also be understood as a governance process that identifies and creates common issues or shared key interests of the sustainability impact of the NIMBY project between government and public (Table 8.1).

Table 8. 1 NIMBY conflict management modes based on the common issues or shared key interests between government and public

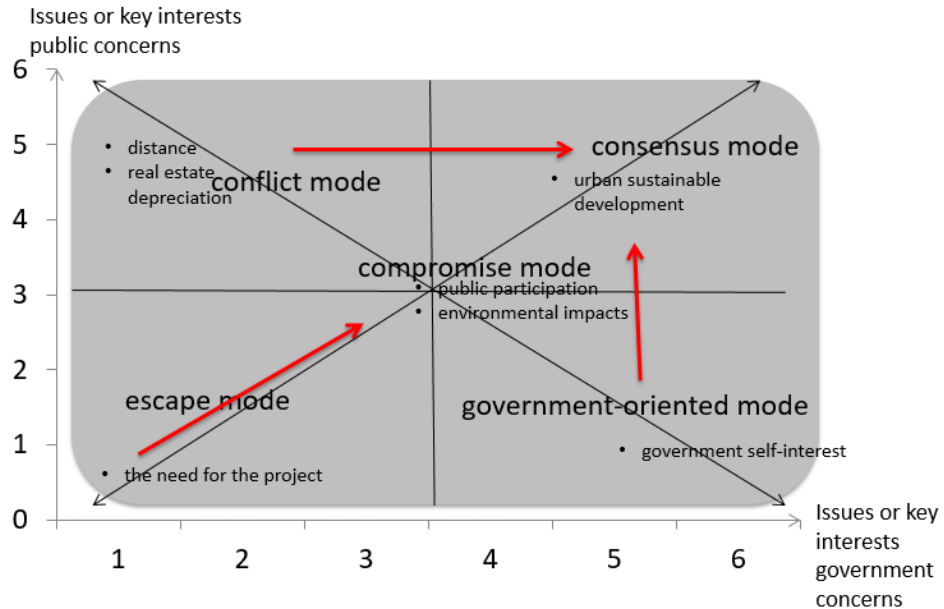
Issues or key interests government concerns higher	Issues or key interests government
--	--

		concerns lower
Issues or key interests public concern higher	consensus or compromise mode	conflict mode
Issues or key interests public concern lower	government-oriented mode	escape mode

Figure 8.3 presents NIMBY conflict management modes based on the scores for of common issues or shared key interests between government and public. Such classification not only helps to distinguish the management status of the NIMBY conflict, but also helps stakeholders to see and adjust each other's expectation score and the bottom line regional space for the NIMBY conflict management process. The stakeholders can then work towards the target area of NIMBY management in the direction of compromise and consensus. Compromise means that both sides have lowered their expectations scores and respect each other's bottom line; it is a reasonable acceptance of the situation, but no one party is entirely satisfied. For example, in Figure 8.3, government and public have the same score 3 for public participation and environmental impacts of NIMBY facilities. It indicates that these two factors are common issues of NIMBY conflict management for both between government and public. Consensus means to reach an agreement with each other such that there is a win-win situation, and both parties are entirely satisfied. For example, in Figure 8.3, government and public have the similar high scores for sustainable urban development. It indicates that sustainable urban development is the shared key interest for government and residents for urban NIMBY conflict

management. The government hopes to improve the city's economic competitiveness and strengthen the people-managed urban sustainable development (quality of urban development), and the citizens hope to have a better life in a better city. Thus, we can find a compromise area or point that both parties can reach. Based on the value of fairness, the government can guide the affected citizens to participate in the policy of a NIMBY project by organizing public participation and EID. Uniting with the citizens, the government can also accumulate social capital for sustainable development goals.

Figure 8. 3 NIMBY conflict management modes based on the scores of common issues or shared key interests between government and public



8.3.4 Government-oriented NIMBY conflict management model

The results show that higher effectiveness of the government role and higher effectiveness of public participation (including EID) is a recipe for reaching a consensus for NIMBY conflict management at the policy decision and implementation stages. Higher effectiveness of government role and lower effectiveness of public participation (including EID) could get a compromise for NIMBY conflict management at the policy decision and implementation stages. Lower effectiveness of government role and higher effectiveness of public participation could impact policy decision but get a policy failure outcome. Lower effectiveness of government role and lower effectiveness of public participation led to project delay or cancellation. This study found that government role rather than public participation is the key factor for NIMBY conflict management in the policy process.

To research the problems of Chinese institutions, management scholars have emphasized the changes of management approach within the existing political system rather than the change of institution emphasized by political science scholars and sociologists (Zhu, 2011). Based on the two-dimensional matrix of democracy and governance, Zhu (2013) argued that China is a centralized but good governance country, and good governance is better than democracy in the context of the existing political system. The findings in this study could provide evidence for Zhu's (2013)

argument. If administration decentralization means subtraction and strengthening supervision means addition, then governance means multiplication. Sun et al. (2016b) argued that public participation have both positive and negative impacts on the NIMBY conflict management process; therefore it is essential to design effective public participation. Leung (2016) argued that an urban planner plays two roles: deducting the overall interests to maintain the fairness of the interests game; and assisting vulnerable groups to neutralize the extremes of those for the benefit of the public. Therefore, in the context of China's political system, this study suggests use of the government-oriented NIMBY conflict management model, emphasizing the coordination of higher effectiveness of government role and higher effectiveness of public participation.

8.5 Chapter summary

This chapter presents discussion and policy implications based on the findings summary of the thesis.

Based on the findings summary of this thesis, government-organized public participation mechanisms in the policy process, improving local government's external and internal capacities in the policy process, a NIMBY management model based on the common issues or shared key interests between government and public,

and a government-oriented NIMBY conflict management model are suggested for urban NIMBY conflict management.

Based on the findings of the thesis and discussions in this chapter, the final chapter summarizes the thesis for exploring effective urban NIMBY conflict management model.

CHAPTER 9 CONCLUSION

9.1 Introduction

This chapter summarizes the main findings and indicates the significance and implications of this study. Limitations and recommendations for future research have also been presented.

9.2 Study purpose and summary of the major findings

Since NIMBY (not in my back yard) conflict first appeared in the late 1960s in the United States, with the civil rights movement, environmental protection movement, public administration reform, urbanization and urban renewal in cities around the world, NIMBY conflict has been a controversial issue in the field of urban governance. NIMBY conflicts strictly test the sustainability management capabilities of urban managers. However few studies have explored effective urban NIMBY conflict management models. This study aims to explore effective NIMBY conflict management model from the perspective of public participation and government role.

To achieve this research aim, the following four research objectives were formulated:

- (1) To identify the issues between local government, affected residents and project developers in NIMBY conflict management.

(2) To examine the impact of public participation and EID on NIMBY conflict management from the perspective of the project planning and operating stages.

(3) To investigate the impact of government's role on NIMBY conflict management during the policy decision and implementation stages based on the relationship between policy process and public management.

(4) To explore an urban NIMBY conflict management model from the perspective of public participation and the government's role.

The main findings of the research are as follows:

9.2.1 Issues between local government, affected residents and project developers in NIMBY conflict management

This study constructed seven theoretical hypotheses for examining major issues between the stakeholders in NIMBY conflict management. Based on the single case study method, data from in-depth and semi-structured interviews and documents and using qualitative analysis according to standard techniques, this study found that public participation, EIA (environmental impact assessment), information disclosure, and the role of local government are the main issues between the stakeholders in the NIMBY conflict management process.

9.2.2 Impacts of public participation and EID on NIMBY conflict management

This study employed a theoretical framework of the planning and operating stages to examine the impact of public participation and EID on NIMBY conflict management, specifically investigating the impact of stakeholders, the degree of participation, the participation approach, the timing, the EIA report, and the EIA procedures. Based on the multiple-case studies method, data from in-depth and semi-structured interviews and documents and using qualitative analysis according to standard techniques and following the combination of the variable-oriented approach and the case-oriented approach, this study showed that involved stakeholders, the degree of participation, participation approach and participation timing has an impact on the NIMBY conflict management process. When the government has the ability to effectively address the concerns of the key public stakeholders, the participation of the key public stakeholders has a positive effect on the NIMBY conflict management process; separate consultation and placation has a positive effect on the NIMBY conflict management process. Without transparency and trust, formal and top-down organization of public participation will not have a positive effect on the conflict management process. The timely participation of the public in the planning phase has a positive effect on the NIMBY conflict management process. This study showed that a sufficiently and scientifically disclosed EIA report, independent, transparent and social inclusive EIA procedures, which could satisfy public

environmental concerns during the planning and operating stages, positively influenced public acceptance of the NIMBY facility.

9.2.3 Impact of government role on NIMBY conflict management

This study employed a research framework from the perspective of policy decision-making and policy implementation stages to examine the impact of government role on NIMBY conflict management, specifically analyzing the impacts of policy aim, administrative processes and procedures, government response, the role of government, policy space, and policy stage. Based on the multiple-case studies method, data from in-depth and semi-structured interviews and documents and using qualitative analysis according to standard techniques and following the combination of the variable-oriented approach and the case-oriented approach, this study showed that policy goals, administration processes and procedures, government responses, the role of government, policy space and policy stages have an impact on the NIMBY conflict management process. The economic constraints and technical constraints of the policy harm the affected residents' interests and unfair and unjust administrative procedures of the NIMBY project policy have a negative impact on the NIMBY conflict management process. The sincere attitude of the government staff, local government's timely response and the response content matching the public's concerns, local government's roles as an organizer, a coordinator, and a

leader in the conflict management process and the flexible policy space have a positive effect on the NIMBY conflict management process. A NIMBY conflict could occur both at policy decision and implementation stages.

9.2.4 NIMBY conflict management model

Based on the two-dimensional matrix of government role and public participation, this study constructed four modes for NIMBY conflict management and their impact on NIMBY conflict management, namely, the consensus mode, policy failure mode, compromise mode and lose-lose mode. Based on the multiple-case study method, data from in-depth and semi-structured interviews and documents and using qualitative analysis according to standard techniques and following the combination of the variable-oriented approach and the case-oriented approach, this study confirmed the four modes. The results showed that effective role of local government and effective public participation (including EID) could reach a consensus in the NIMBY conflict management process. Effective role of local government and negative public participation (including EID) could enable a compromise in the NIMBY conflict management process. Lower effectiveness of government role and higher effectiveness of public participation could impact policy decision but get a policy failure outcome. Lower effectiveness of government role and lower effectiveness of public participation led to project delay or cancellation.

9.3 Significance and implications of this study

This study explored an effective urban NIMBY conflict management model from the perspective of public participation and government role during the policy decision and implementation stages through multiple case studies in Shanghai and Hong Kong. It contributes to the body of knowledge by providing a government-oriented urban conflict management model at the policy decision and implementation stages in China for sustainable development. In addition, based on the two-dimensional matrix of government role and public participation, this research has contributed to knowledge by providing a conceptual framework to evaluate and analyze NIMBY cases in other places of China and elsewhere. The main significance and implications of this study are as follows:

(1) This study examined the issues between local government, affected residents and project developer in the NIMBY conflict management process. Previous studies mainly focused on the interaction among the government, citizens, and NGOs, and the relationship between central government and local government in NIMBY conflicts, and the impact of the interactions on the outcome of the NIMBY conflict management process. However, in practice the relationship between local government and residents during the management process of NIMBY conflicts seems to be worsening and there is little research on the issues between local government, affected residents and project developer in the NIMBY conflict

management. This study finds that public participation, EIA (environmental impact assessment), information disclosure, and the role of local government are the main issues between local government, affected residents and project developer in the NIMBY conflict management process.

(2) This study examined the impact of public participation and EID on the NIMBY conflict management process from the perspective of the project planning and operating stages. Scholars have recommended public participation, EIA and information disclosure for China's urban NIMBY conflict management, but few studies examined the impact of public participation and EID on urban NIMBY conflict management in China. This study shows that public participation and EID have both positive and negative impacts on the NIMBY conflict management process.

(3) This study investigated the impact of government role on the NIMBY conflict management process during the policy decision and implementation stages based on the relationship between policy process and public management. NIMBY conflict studies have focused on public attitudes of NIMBY facilities and public participation, but little research has examined the impact of the government role on the NIMBY conflict management process. In practice, local government in China takes the responsibility for NIMBY conflict management. This study shows that government

role has both positive and negative impacts on the NIMBY conflict management process.

(4) This study analyzed an urban NIMBY conflict management model from the perspective of public participation and government role during the policy decision and implementation stages. There are six main approaches to NIMBY facility siting in previous studies, these are: 1) the DAD approach, 2) the voluntary siting approach, 3) the community governance approach, 4) the network governance approach, 5) the institutionalized deliberative approach and 6) the comprehensive decision-making approach. However, the studies have mainly focused on NIMBY conflicts during the decision-making stage or before the construction stage separately. In addition, based on the NIMBY phenomenon in China, scholars have provided suggestions on how to address NIMBY conflicts, but few studies have investigated how NIMBY conflicts are managed and how NIMBY conflict management impacts policy decisions. Moreover, previous studies mainly used a single case study to examine NIMBY conflict management mechanisms. Few studies have investigated urban NIMBY conflict management model with in-depth and multiple-case studies. Through multiple case studies, this study integrates policy decision and policy implementation to examine urban NIMBY conflict management from the perspective of public participation and government role. This study shows that higher effectiveness of the

government role and higher effectiveness of public participation (including EID) is a recipe for reaching a consensus for NIMBY conflict management at the policy decision and implementation stages. This finding could provide evidence for a state-centered governance approach (Sellers, 2011). Higher effectiveness of government role and lower effectiveness of public participation (including EID) could get a compromise for NIMBY conflict management at the policy decision and implementation stages. Lower effectiveness of government role and higher effectiveness of public participation could impact policy decision but get a policy failure outcome. Lower effectiveness of government role and lower effectiveness of public participation led to project delay or cancellation. This study found that government role rather than public participation is the key factor for NIMBY conflict management in the policy process.

9.4 Limitations and recommendations for future research

There are three limitations to this thesis.

First, the selected cases are mainly in Shanghai and Hong Kong, particularly in Shanghai. Although NIMBY conflicts occur in other cities in China, based on this study's research questions and the requirement of rich and complex information for qualitative case study, multiple case studies in Shanghai and Hong Kong were used to explore the impact of public participation, EID, and the role of government on the

NIMBY conflict management process and the NIMBY conflict management model.

However, this study argues that the cases selected in these two cities could be used to investigate this study's research question. In the future, more NIMBY conflicts in other cities could be used to examine the results of this study.

Second, the selected five NIMBY conflict cases, which were used to examine the study's research questions are mainly economic NIMBY conflicts caused by energy facilities and transportation facilities, and environmental NIMBY conflicts caused by waste management facilities. Mile et al. (2014) suggested that when employing multiple-case studies for analytical generality, considering how rich and complex the within-case sampling is, five richly researched cases as a minimum for multiple-case sampling adequacy. Thus, this study argues that the five selected cases could explore the research questions in this study. In future, more NIMBY conflicts cases could be used to examine the conclusion of this study. Moreover, in future research, social NIMBY conflicts caused by social service facilities could be used to examine the results of this study.

Third, single case study method was used to investigate the issues between the stakeholders in the NIMBY conflict in this study. However, there were limits to the single case study. The project developer in the Shanghai Hongyang substation case could not be interviewed because of the sensitive political context between the local

government and the residents of this case and at the same time Shanghai Electric Company as a State-owned enterprise.

However, there were three approaches for obtaining data sources of the project developer in the selected case, including the newspapers which reported the Hongyang substation and covered the interview with the project developer, articles published by the project developer himself about the Hongyyang substation, and interviews with residents and government officials. Through the above data sources, this study could indirectly get the standpoint of the project developer and further analyze the issues between the project developer and other stakeholders. More studies are recommended to examine issues between stakeholders in the NIMBY conflict management process.

Fourth, in the future, more empirical studies are suggested to examine the relation between the new and updated laws and regulations, government administrative processes and procedures for transparency, equality, and accountability, the occurrence and frequency of urban NIMBY conflicts and NIMBY conflict management for sustainable development.

Finally, based on the findings from this study, a NIMBY conflict management model based on the policy process is suggested for future research on NIMBY conflict management.

Appendix I: Interview guide for urban NIMBY conflict management in Shanghai

Interview questions for affected residents:

- 1) What is your attitude toward the NIMBY facility?
- 2) Did you participate in the NIMBY facility process and if so in what way?
- 3) What is your attitude toward the environmental impact assessment for the NIMBY facility?
- 4) How did the government communicate with residents affected by the NIMBY facility?
- 5) In what way are you either satisfied or dissatisfied with the results of communicating with the government?

Interview questions for government:

- 1) How does the government consider the economic, social, and environmental impacts of NIMBY facilities when making decisions for NIMBY facility siting?
- 2) What public sectors are involved in the NIMBY facility siting process?
- 3) What are the responsibilities of each public sector for the NIMBY facility siting and what is the responsibility of your particular sector?
- 4) What is the relationship between public sectors at different levels of the planning, construction, and operating stages of NIMBY facilities?

- 5) How does the government make and implement decisions for NIMBY facilities, and in the case of the Hongyang substation what relevant laws and regulations apply?
- 6) Have you answered any questions from the public about NIMBY facilities in your sector and if so what were the questions?
- 7) What are the issues of public concerns for other public sectors?
- 8) At what stage does NIMBY conflict most frequently occur (planning stage, construction stage or operating stage)?
- 9) How does the government manage NIMBY conflicts?
- 10) Has the government taken any economic or non-economic compensation measures for NIMBY facilities, if so what have they been?

Interview questions for project developer:

- 1) Why do you think the public is against the NIMBY facility in the case of the Jiangqiao waste incineration plant?
- 2) What have you done for reliving public concerns over the NIMBY facility in the case of the Jiangqiao waste incineration plant?
- 3) What is the effectiveness of having taken the actions identified in 2) above and did the public accept the measures?
- 4) Do you think the public is rational, self-interested or selfish, and why?

5) What is the role of the project developer in the NIMBY conflict process for the Jiangqiao waste incineration plant?

6) Is the NIMBY facility in the Jiangqiao waste incineration plant case technically safe and evidently scientifically sited?

7) Why was the extension for the NIMBY project in the case of the Jiangqiao waste incineration plant cancelled?

8) What is the relationship between the project developer and the government?

The author asked experts for their perception of the causes of conflict over NIMBY facilities, their view of how the public participates in the conflict management process, their opinion of environmental information disclosure and government role in the process, and their suggestions for managing NIMBY conflicts effectively.

References

- Altshuler, A. A., & Luberoff, D. E. (2004). *Mega-projects: The changing politics of urban public investment*. Washington, D.C.: Brookings Institution Press.
- Angel, S. (2012). *Planet of cities*. Cambridge, MA: Lincoln Institute of Land Policy.
- Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of planners*, 35(4), 216-224.
- Bloomberg, M., & Pope, C. (2017). *Climate of hope: How cities, businesses, and citizens can save the planet*. New York, NY: St. Martin's Press.
- Bond, A., Palerm, J., & Haigh, P. (2004). Public participation in EIA of nuclear power plant decommissioning projects: a case study analysis. *Environmental Impact Assessment Review*, 24(6), 617-641.
- Bouckaert, G. (2013). Now we are more concerned with performance, outcome and participation. *Shanghai wenweipo*. Retrieved from http://bianke.cnki.net/web/article/G107_4/WEHU201311250130.html
- Buchanan, J. M. (1975). A contractarian paradigm for applying economic theory. *The American Economic Review*, 65(2), 225-230.
- Buckwalter, N. D. (2014). The Potential for Public Empowerment through Government - Organized Participation. *Public Administration Review*, 74(5), 573-584.
- Buckley, R. (1984). *Strategic environmental assessment of policies and plans: Legislation and implementation*. Dordrecht: D. Reidel Publishing Company.
- Burningham, K., Barnett, J., & Thrush, D. (2006). *The limitations of the NIMBY concept for understanding public engagement with renewable energy technologies: a literature review*. School of Environment and Development, University of Manchester Working Paper 1.3.
- Brion, D. J. (1991). *Essential industry and the NIMBY phenomenon*. New York, NY: Quorum Books.
- Cai, D. J. (2009). Public participation and development in China. *Unity*, 4, 32-35.
- Cai, T. C. (2010). The study of public participation system in Hong Kong's urban planning. *Urban and Rural Development*, 29.
- Calthorpe, P. (2010). *Urbanism in the age of climate change. Urbanism in the age of climate change*. Washington, D.C.: Island Press.
- Carmichael, L., Barton, H., Gray, S., Lease, H., & Pilkington, P. (2012). Integration of health into urban spatial planning through impact assessment: Identifying governance and policy barriers and facilitators. *Environmental Impact Assessment Review*, 32(1), 187-194.

- Cavagnaro, E., & George, H. (2017). *The three levels of sustainability*. London, England: Routledge.
- CEPRM (Centre of Environmental Policy and Resource Management). (2007a). *Siting locally unwanted facilities in Hong Kong—public survey results*. CEPRM, Department of Geography and Resource Management, The Chinese University of Hong Kong. Retrieved from ceprm.grm.cuhk.edu.hk/LULU/Surveys/TM_survey_081016.pdf
- CEPRM. (2007b). *Siting locally unwanted facilities in Hong Kong—Tuen Mun survey results*. CEPRM, Department of Geography and Resource Management, The Chinese University of Hong Kong. Retrieved from ceprm.grm.cuhk.edu.hk/LULU/Surveys/TM_survey_081016.pdf.
- Chan, C. W., Cheung, P. T. Y., Chan, E. Y. M., Lam, W. F., Lam, W. M., Lee, E. W. Y., & Chan, K. M. (2007). *From consultation to civic engagement: The road to better policy-making and governance in Hong Kong*. Centre for Civil Society and Governance, The University of Hong Kong.
- Chandler, D., & Werther, W. B. (2014). *Strategic corporate social responsibility: Stakeholders, globalization, and sustainable value creation*. Newbury Park, California: Sage Publishing.
- Chen, B. S. (2012). Governing NIMBY conflict in public policy process. *Academia Bimestris*, (5), 110-115.
- Chen, L., & Li, L. L. (2016). Government decision-making and NIMBY Movement: Trigger mechanism of social stability risk in public project decision-making and the improvement direction. *Journal of Public Administration*, 9(1), 26-38.
- Chiou, C. T. (2005). NIMBY syndrome and facility siting. *China Administrative Review*, 14(3), 33-64.
- Chiou, C. T., Lee, J., & Fung, T. (2011). Negotiated compensation for NIMBY facilities: siting of incinerators in Taiwan. *Asian Geographer*, 28(2), 105-121.
- Chiou, C. T. (2011). Site Selection of LULU Facilities. In Fung, T., Lesbirel, H., & Lam, K. C (Eds.), *Facility siting in the Asia-Pacific: perspectives on knowledge production and application* (pp.141-168). Hong Kong: The Chinese University Press.
- Coffey, B., Fitzsimons, J. A., & Gormly, R. (2011). Strategic public land use assessment and planning in Victoria, Australia: Four decades of trailblazing but where to from here?. *Land Use Policy*, 28(1), 306-313.
- Cotton, M., & Devine-Wright, P. (2010). NIMBYism and community consultation in electricity transmission network planning. *Renewable energy and the public: From NIMBY to participation*, 115.

- Courtright, K. E., Packard, S. H., Hannan, M. J., & Brennan, E. T. (2010). Prisons and rural Pennsylvania communities: Exploring the health of the relationship and the possibility of improvement. *The Prison Journal*, 90(1), 69-93.
- Cowan, S. (2003). NIMBY syndrome and public consultation policy: the implications of a discourse analysis of local responses to the establishment of a community mental health facility. *Health & social care in the community*, 11(5), 379-386.
- Daniels, T. (2008). Taking the initiative: Why cities are greening now. In Birch, E., & Wachter, S. (Eds.). *Growing greener cities: Urban sustainability in the twenty-first century* (pp. 11-27). Philadelphia: University of Pennsylvania Press.
- Dear, M. (1992). Understanding and overcoming the NIMBY syndrome. *Journal of the American Planning Association*, 58(3), 288-300.
- Dorshimer, K. R. (1996). Siting major projects & the NIMBY phenomenon: The Decker Energy project in Charlotte, Michigan. *Economic Development Review*, 14(1), 60.
- Denhardt, R. B., & Denhardt, J. V. (2000). The New Public Service: Serving Rather Than Steering. *Public administration review*, 60(6), 549-559.
- Denhardt, R. B., & Denhardt, J. V. (2011). Leadership. In Bevir, M. (Ed.). *The SAGE handbook of governance* (pp 419-435). Newbury Park, California: SAGE Publishing.
- Devine - Wright, P. (2005). Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy. *Wind Energy: An International Journal for Progress and Applications in Wind Power Conversion Technology*, 8(2), 125-139.
- Devine-Wright, P. (2007). Reconsidering public attitudes and public acceptance of renewable energy technologies: a critical review. *Beyond Nimbyism: a multidisciplinary investigation of public engagement with renewable energy technologies*, 15.
- Diao, X. X. (2014). *Explore the content and method of construction project environmental information disclosure*. Master's thesis. Suzhou University of Science and Technology.
- Drazkiewicz, A., Challies, E., & Newig, J. (2015). Public participation and local environmental planning: Testing factors influencing decision quality and implementation in four case studies from Germany. *Land Use Policy*, 46, 211-222.
- Eckerd, A. (2014). Risk management and risk avoidance in agency decision making. *Public Administration Review*, 74(5), 616-629.

- Etzioni, A. (2014). The Limits of Transparency. *Public Administration Review*, 38(6), 1-37.
- Evans, B., Joas, M., Sundback, S., & Theobald, K. (2005). *Governing sustainable cities*. London, England: Routledge.
- Fan, S. H. (2013). Government administration in NIMBY conflict. *Jinan Journal (Philosophy & Social Science Edition)*, 35 (3), 47-52.
- Farr, D. (2011). *Sustainable urbanism: Urban design with nature*. Hoboken, New Jersey: John Wiley & Sons.
- Feng, X. Y. (2010). *Local government competition*. Beijing: Yilin Press.
- Firestone, W. A. (1993). Alternative arguments for generalizing from data as applied to qualitative research. *Educational Researcher*, 22(4), 16-23.
- Florida, R. (2017). *The new urban crisis: How our cities are increasing inequality, deepening segregation, and failing the middle class—and what we can do about it*. New York, NY: Basic Books.
- Flyvbjerg, B., Bruzelius, N., & Rothengatter, W. (2003). *Megaprojects and risk: An anatomy of ambition*. Cambridge: Cambridge University Press.
- Fung, A. (2006). Varieties of participation in complex governance. *Public administration review*, 66, 66-75.
- Fung, T., Lesbirel, S. H., & Lam, K. C. (2011). *Facility siting in the Asia-Pacific: perspectives on knowledge production and application*. Hong Kong: Chinese University Press.
- Fung, A. (2015). Can Democracy Be Saved?: Participation, Deliberation and Social Movements. *Contemporary Sociology*, 44(1), 50–52. <https://doi.org/10.1177/00943061145622011>
- Freeman, R. E. (1984). *Strategic management: A stakeholder perspective*. Boston: Pitman.
- Glaeser, E. (2011). *Triumph of the city: How our greatest invention makes us richer, smarter, greener, healthier, and happier*. London, England: Penguin.
- Gowda, M. R., & Easterling, D. (2000). Voluntary siting and equity: The MRS facility experience in Native America. *Risk Analysis*, 20(6), 917-930.
- Gregory, R., Kunreuther, H., Easterling, D., & Richards, K. (1991). Incentives policies to site hazardous waste facilities. *Risk Analysis*, 11(4), 667-675.
- George, A. L., Bennett, A., Lynn-Jones, S. M., & Miller, S. E. (2005). *Case studies and theory development in the social sciences*. Cambridge, Massachusetts: MIT Press.
- Grimmelikhuijsen, S., Porumbescu, G., Hong, B., & Im, T. (2013). The effect of transparency on trust in government: A cross - national comparative experiment. *Public Administration Review*, 73(4), 575-586.

- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, 2(163-194), 105.
- Habitat, U. N. (2016). *World cities report 2016. Urbanization and development. Emerging futures*. Nairobi: UN Habitat.
- Hampton, G. (1996). Attitudes to the social, environmental and economic impacts of the construction of an armaments complex. *Journal of environmental management*, 48(2), 155-167.
- Hartley, N., & Wood, C. (2005). Public participation in environmental impact assessment—implementing the Aarhus Convention. *Environmental Impact Assessment Review*, 25(4), 319-340.
- He, Y. L. (2006). The conflict caused by “not in my back yard” and its solution: Analysis based on urban collective protest. *Public Management Research*, 4, 93-103.
- He, Y. L., & Chen, X. Y. (2012). How the resisting motive of common people group is formed in avoiding nearby conflicts. *Academic Research Journal*, (5), 55-63.
- Hjortsø, C. N. (2004). Enhancing public participation in natural resource management using Soft OR—an application of strategic option development and analysis in tactical forest planning. *European Journal of operational research*, 152(3), 667-683.
- HKLegCo. (2015). <https://www.legco.gov.hk/yr14-15/chinese/counmtg/hansard/cm20150507-translate-c.pdf>
- Hu, Y., SUN, Y., & Chen, Z. G. (2013). Collaborative governance in NIMBY facility planning: Lessons from site selection of two incineration power plants in Guangzhou. *City Planning Review*, (6), 16-19.
- Huang, H. J. (2012). NIMBY syndrome and NIMBY governance: Analysis of Location Selection of Solid Waste in Panyu. *Journal of Guangdong Radio & Television University*, 2, 024.
- Hughes, O. E. (2012). *Public management and administration: An introduction*. London, England: Palgrave Macmillan.
- Hunter, S., & Leyden, K. M. (1995). Beyond NIMBY: explaining opposition to hazardous waste facilities. *Policy Studies Journal*, 23(4), 601-619.
- IAIA (International Association of Impact Assessment). (2018). Retrieved from <https://www.iaia.org/pdf/UNEP/Manualcontents/top03.pdf>
- Ibitayo, O. O., & Pijawka, K. D. (1999). Reversing NIMBY: an assessment of state strategies for siting hazardous-waste facilities. *Environment and Planning C: Government and Policy*, 17(4), 379-389.
- ICLEL. (2017). Retrieved from https://www.iclei.org/en/what_we_do.html

- Inhaber, H. (1992). Of NIMBYs, LULUs, and NIMTOOs. *The Public Interest*, 107, 52-64.
- Inhaber, H. (1998). *Slaying the NIMBY dragon*. New Jersey: Transaction Publishers.
- Isaac Mwita, J. (2000). Performance management model: A systems-based approach to public service quality. *International Journal of Public Sector Management*, 13(1), 19-37.
- Jiang, M. W. (2017). Ministry of Environmental Protection: This year, the national environmental assessment agencies will not be associated with the environmental protection department. Retrieved from <http://www.bbtnews.com.cn/2017/0309/184428.shtml>
- Johnson, T. (2009). *Extending Environmental Governance: China's environmental state and civil society*. Doctoral dissertation. University of Glasgow.
- Johnson, T. (2010). Environmentalism and NIMBYism in China: promoting a rules-based approach to public participation. *Environmental Politics*, 19(3), 430-448.
- Johnson, T. (2011). Environmental information disclosure in China: Policy developments and NGO responses. *Policy & Politics*, 39(3), 399-416.
- Johnson, T. (2013). The health factor in anti-waste incinerator campaigns in Beijing and Guangzhou. *The China Quarterly*, 214, 356-375.
- Johnson, T. (2014). Good governance for environmental protection in China: Instrumentation, strategic interactions and unintended consequences. *Journal of Contemporary Asia*, 44(2), 241-258.
- Jopling, D. G. (1974). Plant site evaluation using numerical ratings. *Power Engineering*, 78(3), 56-59.
- Kathlene, L., & Martin, J. A. (1991). Enhancing citizen participation: Panel designs, perspectives, and policy formation. *Journal of Policy Analysis and Management*, 10(1), 46-63.
- Kati, V., & Jari, N. (2016). Bottom-up thinking—Identifying socio-cultural values of ecosystem services in local blue-green infrastructure planning in Helsinki, Finland. *Land Use Policy*, 50, 537-547.
- Koontz, T. M., & Newig, J. (2014). From Planning to Implementation: Top - Down and Bottom - Up Approaches for Collaborative Watershed Management. *Policy Studies Journal*, 42(3), 416-442.
- Koontz, T. M. (2006). Collaboration for sustainability? A framework for analyzing government impacts in collaborative-environmental management. *Sustainability: Science, Practice and Policy*, 2(1), 15-24.
- Kuhn, R. G., & Ballard, K. R. (1998). Canadian innovations in siting hazardous waste management facilities. *Environmental management*, 22(4), 533-545.

- Kunreuther, H., & Easterling, D. (1996). The role of compensation in siting hazardous facilities. *Journal of policy analysis and management*, 15(4), 601-622.
- Kunreuther, H., Fitzgerald, K., & Aarts, T. D. (1993). Siting noxious facilities: A test of the facility siting credo. *Risk Analysis*, 13(3), 301-318.
- Kraft, M. E., & Clary, B. B. (1991). Citizen participation and the NIMBY syndrome: Public response to radioactive waste disposal. *Western political quarterly*, 44(2), 299-328.
- Lai, Z. F. (2009). Reviews of national environmental impact assessment systems and the status of Taiwan's environmental assessment system. *Shih Chien Journal of Liberal Arts*, 7.
- Lake, R. W. (1993). Planners' alchemy transforming NIMBY to YIMBY: Rethinking NIMBY. *Journal of the American Planning Association*, 59(1), 87-93.
- Lam, K. C., & Brown, A. L. (1997). EIA in Hong Kong: effective but limited. *Asian Journal of Environmental Management*, 5, 51-66.
- Lam, K. C., Lee, W. Y., Fung, T., & Woo, L. Y. (2007). Challenges of Managing NIMBYism in Hong Kong. In International Conference on Siting of Locally Unwanted Facilities: Challenges and Issues (pp. 12-14). Hong Kong: The Chinese University of Hong Kong.
- Lee, Y. Z., & Lam, Q. X. Environmental Attitudes toward NIMBY Facility Renewal: A Taipei Case Study. *Urban and Planning*, 1998, 25(2): 134-153.
- Leverett, B., Hopkinson, L., Loh, C., & Trumbull, K. (2007). Leadership. In B. Leverett, L. Hopkinson, C. Loh, & K. Trumbull (Eds.). *Idling engine: Hong Kong's environmental policy in a ten year stall 1997-2007* (pp. 77-84). Hong Kong: Civic Exchange.
- Lesbirel, S. H. (1998). *NIMBY politics in Japan: energy siting and the management of environmental conflict*. Ithaca: Cornell University Press.
- Lesbirel, S. H. (2011). Facility siting: the theory-practice nexus. In Fung T, Lesbirel H. & Lam K. C (Eds.). *Facility siting in the Asia-Pacific: perspectives on knowledge production and application* (pp. 7-32). Hong Kong: The Chinese University Press.
- Leung, H. L. (2003). *Concise land use planning*. Beijing: China Land Press.
- Leung, H. L. (2008). *Economic, land and urban research ideas and methods*. Beijing: The Commercial Press.
- Leung, H. L. (2016). *Old concepts and new situations: human-centered urbanization*. Beijing: SDX Joint Publishing Company.

- Li, S. M., Chen, F., & Shao, Y. M. (2008). *Sustained and changed: Contemporary China's political, economic and social development space*. Hong Kong: The Hong Kong Educational Publishing Company.
- Li, T. H., Ng, S. T., & Skitmore, M. (2012). Public participation in infrastructure and construction projects in China: From an EIA-based to a whole-cycle process. *Habitat International*, 36(1), 47-56.
- Li, X. H. (2009). Negative Externality of Public Facilities and Its Solution. *Planners*, 25(12): 80-83.
- Li, Y., Homburg, V., De Jong, M., & Koppenjan, J. (2016). Government responses to environmental conflicts in urban China: the case of the Panyu waste incineration power plant in Guangzhou. *Journal of Cleaner Production*, 134, 354-361.
- Li, Y. (2016). *Governing Environmental Conflicts in China: Government responses to protests against incinerators and paraxylene (PX) plants*. PhD Thesis. Erasmus University Rotterdam.
- Li, Y. M., Yang, Y. J., Wang, B. X., & Chen, Q. Y. (2010). A Comparative Study of the EIA System between the Mainland, Taiwan and Hong Kong. The fifth symposium on low carbon economy and sustainable development in coastal areas of the Taiwan Straits.
- Libiszewski, S. (1991). What is an environmental conflict. *Journal of Peace Research*, 28(4), 407-422.
- Li, Z. L. (2015). *Comparative studies on Chinese and foreign government information management*. Beijing: Chinese Academy of Governance Press.
- Lin, Y.Q. (2011). *Social Contentions Event Resulting of Urban Important and Large Projects*. Master's Thesis. Fudan University.
- Lipset, S. M., Trow, M. A., & Coleman, J. S. (1956). *Union democracy: The internal politics of the International Typographical Union* (Vol. 14). Glencoe, IL: Free Press.
- Lober, D. J., & Green, D. P. (1994). NIMBY or NIABY: a logit model of opposition to solid-waste-disposal facility siting. *Journal of environmental management*, 40(1), 33-50.
- Lyu, W. X., & Wang, Y. G. (2010). The factors affecting government credibility from the perspective of public perceptions. *Journal of Huazhong Normal University (Humanities and Social Sciences)*, (4), 33-39.
- Lyu, X. Y. (2017). *Research on government performance management innovation*. Beijing: Economic and Management Publishing House.
- Ma, N. (2008). Civil Society and Democratization in Hong Kong Paradox and Duality. *Taiwan Journal of Democracy*, 4(2).

- Mao, S. L. (2004). Administrative accountability and procedural accountability. *Anhui Policy Making Consultation*, (8), 45-45.
- Mao, Y. G. (2014). Model and the direction of improvement of urban planning under NIMBY movement. Master's thesis. Tongji University.
- Matheny, A. R., & Williams, B. A. (1985). Knowledge vs. NIMBY: Assessing Florida's strategy for siting hazardous waste disposal facilities. *Policy Studies Journal*, 14(1), 70-80.
- Mayr, M., Tollin, N., Hamhaber, J., Grafakos, S., Lwasa, S., & Morato, J. (2017). *Sustainable urbanization in the Paris Agreement: Comparative review for urban content in the Nationally Determined Contributions (NDCs)*. Nairobi: United Nations Human Settlements Program.
- Mazmanian, D., & Morell, D. (1990). The 'NIMBY' Syndrome: facility siting and the failure of democratic discourse. *Environmental policy in the 1990s: Toward a new agenda*, 233-250.
- McAvoy, G. E. (1999). *Controlling technocracy: citizen rationality and the nimby syndrome*. Washington, D.C.: Georgetown University Press.
- McComas, K. A. (2001). Public meetings about local waste management problems: Comparing participants to nonparticipants. *Environmental Management*, 27(1), 135-147.
- Michaud, K., Carlisle, J. E., & Smith, E. R. (2008). Nimbyism vs. environmentalism in attitudes toward energy development. *Environmental Politics*, 17(1), 20-39.
- Miles, M. B., Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Newbury Park, California: Sage Publishing.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis*. Newbury Park, California: Sage Publishing.
- Nadeem, O., & Fischer, T. B. (2011). An evaluation framework for effective public participation in EIA in Pakistan. *Environmental Impact Assessment Review*, 31(1), 36-47.
- Naddeo, V., Belgiorno, V., Zarra, T., & Scannapieco, D. (2013). Dynamic and embedded evaluation procedure for strategic environmental assessment. *Land use policy*, 31, 605-612.
- NDRCPRC. (2014). National New Urbanization Plan (2014-2020). Retrieved from http://ghs.ndrc.gov.cn/zttp/xxczhjs/ghzc/201605/t20160505_800839.html
- Ng, M. K. (2004). Sustainable development and planning. In Mottershead, T. (Ed.). *Sustainable development in Hong Kong* (pp. 293-322). Hong Kong: Hong Kong University Press.
- Ng, K. L., & Obbard, J. P. (2005). Strategic environmental assessment in Hong Kong. *Environment international*, 31(4), 483-492.

- Ng, J. X. (2015). Retrieved from <http://news.163.com/15/0123/16/AGLIQLPG00014SEH.html>
- Ng, T. S., Skitmore, M., Tam, K. Y., & Li, T. H. (2014). Public engagement in major projects: the Hong Kong experience. In *Proceedings of the Institution of Civil Engineers: Municipal Engineer* (Vol. 167, No. 1, pp. 22-31). Institution of Civil Engineers, UK.
- Noble, B., & Bronson, J. (2006). Practitioner survey of the state of health integration in environmental assessment: The case of northern Canada. *Environmental Impact Assessment Review*, 26(4), 410-424.
- Noble, B., & Storey, K. (2005). Towards increasing the utility of follow-up in Canadian EIA. *Environmental Impact Assessment Review*, 25(2), 163-180.
- Nordhaus, T., & Shellenberger, M. (2007). *Break through: From the death of environmentalism to the politics of possibility*. Boston: Houghton Mifflin Harcourt.
- O'Faircheallaigh, C. (2010). Public participation and environmental impact assessment: Purposes, implications, and lessons for public policy making. *Environmental impact assessment review*, 30(1), 19-27.
- O'Hare, M. (1977). *"Not On My Block You Don't"-Facilities Siting and the Strategic Importance of Compensation*. Massachusetts Institute of Technology Laboratory of Architecture and Planning.
- Pepper, D. (1996). *Modern environmentalism: An introduction*. London, England: Psychology Press.
- Petts, J. (2003). Barriers to deliberative participation in EIA: learning from waste policies, plans and projects. *Journal of Environmental Assessment Policy and Management*, 5(03), 269-293.
- Petrova, M. A. (2013). NIMBYism revisited: public acceptance of wind energy in the United States. *Wiley Interdisciplinary Reviews: Climate Change*, 4(6), 575-601.
- Perry, E. J. (2008). Chinese conceptions of "rights": From Mencius to Mao—and now. *Perspectives on Politics*, 6(1), 37-50.
- Post, J. E., Preston, L. E., & Sachs, S. (2002). Managing the extended enterprise: The new stakeholder view. *California management review*, 45(1), 6-28.
- Porumbescu, G. A. (2015). Using transparency to enhance responsiveness and trust in local government: Can it work?. *State and Local Government Review*, 47(3), 205-213.
- Pulido, L. (1996). A critical review of the methodology of environmental racism research. *Antipode*, 28(2), 142-159.

- Quah, E., & Tan, K. C. (2002). *Siting environmentally unwanted facilities: Risks, trade-offs, and choices*. Cheltenham: Edward Elgar Publishing.
- Rahardyan, B., Matsuto, T., Kakuta, Y., & Tanaka, N. (2004). Resident's concerns and attitudes towards Solid Waste Management facilities. *Waste management*, 24(5), 437-451.
- Raworth, K. (2017). *Doughnut economics: seven ways to think like a 21st-century economist*. London, England: Chelsea Green Publishing.
- Rhenman, E. (1964). *Företagsdemokrati och företagsorganisation*. SAF Norstedt.
- Rome, A. (2001). *The bulldozer in the countryside: Suburban sprawl and the rise of American environmentalism*. Cambridge: Cambridge University Press.
- Rosenbloom, D. H., Kravchuk, R. S., & Clerkin, R. M. (2009). *Public administration: Understanding management, politics, and law in the public sector*. New York, NY: McGraw-Hill.
- Schneider, E., Oppermann, B., & Renn, O. (2005). Implementing Structured Participation for Regional Level Waste Management Planning. In Lesbirel, S., & Shaw, D. (Eds.), *Managing conflict in facility siting: An international comparison* (pp. 135-154). Cheltenham: Edward Elgar Publishing.
- Sellers, J. M. (2011). State-Society. In Bevir, M. (Ed.). *The SAGE Handbook of Governance* (pp. 124-141). Newbury Park, California: Sage Publishing.
- Shen, R. S. (2014). Infrastructure construction needs to change engineer-thinking way. Shanghai Wenhui. Retrieved from http://wenhui.news365.com.cn/html/2014-10/14/content_4.htm
- Smith, V. K., & Desvousges, W. H. (1986). The value of avoiding a LULU: hazardous waste disposal sites. *The Review of Economics and Statistics*, 293-299.
- Sowa, J. E., & Lu, J. (2017). Policy and management: Considering public management and its relationship to policy studies. *Policy Studies Journal*, 45(1), 74-100.
- Speth, J. G. (2004). *Red sky at morning: America and the crisis of the global environment*. New Haven: Yale University Press.
- StatsPRC. (2018). Retrieved from http://www.stats.gov.cn/tjsj/zxfb/201802/t20180228_1585631.html.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Newbury Park, California: Sage Publishing.
- Sun, A. J. (2016). How can urban planning as a public policy be better implemented?. Retrieved from <https://mp.weixin.qq.com/s/S5QoxK0p-6FAPwZvp2sUAA>

- Sun, Y. (2015). Facilitating generation of local knowledge using a collaborative initiator: A NIMBY case in Guangzhou, China. *Habitat International*, 46, 130-137.
- Sun, L. L., & Zhu, D. J. (2014). The causes, status que and response strategies for urban NIMBY events and the directions of their future research. *Public Administration and Policy Review*, 8(3), 28-36.
- Sun, L., Zhu, D., & Chan, E. H. (2016). Public participation impact on environment NIMBY conflict and environmental conflict management: Comparative analysis in Shanghai and Hong Kong. *Land Use Policy*, 58, 208-217.
- Sun, L., Yung, E. H., Chan, E. H., & Zhu, D. (2016). Issues of NIMBY conflict management from the perspective of stakeholders: A case study in Shanghai. *Habitat international*, 53, 133-141.
- Takahashi, L. M. (1997). Information and attitudes toward mental health care facilities: Implications for addressing the NIMBY syndrome. *Journal of Planning Education and Research*, 17(2), 119-130.
- Takahashi, L. M., & Dear, M. J. (1997). The changing dynamics of community opposition to human service facilities. *Journal of the American Planning Association*, 63(1), 79-93.
- Tang, S. Y., Tang, C. P., & Lo, C. W. H. (2005). Public participation and environmental impact assessment in mainland China and Taiwan: Political foundations of environmental management. *The Journal of Development Studies*, 41(1), 1-32.
- Tang, B. S., Wong, S. W., & Lau, M. C. H. (2008). Social impact assessment and public participation in China: A case study of land requisition in Guangzhou. *Environmental Impact Assessment Review*, 28(1), 57-72.
- Tang, C. P., & Chiu, C. Y. (2010). Professionalism and democracy: the operation and adaptation of environmental impact assessment in Taiwan. *Journal of Public Administration*, 35, 1-28.
- Tao, P. & Tong, X. (2010) Governance of Mass Disturbance which Caused by NIMBY. *Nanjing Social Science*, (008): 63-68.
- Thomas, J. C. (1995). *Public participation in public decisions: New skills and strategies for public managers*. San Francisco: Jossey-Bass.
- The World Development Report. (1997). *1997: The State in a changing world*. Retrieved from <https://openknowledge.worldbank.org/handle/10986/5980>
- World Bank. (2010). World Development Report 2010: Development and climate change. Retrieved from <https://openknowledge.worldbank.org/handle/10986/4387>

- Third Plenary Session of the 18th Central Committee of the Communist Party of China. (2013). Retrieved from http://www.china.org.cn/chinese/2014-01/16/content_31213800.htm
- Thomas, J. C. (2013). Citizen, customer, partner: Rethinking the place of the public in public management. *Public Administration Review*, 73(6), 786-796.
- UNCHS (United Nations Centre for Human Settlements). (1996). *An urbanizing world: global report on human settlements*. Oxford: Oxford University Press.
- U. N. (2015). Retrieved from <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- Van der Horst, D. (2007). NIMBY or not? Exploring the relevance of location and the politics of voiced opinions in renewable energy siting controversies. *Energy policy*, 35(5), 2705-2714.
- Waheduzzaman, W., Van Gramberg, B., & Ferrer, J. (2018). Bureaucratic Readiness in Managing Local Level Participatory Governance: A Developing Country Context. *Australian Journal of Public Administration*, 77(2), 309-330.
- Wang, Z. & Wang, Z. (2016). 2050 Shanghai development vision. Shanghai: Shanghai Academy of Social Science Press.
- Walsh, E., Warland, R., & Smith, D. C. (1993). Backyards, NIMBYs, and incinerator sitings: Implications for social movement theory. *Social Problems*, 40(1), 25-38.
- Wolsink, M. (2000). Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support. *Renewable energy*, 21(1), 49-64.
- Wolsink, M. (2007a). Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation. *Energy policy*, 35(5), 2692-2704.
- Wolsink, M. (2007b). Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives'. *Renewable and sustainable energy reviews*, 11(6), 1188-1207.
- Wolsink, M., & Devilee, J. (2009). The motives for accepting or rejecting waste infrastructure facilities. Shifting the focus from the planners' perspective to fairness and community commitment. *Journal of environmental planning and management*, 52(2), 217-236.
- Woo, L. Y. (2010). *Trust and Public Perception: Insights for Facility Siting in Hong Kong*. Hong Kong: The Chinese University of Hong Kong.
- Wong, J. M. W., Li, T. H. Y., & Ng, S. T. (2012). Rethinking public participation in infrastructure projects. *Municipal Engineer*, 165(2): 101-113.

- Wu, J., Chang, I. S., Bina, O., Lam, K. C., & Xu, H. (2011). Strategic environmental assessment implementation in China—five-year review and prospects. *Environmental Impact Assessment Review*, 31(1), 77-84.
- Wu, Q. (2015). Urgent time to revise the law on environmental impact assessment. Retrieved from <http://www.chinalawinsight.com/2015/03/articles/corporate/mergers-acquisitions/环评法修改刻不容缓/>
- Wu, Z. Q., & Li, D. H. (2010). *Principles of urban planning fourth edition*. Beijing: China Architecture and Building Press.
- Xia, Z. H. (2008). Shortage of environmental rights of China's public from the view of social exclusion. *China Population Resources and Environment*, 2, 49-54.
- Xue, F.X., Xia, B.C., Xu, Z.H., & Li, Y., (2011). *Make cleaner city Hong Kong*. Hong Kong: Hong Kong Joint Publishing Co., Ltd.
- Yan, Y. (2011). NIMBY: environmental civic society and social fairness in China. In Fung, T., Lesbirel, H., & Lam, K. C. (Eds.). *Facility siting in the Asia-Pacific: perspectives on knowledge production and application* (pp. 257-272). Hong Kong: The Chinese University Press.
- Yang, K., & Miller, G. J. (2007). *Handbook of research methods in public administration*. Boca Raton: CRC press.
- Ye, S. T. (2001). 500kv Hongyang power transmission and transformation project for the New Century. *Shanghai Electric Power*, (2), 9-11.
- Yin, R. K. (2002). *Case study research: design and methods third edition*. Newbury Park, California: Sage Publishing.
- Yung, E. H., & Chan, E. H. (2012). Implementation challenges to the adaptive reuse of heritage buildings: Towards the goals of sustainable, low carbon cities. *Habitat International*, 36(3), 352-361.
- Zeng, J. (2014). Conflict and coordination of public participation in NIMBY facilities EIA: a case study on Beijing-Shenyang passenger railway line project. *Environment and Sustainable Development*, 39 (5), 124–127.
- Zhang, F., Zhang, X., & Xu, J. G. (2013). The whole process study of NIMBY effect for risk aversion based on multi-agent inclusion. *Modern Urban Research*, 2, 005.
- Zhang, L., & Tong, X. (2013). Social generative mechanism for NIMBY actions. *Journal of Jiangsu Administration Institute*, (1), 64-70.
- Zhang, X. H., Peng, X.Y., Liu, F. & Peng, L. (2011). NIMBY analysis of refuse disposal sites in Chongqing. *Techniques and Equipment for Environmental Pollution Control*, 05(6), 1363-1369.

- Zhang, Z. Z. (2014). Responsiveness, credibility and government process: a theoretical picture of government information. *Journal of the Party School of Tianjin Committee of the CPC*, 16(5), 106-112.
- Zheng, W. (2007). Research into the countermeasures of enhancing governmental responding responsibility. *Journal of Socialist Theory Guide*, (9), 10-12.
- Zheng W. (2009). *Research on conflicts of urban public facilities planning*. Doctoral dissertation. Tongji University.
- Zheng, W. (2011). Dilemma in NIMBY facility planning: A case study of magnetically levitated train in Shanghai. *City Planning Review*, (2), 74-81.
- Zheng, W. (2012). The radiation conflict of substation question scientific planning: A conflict analysis of Shanghai 500 Kv Hongyang substation. Retrieved from: <http://www.ifengcity.net/shownews.asp?id=1183>.
- Zheng, W. (2013). Predicament of public participation in the planning of NIMBY facilities in China: a case study on planning of garbage incineration powerplant in Liulitun, Beijing. *Urban Planning*, 8, 66–71.
- Zheng, W., Shi, J. & Ouyang, L. (2015). Planning conflict concerning non-selfish NIMBY facilities: A case study of Hongyang substation incident in Shanghai. *Urban Planning*, 6, 73–78.
- Zhou, H. H. (2015). Data disclosure and break the obstacle of government information. Retrieved from <http://society.people.com.cn/n/2015/1125/c1008-27852022.html>
- Zhu, D. J. (2004). *Managing urban development: Models of sustainable development in urban management*. Shanghai: Tongji University Press.
- Zhu, D. J. (2011). NIMBY syndrome tests social management capability. Shanghai wenweipo.
- Zhu, D. J. (2012). Retrieved from <https://m.weibo.cn/1798330264/3423040887073823>
- Zhu, D. J. (2013). *ZHU Dajian Academic Diary (2011)*. Shanghai: Tongji University Press.
- Zhu, D. J., Liu, S. Y., Wang, H. M., & Zhu, D. M. (2014). *New models of policy analysis*. Shanghai: Tongji University Press.
- Zhu, D. J., Chen, H. Y., & Xu, J. (2015). Sustainable development and governance--theories and methods of sustainability science. Shanghai: Tongji University Press.
- Zhu, D. J. (2015). Retrieved from <https://m.weibo.cn/1798330264/3819828550981644>
- Zhu, D. J. (2016a). Urban smart management is the thinking revolution. Retrieved from http://www.xinhuanet.com/city/2016-08/18/c_129237109.htm

- Zhu, D. J. (2016b). Three dimensions on analyzing NIMBY conflicts. Retrieved from <http://mp.weixin.qq.com/s/qxoGCRXC2uo-lrEtUbF0kg>
- Zhu, D. J. (2016c). Sustainability science: an object-process-subject analytical framework. *China Population, Resources and Environment*, 26(7), 1-9.
- Zhu, D. J. (2018). 3×4 sustainability management [20180918]. Retrieved from https://mp.weixin.qq.com/s/FtGumvtvuWUH15qpy_DZeg