



3rd International Conference

on Public Policy (ICPP3)

June 28-30, 2017 – Singapore

Panel T08P09 Session 2

Nuclear Power after Fukushima

Suppression or Concession:

**The Strategies of Local Governments in Response to Public
Opposition to Nuclear Projects in China**

Author(s)

Yuming, Wei, School of Public Policy and Management

Tsinghua University, China, email: weiyum15@mails.tsinghua.edu.cn

Yue, Guo, John. F. Kennedy School of Government

Harvard University, United States, email: jason.guoyue@gmail.com

Date of presentation

June, 30th

[Preliminary draft. Do not cite it without authors' permission]

Abstract

After the Fukushima nuclear accident, the nuclear program becomes a new cause of NIMBY movements in China. In order to deal with public opposition to this kind of programs, local governments bring public communication into the policy process. In this article, I chose four cases of nuclear programs and used a comparative case study method to analyze different approaches that local governments took in different situations and the role of public communication in the decision-making process. I found four types of actions that governments used to resolve dissents: concession, conditional concession, cold treatment and suppression. The final decision on which action to take is affected by the degree of public opposition as well as the risk perception of the local government. The traditional Decide-Announce-Defend model which reflects the policy process of local governments has expanded to “Decide and Public Communicate”-Announce-“Defend and Act” because of rising public salience and this new model endows the actions of local governments with procedural justice and legitimacy.

Keywords: Public opposition; Nuclear program; Local government; Action; Public communication

Introduction

Faced with the increasingly serious problem of global warming, more and more countries have taken measures to reduce carbon emissions. Nuclear energy has been promoted as an important alternative energy source in China to address climate change and energy shortage problems. The construction scale of nuclear power plants in China at present is the largest in the world. By the end of December 2016, there are 31 nuclear reactors in operation with a capacity of 29.69GW and 23 under construction with a capacity of 26.09GW in mainland. On 7 November 2016, the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA) released the 13th Five-Year Plan for Electric Power Development. According to the plan, by the year 2020, the installed nuclear power capacity in service and under construction in China should respectively be 58 GW and 30 GW. This means the amount of nuclear power reactors in service should be double and the energy output of nuclear power stations should grow at an annual rate of 16.5 percent in the next five years.

However, nuclear power development has not always been a smooth process around the world, including in China, and it has been especially affected by catastrophic nuclear accidents. The Chinese government once suspended all applications for construction of new nuclear programs and undertook a comprehensive safety inspection of all operating and planned nuclear power stations following the Fukushima nuclear accident (Huang, et al., 2013; King and Ramana, 2015). However, in the face of growing energy demand as well as the commitment of tackling climate change,

developing nuclear power is still a choice that the Chinese government cannot reject. When China re-initiated its nuclear power production efforts in 2013 after a two-year hiatus, the Chinese government faced civic unrest and social protests over its ambitious plans to build more nuclear power plants, which is known as the “not-in-my-backyard” (NIMBY) strategy (Wolsink, 1994, 2000). In July 2013, within the announcement period of the China National Nuclear Cooperation (CNNC) Longwan Industrial Park Project Social Stability Risk Assessment, public protests in resistance against the local construction of nuclear fuel factory erupted in Heshan, which is a county-level city in Jiangmen in the southern part of Guangdong Province. The local government eventually canceled the project. In August 2016, citizens' protested against the location of a nuclear fuel recycle factories erupted in Lianyungang, and forced the local government to suspend preliminary work on the site in the end. Public opposition has directly influenced the development of China's nuclear power and has also put huge pressure on social public order.

As the main executor of national policies, local governments always utilize administrative control or economical compensation strategies to resolve public opposition and prevent mass disturbances. Nevertheless, we can find that the two strategies are not effective sometimes and mass disturbances still happen. Therefore, we put forward our first problem: ***When the coping strategies to public opposition of the local government can avoid mass disturbances successfully and when they cannot?*** Furthermore, not all mass disturbances result in concession of the local government and termination of the nuclear program. The local government routinely goes its own way

to continue the nuclear program despite public protests. Accordingly, we put forward our second problem: *In the face of mass disturbances, under what conditions does the local government compromise and under what conditions does the local government stand its ground?*

We chose four cases of planned nuclear programs which have been opposed by some citizens and used a comparative case study method to analyze the difference of governments' actions in diverse situations. The use of comparative case study helps us to find the conditions that determine when local governments stick to their initial plan and try to silence most dissenting voices and when local governments change their attitudes and prepare to compromise.

The structure of the article is as follows. First, we briefly introduce our theoretical framework. The method, empirical cases and data are described subsequently. The analysis and results are shown in the following section. The final section draws a conclusion and discusses the contribution and the shortage of this study.

Theoretical Foundation

In this section, two main issues are discussed: strategies of local governments dealing with public opposition and affecting factors of government attitude. Previous studies on these issues have laid a solid theoretical foundation for the research on actions of local governments in dealing with public opposition to nuclear programs.

Coping strategies of local governments to public opposition

Traditional policy making process for nuclear programs siting of local

governments in China is on the basis of Decide-Announce-Defend (DAD) model (Ducsik, 1981; Ma and Li, 2015). This means the site selection is decided by the interaction between the central government, local governments, and state-owned enterprises (SOEs), while the public are left out in the policy process. After the site being decided, the government makes it public. If the decision does not cause large-scale public protests, the construction will continue. By contrast, if the decision causes large-scale public protests, the government will defend to the rationality of the decision make public accept it.

However, with the rapid development of the Internet and social media, public awareness of democracy strengthens gradually. Industrial projects that could potentially have significant environmental and public health impacts can easily cause NIMBY syndrome (Wolsink, 1994, 2000). At same time, local governments' credit power is descending due to various reason, and this makes the government fall into "Tacitus Trap" (Ma and Li, 2015), which creates serious influence to crisis management and the other work. In recently years, social management has become one of the main causes that can be equally, if not more, important with economic development in Chinese local official accountability. For Chinese local governments, maintaining social stability has become a "hard target" (O'Brien and Li, 2006). Hence, a lot of local governments are operating according to the logic of stableness, the main feature of which can be taken as doing whatever they can to avoid mass disturbances (He and Liu, 2010; Zhong, 2011). During social conflicts caused by industry projects that related to the environmental problems, local governments need to balance the economic benefits and environmental and social

impacts of these projects and then take appropriate measures such as administrative control and economic compensation (Mertha, 2009; Lang and Xu, 2013; Ran, 2013). Local governments are always in a passive position in dealing with public opposition because of the lack of necessary information collection and prevention mechanism (Wong, 2015).

After Japan's Fukushima nuclear accident in 2011, there is a surge of anti-nuclear sentiment all over the world. Public acceptance of nuclear programs in China has sharply decreased by more than 15% (Kim, Kim and Kim, 2013). In the past five years, several mass disturbances have happened to against nuclear programs siting, the “Defend” in DAD model is no longer as effective as before. Therefore, the government starts trying to change the DAD model and bring public into the policy process (Komendantova & Battaglini, 2016). Some studies have pointed out that since public acceptance has become a more and more significant factor that determines whether planned nuclear programs can be completed stably and successfully (Stoutenborough, et al., 2013), the government has already actively adopted a variety of ways such as public communication to increase public trust and acceptance of nuclear programs (He, et al., 2013; Guo and Ren, 2017). It has been suggested that the explanatory model of governance in China is termed “responsive authoritarianism”, which means that the Chinese government is responsive to citizens’ views and demands on the premise of social stability (Rooij, et al., 2014). Some researches has reported that responses can take different forms such as consultation, cooperation, public communication, and widening policy space strategically (Howell, 2016; Jing, 2017). The government can

respond by providing the desired outcome or taking other actions that can help generate desired outcomes. The government may also respond by informing those who are making demands how they can advocate for a desired policy or how they can obtain desired benefits (Chen et al., 2016). Existing studies have revealed four different kinds of actions that Chinese local governments tend to adopt to cope with public opposition: ignoring, repressing, compromising with discipline (i.e., meeting part of the demands but also punishing some protestors), and total compromising by meeting all the demands (Cai, 2010; Li, et al., 2016)

Affecting Factors of Government Attitude

Various scholars have studied the factors of government attitude towards public opinion. In organizational theory, the response of government towards public opinion is seen as a kind of interaction among the internal subsystems of public organization and the external environment. The external environment can be divided into two categories: the institutional environment that focuses on legitimacy and technical environment which is efficiency-oriented (Meyer, 1977; Zhou, 2003).

Researches of the Western democracies are more inclined to explain changes in government attitude towards social movement and public opposition from institutional perspective. These discussions are concerned about factors of constructing the legitimacy of politics. Some scholars pointed out that political opportunity structure which is comprised of specific configurations of resources, institutional arrangements and historical precedents for social mobilization is the crux of the matter (Kitschelt, 1986; Amenta, et al., 2005; Rootes, 2006; McCammon, et al., 2007).

Under the representative democratic institution, public opinion and the focus of main media are closely related with the election results. Therefore, politicians always make full use of each political opportunity to win votes (Burstein and Linton, 2002). External shocks such as a major war or economic or political crisis, which make it easier to get lots of attention and provide so-called political opportunity, can play important roles in determining the social movement outcome (Goldstone, 1980). Besides the occurrence of external events, political changes due to the electoral cycle also indicate the emergence of political opportunity (Bueren, 2003). Political mediation theory holds that the political contexts is a mediator factor between social movement and policy outcome which represents government attitude. An undemocratic polity and a patronage-oriented party system can deaden the influence of public opposition and make it more difficult to change government attitude (Amenta, et al., 2005).

But in China, things are different. As a single-party, non-democratic authoritarian regime, the legitimacy of local governments comes from the central government. And the national mainstream media are usually mouthpieces of key central government leaders. Thus, the central government's attitude towards public opposition, which is signified through the position of the national mass media or the multi-channel intervention, can be the decisive factor of local governments (O'Brien and Li, 2006; Li, et al., 2016)

Some studies have also pointed that the attitudes of local governments are relevant to their risk early warning system. In China, local government are still concentrating in post-treatment during NIMBY conflict. The lack of conflict and risk early warning

system makes it hard for local governments to take effective measures to cope with public opposition especially in places where NIMBY conflicts have not happened before (Tan and Hu, 2014; Chen and Li, 2016). Although the central government has required that local governments must conduct social stability and risk assessment before making important decisions. However, the assessment often become a mere formality in practice for the reason that local governments view pragmatic development as their fundamental goals and given the assessment result may set back the decision-making efficiency, local government are unwilling to apply this kind of practice (Hu and Wang, 2014; Li and Zhu, 2015; Xie, 2016; Jing, 2017).

In addition to the factors of institutional environment, scholars also suggest a number of factors which are efficiency-oriented. From the view of the technical environment, the interaction between the government and the public can be seen as a quasi-game. In most cases, governments make choices based on a cost-benefit analysis. Therefore, the interest groups, the involvement of activists, the economic cost of ongoing collective action, the potential social risks, the cost of accommodating public demands and other factors all influence the response of government (Cai, 2010; McAdam and Boudet, 2012; Li, et al., 2016)

Studies on collective resistance in China suggest that Chinese local governments are sensitive to social unrest, they tend to change their initial decision when they find the public protests may incite social unrest (O'Brien and Li, 2006). Some scholars have found that the scale of protests is one of the most important factors in shaping the decisions of local governments. Large-scale organized protests are more likely to

pressurize them to change their attitude and decisions (Cai, 2010; McAdam and Boudet 2012; Han, 2015). And if the protesters are able to use violence or various network resources such as social media, journalists, NGOs and experts which can expand their social influence and exert pressure on local governments, small-scale protests can also be successful (McAdam, 1983; Shi and Cai, 2006; Tarrow, 2011). The economic costs involved in safeguarding stability for ongoing mass protests and resolving public demands exert an influence on government decisions during social conflicts. If local governments consider it too costly to meet the public demands, they may ignore these demands and resort to repression. (Cai, 2008). On the contrary, when public demands do not bear high costs, for example, the fighting for the siting of new facilities, or the opposition to the programs that are in early stages is more likely to be successful (Kemberling and Roberts, 2009; Cai, 2010).

Method

Comparative Case Study

This article is organized around two research questions: (1) Faced with public opposition to nuclear programs, how do local governments make decisions? (2) What are the impacts of public communication on government decision-making?

In order to explore these questions, I utilize a comparative case study approach to examine the relationships between strategies of local governments and factors affecting government attitude. This method has a unique advantage in finding institutional theories and explanation and is suitable for process research (Langley, et al., 2013). By

providing detailed explanations that surveys methods miss, case studies offer the prospect of new insights into the connections and interactive mechanisms among variables (Eisenhardt, 1989; Yin, 1989).

The interaction between local governments and citizens are always complex and dynamic. As a research strategy which focuses on understanding the dynamics present within single settings, longitudinal case study design can help track the key nodes and identify causalities, which are crucial to the establishment of internal validity (Yin, 1984; Eisenhardt, 1989). Each case is analogous to an experiment, and multiple cases are analogous to multiple experiments. Therefore, comparative case study design can be used to establish a research framework by quasi-experimental logic and analyze the relationship between cause and effect from the perspective of different combinations of the affecting factors. It is of great value in improving external validity (Eisenhardt and Graebner, 2007; Wei, et al., 2014).

Case Selection

The using of nuclear technology has been controversial continuously. Especially after Japan's Fukushima nuclear accident, the voice of opposition has been becoming louder and louder (Kim, Kim and Kim, 2013). This has a profound influence on the growth of nuclear power in China. In order to increase citizens' knowledge and reduce their fear of nuclear power, and strengthen government decision-making transparency and openness at the same time, the Chinese National Nuclear Safety Administration calls on local governments to communicate with citizens before making decisions of the location and the construction of nuclear programs. Up to now, public

communication has been carried out on more than twenty nuclear programs planned or under construction and has achieved positive results.

In discussions about the case study method, the cases selection should be focal (Eisenhardt, 1989). Meanwhile, given the limited number of cases which can be studied, it makes sense to choose cases such as extreme situations and polar types in which the process of interest is "transparently observable" (Pettigrew, 1990) Given these two considerations, I select the Lufeng nuclear power station, the Jiangmen nuclear fuel factory program, the Taipingling nuclear power station and the Dalian China National Nuclear Corporation (CNNC) irradiation program as four cases for study. Table 1 gives brief introductions of the four cases.

Case	Location	Period	Brief Introduction
The Jiangmen nuclear fuel factory program	Jiangmen City, Guangdong Province	July,2013	<ol style="list-style-type: none"> 1. It is the first nuclear fuel program publicized; 2. The local government did not investigate public attitudes before the program being published, the risk perception of the local governments was low. 3. When the program was made public, it drew violent opposition and caused the massive event involving about 1000 local residents. 4. The local government finally compromised and canceled the program.
The Lufeng nuclear power station	Shanwei City, Guangdong Province	March, 2014	<ol style="list-style-type: none"> 1. The program was selected as one of the policy experimentation units of public communication by the NNSA; 2. The risk of social instability was at stake because of Hongshuwan and Wukan protests, and the risk

			<p>perception of the local governments was high.</p> <ol style="list-style-type: none"> When the program was made public, the citizens expressed their opposition through the Internet, and media of Hong Kong and Macao also followed the issue and escalate it; The government deleted all the Internet posts and the main activists were investigated and held accountable.
The Taipingling nuclear power station	Huizhou City, Guangdong Province	December, 2014	<ol style="list-style-type: none"> Public communication was carried out building on successful experiences of the Lufeng nuclear program; The risk of social instability was at stake because of Boluo protests, and the risk perception of the local governments was high; When the program was made public, it aroused strong opposition, and citizens established the anti-nuclear groups, expressed their voice through petition, banners and massive events involving hundreds of local residents and even Hong Kong citizens; Neighboring districts like Shenzhen-Shanwei Special Cooperation Zone also working against the program; The local government met the demands of opponents in a variety of ways, and investigated and held accountable the main activists.
The Dalian CNNC irradiation program	Dalian City, Liaoning Province	April, 2015	<ol style="list-style-type: none"> This is an expansion program of an irradiation research institution, which has studied on irradiation for 30 years, the risk perception of the local

-
- governments was low;
 2. When the program was made public, the citizens expressed their opposition and called vote to against it through the Internet;
 3. The local government used the strategy of “cold treatment”, it did not deleted the Internet posts and did not respond officially as well, but released a science popularization post about irradiation through an unofficial network account.
-

Table 1 The Four Cases and Their Key Characteristics

Data Collection and Analysis

As for data collection, some scholars have suggested that multiple data source should be used in qualitative research to increase the reliability and validity (Glaster and Strauss, 1967). In this study, I carry out field surveys in Jiangmen, Shanwei, Huizhou and Dalian, conduct in-depth interview with over 40 interviewers including government officials, businessmen, experts, journalists, anti-nuclear NGO members and common people. At the same time, I collect work diaries, work reports, archives, media reports and other kinds of text data as well. The combination of file data and real-time data makes us avoid the problems of retrospective explanation and impressive management, and improved the reliability of our study (Eisenhardt and Graebner, 2007).

Within-case analysis and cross-case comparison are used in data analysis (Eisenhardt, 1989). At first, the process of public communication on this two nuclear programs are shown, and the cross-validation of data from different sources are made. The times and particular situations of public opposition during the process of public

communication are picked up, and actions of local governments dealing with public opposition in different situations are described meticulously. Then, the two cases are compared to each other to analyze and find out strategies of local governments. Furthermore, I make theoretical dialogue with existing literature during our study in order to build our theory. I also add field data continuously on the basis of the gap between our theory and existing literature to make the theory become more fullness (Eisenhardt, 1989; Eisenhardt and Graebner, 2007; Wei, et al., 2014). The final result of the research is presented on the normal form of case studies, that is, focusing on narrating the story and showing the theory I have built.

Results and Discussion

Case Analysis

The four cases have some similarities. These nuclear programs are all located in high-risk anti-nuclear areas. Dalian is close to Japan. Jiangmen, Shanwei, where the Lufeng nuclear power station is located and Huizhou, where the Taipingling nuclear power station is located, are both near Hong Kong and Macao. After Japan's Fukushima nuclear accident, public opinions in South Korea, Taiwan, Hong Kong, Macao and northeastern China, where people may be directly affected by the contaminated radioactive water, were turning sharply against nuclear power. These four cities belong to Chinese eastern coastal regions, the levels of economy development and urbanization in these places are relatively high. People's consciousness of civil rights is strong, and public protests have frequently happened over the years. Moreover, all the programs

are newly proposed and in the early phase of construction when they are opposed.

Nevertheless, there are also many differences between these four cases.

(1) The degree of public opposition

Although these four programs are all located in areas where surges of anti-nuclear sentiment exist, the degree of public opposition to these programs varies. The public opposition to the Jiangmen nuclear fuel factory program is seen as the first large-scale anti-nuclear protest to the domestic nuclear program in China after the Fukushima nuclear accident. When this program was made public on 4 July 2013, it immediately drew violent opposition. The local government received more than twenty thousand e-mails from citizens who objected to the program. No matter how the government explained the safety of the program, nobody believed it. Even some of deputies of the NPC and the CPPCC disagreed with the construction as well. Some people also put pressure on the government of Guangdong province through the Macao government. From 12 July 2013 to 14 July 2013, the public opposition evolved into a massive event: about 1000 residents surrounded the municipal government asking for nullification of the program, and some of the activists came from Hong Kong and Macao. It is this anti-nuclear protest that makes the Chinese government attaches great importance to public communication about nuclear programs.

The heated opposition also happened to the Taipingling nuclear power program. Most of the residents are fishermen or factory owners, and half of them are domiciled in Hong Kong. They are worried about the construction of nuclear power may be detrimental to the inshore fishing and product manufacturing. Therefore, before the

program being made public, some residents who had heard the news expressed their voice through petition and pulling banners along the road. In the meantime, some residents in Huangbu Town, Huidong County, the program site, established a non-government organization named “Huangbu People's Democratic Council” to unite as many residents as possible to oppose the program. Some organizations in neighboring districts like Shenzhen-Shanwei Special Cooperation Zone Administrative Committee and some real estate speculators are also mobilized to work against the program. In December 2014, more than two hundred of residents besieged dozens of public officials who came to prevent the unauthorized extension of residents’ factories for hours and wounded some of the public officials. One month later, more than fifty residents owned Hong Kong citizenship held a rally in Hong Kong to attract media attention to fighting against the Taipingling nuclear power program.

Compared with the above two cases, public opposition to the Lufeng nuclear power program and the Dalian CNNC irradiation program is not as violent as Jiangmen and Huizhou. When these two programs were made public, the citizens expressed their opposition mainly through the Internet. The local residents in the Lufeng published around 300 related posts on the Internet. Only several residents and journalists of Hong Kong media tried to follow the issue and escalate it. In Dalian, the residents expressed their opposition and called vote to against it through Wechat, and some of the citizens made phone calls to question the safety of the program.

(2) The risk perception of local governments

Another difference is the risk perception of the local governments. The Jiangmen

nuclear fuel factory program is the first nuclear fuel program publicized. Due to lack of experience, the government, and the risk assessment agencies were not aware of public attitude towards this program. For this reason, the overall evaluation for this project from two risk assessment agencies entrusted by the local government was “Low Risk.” Meanwhile, the total investment of this program is 37 billion yuan, and this means that it could bring enormous economic benefit for the local economy. According to calculations, if the program is located successfully, it would bring 3 billion yuan of taxes every year, which are equal to twice finance income of a county in the local area. In order to win in the competition from other cities, the Jiangmen government tried its best to accelerate the process of negotiations thus losing sight of public attitude.

The Dalian CNNC irradiation program is an expansion program of an irradiation research institution, which has studied on irradiation for 30 years. Some citizens once questioned about the safety of irradiation in May 2012 after the Fukushima nuclear accident on the Internet, but they did not catch much attention, so the risk perception of on this program of local government was low. When the program was formally made public, even though the citizens expressed their opposition on the Internet, the government still regarded it as a general public opinion event to deal with.

On the contrary, the risk perception of the Shanwei government and Huizhou government is high. Shanwei and Huizhou are neighborhood. The first reason is that the risk of social instability was at stake in that area because of the influence of other mass events happened before, such as Hongshuwan and Wukan protests in Shanwei and Boluo protests in Huizhou. Another reason is that the Chinese National Nuclear Safety

Administration (NNSA) asked all the local governments of prefectures where nuclear programs located to be cautious about the risk perception after the Jiangmen protest.

(3) The final decision of local governments

The final decisions of local governments in these four cases are different as well. The local government of Jiangmen finally compromised and canceled the program because of the fierce public opposition. The Shanwei government deleted all the Internet posts, and the main activists were investigated and held accountable. In Huizhou, the local government met the demands of opponents in a variety of ways, such as increasing compensation standards, slightly adjusting the location of the program, and investigated and held accountable the main activists. When it comes to Dalian, the local government used the strategy of “cold treatment,” it did not delete the Internet posts, and did not respond officially as well, but released a science popularization post about irradiation through an unofficial but popular network account. Figure 1 shows the differences through a 2×2 matrix.

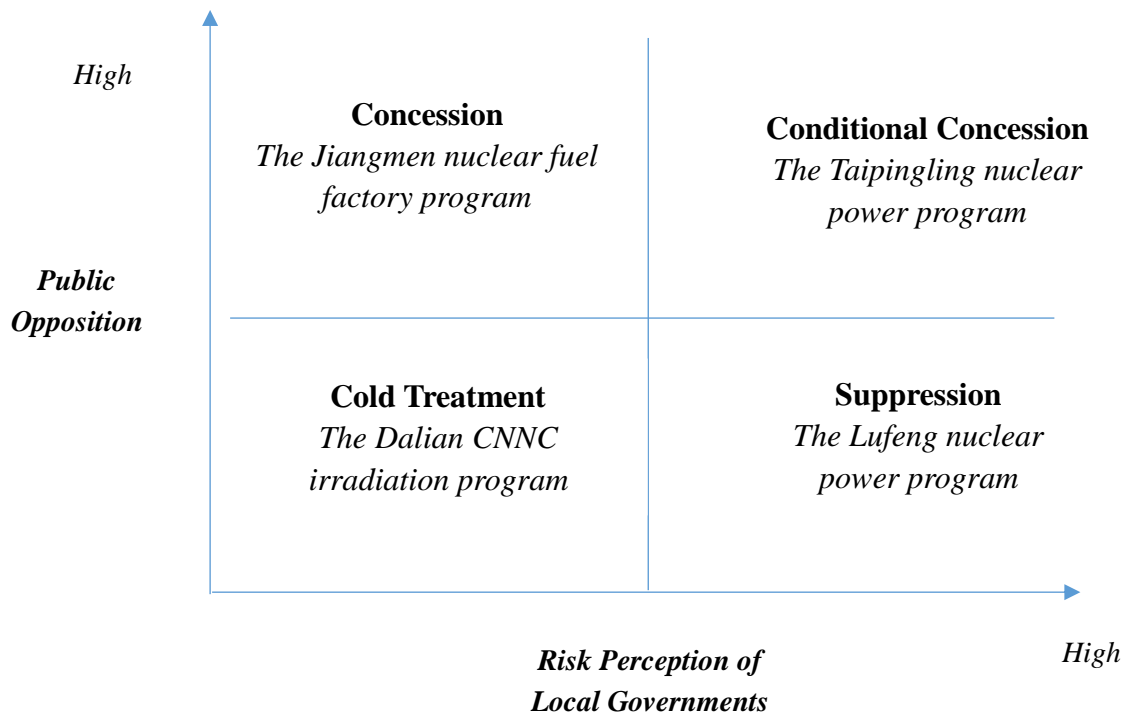


Figure 1. The Differences of Four Cases

Public communication and game processes

As can be seen from the figure 1, when the degree of public opposition and the risk perception of local governments are different, the final decisions of local governments are different, too. However, the mechanisms of interaction between these factors are much more complex, especially in the cases which the local governments carried out public communication. The processes of public communication in the Lufeng nuclear power program and the Taipingling nuclear power program suggest that the public communication is not only a way to improve the public acceptance of nuclear programs, but also an approach to find and dispel with the existing problem and potential risks as soon as possible. Previous studies have told us that the public communication includes four forms: nuclear science popularization activity, information disclosure, public participation such as hearing, colloquia, deliberation of

People's Congress, and public opinion monitoring and each form has its specific function (Stoutenborough, et al., 2013; Kim, et al., 2014; Guo, 2015).

Some researchers pointed out that most of policy-making processes on industrial programs in Chinese local governments are on the basis of Decide-Announce-Defend (DAD) model (Ma and Li, 2015; Shan, et al., 2002). This means the site selection is decided by the local government and contracting enterprise while the public are left out in the policy process. After the site being decided, the government makes it public. Public communication changes this policy process. Nuclear science popularization activity is not only an effective way to increase public knowledge of nuclear power, which is conducive to improve public acceptance, but also a signal that suggests the nuclear program will be located nearby so as to make the process more or less open to the public. The announcement of the decision is an essential part of information disclosure, what makes it different in public communication is that the continuous information disclosure is a gradual process so that people would not feel surprised when the location decision is announced. Public participation enhances citizen's feeling of engagement, and creates a way for the local government to collect information about public demands. Moreover, after the deliberation and approval of People's Congress, the decision becomes the will of the people formally. Therefore, opposition comes from the minority should be subordinate to the opinion of majority based on the requirement of the democratic centralism. Because most of oppositions which attract public attention rapidly come from the Internet, public opinion monitoring is absolutely necessary to discover inappropriate remarks and rumors and to solve them to avoid the detrimental

effects. Last but not least, public communication also leads to a governance network of stakeholders such as the upper government, the local government and the contracting enterprise. In this network, the upper government empowers the local government to take actions to deal with the opposition, and the enterprise provides the necessary material and financial support at the same time. In a word, the new model of the local government decision making with public communication is shown in Figure 2.

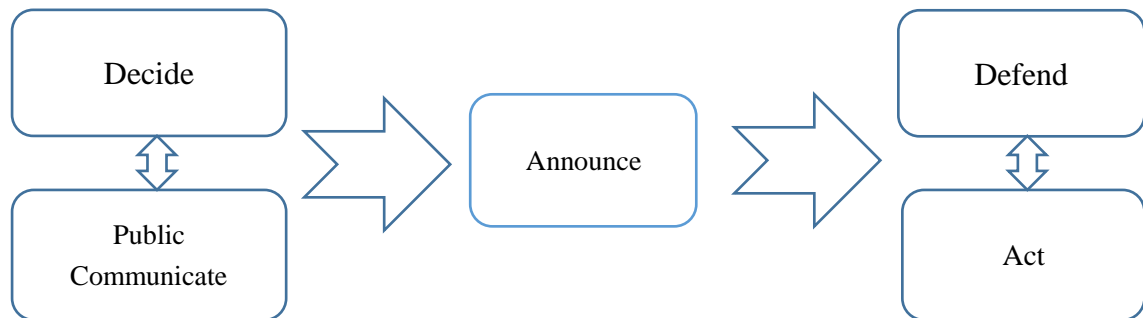


Figure 2. The Model of Decision Making with Public Communication

The works related to site clearance and preparations of the Lufeng nuclear power program started in 2008. The program was finally approved by the Chinese National Development and Reform Commission (NDRC) in 2010. Although this program was suspended because of the Fukushima nuclear accident, one and a half years later, it became one of the first groups of new nuclear programs that the NDRC planned to restart to build. After the Jiangmen protest, the NNSA called five state-owned nuclear enterprises to help the local governments to carry out public communication before constructing new nuclear programs. The Xudapu nuclear power station and the Lufeng nuclear power station were chosen as the first batch of policy experimentation units. Because of the special identity, the Lufeng nuclear power station is one of the earliest nuclear programs to carry out public communication. The NNSA, which shows the

position of the central government, and the government of Guangdong province, the upper government of Shanwei, have done a lot of supporting work such as setting up the provincial leading group, making systematic work plan and providing financial support. In the meantime, as one of the main stakeholders, the China General Nuclear Power Group (CGN) also provided plenty of human resources, financial and technical supports and its subsidiary CGN Lufeng Nuclear Power Co., Ltd. acted as the real executor of nuclear science popularization activity and public opinion monitoring during the process of public communication.

The Taipingling nuclear program is a new program which is planned to construct after Fukushima nuclear accident. This program is approved by the NDRC in November, 2014. At that time, the first stage of public communication in Xudapu and Lufeng, the two selected policy experimentation units, have completed and achieved great success. Because this point-in-time is too close to the Lufeng nuclear program, the Guangdong province government worries that in the rush to meet such accelerated targets of nuclear program construction, social concerns could be aroused. The construction of this program indeed caused wide public concern among some Hong Kong citizens at that time. Besides, the location of this program has also encountered fierce opposition of Shenzhen-Shanwei Special Cooperation Zone Administrative Committee. The reason is that the construction of the nuclear program may affect attraction of business investments. As a result, the attitude of Guangdong province government towards the Taipingling nuclear station and its public communication is not as positive as before. Therefore, the provincial leading group did not set up, and the work plan was not

approved until almost all the problems had been solved by the local government and the CGN Huizhou Nuclear Power Co., Ltd., which is the contracting enterprise.

The different attitudes of the provincial government also make the local governments' attitudes different. Compared with the Huizhou government, the Shanwei government appears to be mightier. Facing with public opposition, the Shanwei government deleted all the Internet posts rapidly, and criticized and educated the activists at the same time. The government banned all the reporting about the program as well. When the government found some Hong Kong Journalists try to follow and hype the issue, the National Security Bureau started to track and monitor them immediately. The Huizhou government also deleted all the Internet posts, but it could not effectively prevent the opposition from the "Huangbu People's Democratic Council" and Shenzhen-Shanwei Special Cooperation Zone Administrative Committee and some real estate speculators. What the local government could do was to persuade, negotiate and compromise. The residents were able to besiege public officials and held rally in Hong Kong also proved that the local government was vulnerable.

Discussion

Cai (2010) found that local governments in China adopted four different responses to public opposition: ignoring, repressing, compromising with discipline and compromising by meeting all the demands of citizens, and the final decision the local governments choose depends on the degree of public opposition. The final decision in these four nuclear program cases supported Cai's finding. In the case of the Dalian CNNC irradiation program, the public opposition was low, and the local government

used the strategy of “cold treatment,” which is similar to what Cai termed “ignoring.” The public opposition to the Jiangmen nuclear fuel factory program was high and caused a massive event involving about 1000 residents. Therefore, the local government makes a total concession and cancel the program. When it comes to the Lufeng nuclear program, the public opposition was low, so the government suppressed public voice. The public opposition in the Taipingling nuclear program was high and resulted in a conditional concession from the local government.

In the four cases analysis, I find another factor has an influence on the local governments’ final decisions as well. The local governments’ choice not only depends on the degree of public opposition, but also be affected by the risk perception of the local governments. Both the Dalian CNNC irradiation program and the Lufeng nuclear program do not draw violent opposition, but the risk perception of the Shanwei government is higher than Dalian, the Shanwei government chooses suppression rather than cold treatment. In the two cases which have fierce public opposition, the risk perception of the Huizhou is higher than Jiangmen, so the Huizhou government prepares well to deal with large-scale public protests. Although the Huizhou government also compromises, it does not cancel the program, which has a better ending than Jiangmen.

In traditional DAD model, when the local government announces the decision about the industrial program, it starts to respond to public concerns in a relatively passive position (Baxter, et al., 2013; Komendantova and Battaglini, 2016). If the decision does not cause large-scale public protests, the construction will continue. By

contrast, if the decision causes large-scale public protests, the government will defend to the rationality of the decision make public accept it. However, not all the explanations are effective. The case of the Jiangmen nuclear fuel factory program shows the situation when the government's explanations do not work. Public communication makes the local government can not only defend the decision but also take actions actively to solve the dissent rapidly through a legal procedure.

Studies published recently elaborates that the public communication is an approach to improve public acceptance of this kind of programs and reduce large-scale public protests (He, et al., 2013), because the more knowledge people have, the less panic they are, and thus they can accept the programs easily (Stoutenborough, et al., 2013; Kim, et al., 2014; Guo and Ren, 2017). The public communication in the cases of the Lufeng and the Taipingling nuclear programs suggest that the traditional model of DAD has changed. The local governments are using public communication during the decision-making process to improve public acceptance as well as the legitimacy of the decision and the action dealing with public opposition. In the cases which the risk perception of the local government was high, the government carried out public communication to make the programs reflect the popular will, so that the citizens who still opposed the programs are standing on the opposite of the public.

As a single-party, non-democratic authoritarian regime, the legitimacy of local governmentst comes from the Chinese central government (O'Brien and Li, 2006; Li, et al., 2016). Therefore, no matter what decisions the local governments are made, the most important thing is to earn the endorsement from the upper governments. The

differences between the cases of the Lufeng and the Taipingling nuclear programs indicated that the attitude of the upper governments is one of the determinants of the local government's position during the game with public opinion.

Conclusion

Based on the analysis and discussion of the four cases, I can answer the research questions at the beginning of this article. The final decision of the local government on which actions to adopt in dealing with public opposition is affected by the degree of public opposition as well as the risk perception of the local government. The fierce opposition can cause great pressure to the local government and force the local government make concessions. The small-scale opposition, in contrast, may be ignored or suppressed. Meanwhile, the strategy choice of the local government is intimately related to the government's risk perception on the nuclear program. When the local government thinks the potential social risk of the program is high, it may prepare in advance for the public protests so that the government can keep the control of society. As shown in the case of the Taipingling nuclear program, when the program is violently opposed, the local government still compromises, but the concession is conditional and controllable. If the opposition is not so fierce, just like the case of the Lufeng nuclear program, the choice of the local government is more inclined to suppress in order to dispel the potential risks quickly.

The public communication has great impact on government decision-making. The first and the most significant influence is that it changes the traditional decision-making

model of Chinese local governments on industrial programs. The Decide-Announce-Defend model is expanded to “Decide and Public Communicate”-Announce-“Defend and Act”. The local government uses public communication during the decision-making process to make the program reflect public opinion, thus the explanation can be convincing and the local government can be confident in the action dealing with public opposition as well. Second, the public communication sometimes can help the local government obtain support from the upper government and contracting enterprises, which can reduce the stability maintenance costs and increase the legitimacy of the local government. In a word, the local government can gain procedural justice and legitimacy from public communication.

Our study makes the strategies of local governments dealing with public opposition clear and I expound the impacts of public communication on local governments. However, the study is also limited by the representation of the cases and subjective biases in understanding the data. Future research can concentrate more on the network of the local governments, contracting enterprises, the upper governments, and the opponents with different identities to explore the advocacy coalitions of different stakeholders during the policy processes.

References

- Amenta, E., Caren, N., & Olasky, S. J. (2005). Age for leisure? political mediation and the impact of the pension movement on US old-age policy. *American Sociological Review*, 70(3), 516-538.
- Baxter, J., Morzaria, R., & Hirsch, R. (2013). A case-control study of support/opposition to wind turbines: perceptions of health risk, economic benefits, and community conflict. *Energy Policy*, 61(10), 931-943.
- Bueren, E. M. V., Klijin, E., & Koppenjan, J. F. M. (2003). Dealing with wicked problems in networks: analyzing an environmental debate from a network perspective. *Journal of Public Administration Research & Theory*, 13(2), 193-212.
- Burstein, P., & Linton, A. (2002). The impact of political parties, interest groups, and social movement organizations on public policy: some recent evidence and theoretical concerns. *Social Forces*, 81(2), 381-408.
- Cai, Y. (2008). Local governments and the suppression of popular resistance in china. *China Quarterly*, 193(193), 24-42.
- Cai, Y. (2010). *Collective resistance in China : why popular protests succeed or fail*. Stanford University Press.
- Chen, J., Pan, J., & Xu, Y. (2016). Sources of authoritarian responsiveness: a field experiment in China. *American Journal of Political Science*, 60(2), 383-400.
- Chen, L., Li, L. (2016). Government policy process and the NIMBY movement: the triggering mechanism of social stability risk on public projects and approaches to improvement. *Journal of Public Administration*, (05), 26-38.[In Chinese]
- Dan, V., Pidgeon, N. F., Parkhill, K. A., Henwood, K. L., & Simmons, P. (2012). Living with nuclear power: sense of place, proximity, and risk perceptions in local host communities. *Journal of Environmental Psychology*, 32(4), 371-383.
- Ducsik, D. W. (1981). Citizen participation in power plant siting Aladdin's lamp or Pandora's box?. *Journal of the American Planning Association*, 47(2), 154-166.
- Economy, E. C. (2010). *The River Runs Black: The Environmental Challenge to China's Future, Second Edition*. Cornell University Press.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *Academy of Management Journal*, 50(50), 25-32.
- Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Ground Theory: Strategies for Qualitative Research*.
- Goldstone, J. A. (1980). The weakness of organization: a new look at gamson's the strategy of social protest. *American Journal of Sociology*, 85(5), 60-61.
- Guo, Y. (2015). Policy feedback and public opinion: public acceptance of nuclear power in China. PhD thesis, Tsinghua University. [In Chinese]
- Guo Y., Ren T. (2017). When it is unfamiliar to me: local acceptance of planned nuclear power plants in china in the post-Fukushima era. *Energy Policy*, 100, 113-125.
- Han, Z. (2015). Information payment and authoritative action: the two-dimensional

- framework to understand the phenomenon of “NAOJUE”. *Journal of Public Management*, 12(2), 42-54. [In Chinese]
- He, X., Liu, Y. (2010). About the logic of maintaining no accident in the administration of roots-level society. *Academic Research*, 2010, 6, 32-37. [In Chinese]
- He, G., Mol, A. P. J., Zhang, L., & Lu, Y. (2013). Public participation and trust in nuclear power development in China. *Renewable & Sustainable Energy Reviews*, 23(4), 1-11.
- Howell, J. (2016). Adaptation under scrutiny: peering through the lens of community governance in China. *Journal of Social Policy*, -1(3), 1-20.
- Hu, X., Wang, F. (2014). A new social stability risk assessment analysis framework: risk perception perspective. *Chinese Public Administration*, (04), 102-108. [In Chinese]
- Huang, L., Zhou, Y., Han, Y., Hammitt, J. K., Bi, J., & Liu, Y. (2013). Effect of the Fukushima nuclear accident on the risk perception of residents near a nuclear power plant in China. *Proceedings of the National Academy of Sciences*, 110(49), 19742-7.
- Jing, Y. (2017). The transformation of Chinese governance: pragmatism and incremental adaption. *Governance*, 30(1), 37-43.
- Kemberling M., & Roberts J. T. (2009). When time is on their side: determinants of outcomes in new siting and existing contamination cases in Louisiana. *Environmental Politics*, 18(6), 851-868.
- King, A., & Ramana, M. V. (2015). The China syndrome? Nuclear power growth and safety after Fukushima. *Asian Perspective*, 39(4), 607-636.
- King, G. (2013). How censorship in china allows government criticism but silences collective expression. *American Political Science Review*, 107 (2), 326-343.
- Kim, Y., Kim, M., & Kim, W. (2013). Effect of the Fukushima nuclear disaster on global public acceptance of nuclear energy. *Energy Policy*, 61 (7), 822-828.
- Kitschelt, H. P. (1985). Political opportunity structures and political protest: anti-nuclear movements in four democracies. *British Journal of Political Science*, 16(1), 57-85.
- Komendantova, N., & Battaglini, A. (2016). Beyond decide-announce-defend (dad) and not-in-my-backyard (nimby) models? Addressing the social and public acceptance of electric transmission lines in Germany. *Energy Research & Social Science*, 22, 224-231.
- Lang, G., & Xu, Y. (2013). Anti-incinerator campaigns and the evolution of protest politics in china. *Environmental Politics*, 22(5), 311-336.
- Langley, A., Smallman, C., Tsoukas, H., & Ven, A. H. V. D. (2013). Process studies of change in organization and management: unveiling temporality, activity, and flow. *Academy of Management Journal*, 56(1), 1-13.
- Li, L., & O'Brien, K. J. (1996). Villagers and popular resistance in contemporary China. *Modern China*, 22(1), 28-61.
- Li, Y., Koppenjan, J., & Verweij, S. (2016). Governing environmental conflicts in China: under what conditions do local governments compromise? *Public Administration*, 94(3), 806-822.
- Liu, Z., Zhu, Z. (2015) Constraints and Correction: rethink of the 10 year development

- of social stability risk assessment in China. *CASS Journal of Political Science*, (04), 118-128. [In Chinese].
- Ma, B., & Li, J. (2015). Analyzing Chinese NIMBY Syndrome: Based on the Qualitative Comparative Analysis. *The Journal of Shanghai Administration Institute*, 16 (5), 41-51. [In Chinese]
- Mcadam, D., & Boudet, H. (2012). *Putting social movements in their place: explaining opposition to energy projects in the United States, 2000-2005*. Cambridge: Cambridge University Press.
- McCammon, H. J., Newman, H. D., Muse, C. S., & Terrell, T. M. (2007). Movement framing and discursive opportunity structures: the political success of the US women's jury movement. *American Sociological Review*, 72(5), 725-749.
- Meyer, J. (1977). Institutionalized organizations: formal structures as a myth and ceremony. *Social Science Electronic Publishing*, 83(2), 340-363.
- O'Brien, K. J., & Li, L. (1999). Selective policy implementation in rural china. *Comparative Politics*, 31(2), 167-186.
- O'Brien, K. J., Li, L. J., O'Brien, K. J., & Li, L. (2006). *Rightful resistance in rural China* /. Cambridge: Cambridge University Press.
- Pettigrew, A. M. (1990). Longitudinal field research on change: theory and practice. *Organization Science*, 1(3), 267-292.
- Ragin, C. C. (2008). *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. University of Chicago Press.
- Ran R. (2013). Perverse incentive structure and policy implementation gap in china's local environmental politics. *Journal of Environmental Policy & Planning*, 15(1), 17-39.
- Rooij, B. V., Stern, R. E., & Fürst, K. (2014). The authoritarian logic of regulatory pluralism: understanding china's new environmental actors. *Regulation & Governance*, 10(1).
- Shan, S. C., Lo, C. W. H., & Chisunpoon. (2002). Factors affecting waste disposal facilities siting in southern china. *Journal of Environmental Assessment Policy & Management*, 4(2), 241-262.
- Shi, F., & Cai, Y. (2006). Disaggregating the state: networks and collective resistance in shanghai. *China Quarterly*, 186(186), 314-332.
- Stoutenborough, J. W., Sturges, S. G., & Vedlitz, A. (2013). Knowledge, risk, and policy support: public perceptions of nuclear power. *Energy Policy*, 62(11), 176-184.
- Tan, S., Hu, X. (2014) On functions of government in social stability risk prevention of NIMBY facilities. *Social Sciences of Beijing*, (05), 37-42. [In Chinese]
- Tarrow, S. (2011). *Power in movement*. Cambridge: Cambridge University Press.
- Wei, J., Ying, Y., Liu, Y. (2014). The decentralization of the R&D network, the sequence of the organizational learning. *Management World*, 2. 137-151. [In Chinese]
- Wong, S. W. (2015). Land requisitions and state-village power restructuring in southern china. *China Quarterly*, 224, 1-21.
- Wolsink, M. (1994). Entanglement of interests and motives: assumptions behind the NIMBY-theory on facility siting. *Urban Studies*, 31(6), 851-866.
- Wolsink, M. (2000). Wind power and the nimby-myth: institutional capacity and the

- limited significance of public support. *Renewable Energy*, 21(1), 49-64.
- Xie, Q. (2016). Authoritarian integrative governance in China: understanding the crucial role of political risk aversion. *Public Administration & Development*, 36(5), 313-329.
- Yin, R. K. (1989). *Case Study Research: Design and Methods 5ed. Case Study Research: Design and Methods*. Sage.
- Zhong, W. (2011). Non-accident logic in the social management of local government: an analytical framework. *Zhejiang Social Sciences*, 9, 36-41. [In Chinese]
- Zhou, X. (2003). *Ten Lectures on the Sociology of Organizations*. Beijing: Social Sciences Academic Press. [In Chinese]