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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts

By

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How do increases in environmental protests in China impact increases in the implementation of environmental policies? Environmental protests in China are gaining traction. By examining these protests, this study analyzes forty-one protests and their impact on government enforcement of environmental regulations. Stratifying this study according to five areas (Beijing, Guangdong, Hunan, Jiangsu, and Sichuan), patterns began to emerge according to each area. Employing a framework William Gamson introduced (2009), this study analyzes the outcomes of environmental contention, including the use of co-optation and preemptive measures. It finds that the success or failure of a protest has much to do with the local government’s sense of social stability and the tactics protesters used. The information gleaned from this analysis helps anticipate how authoritarian governments (local and national) will continue to respond to environmental protests that are likely to continue to increase in number.
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List of Acronyms

CCP: Chinese Communist Party
CO2: Carbon Dioxide
COD: Chemical Oxide Demand
CSD: China Statistical Database
EIA: Environmental Impact Assessment
EJ Atlas: Environmental Justice Atlas
EPL: Environmental Protection Law
GDP: Gross Domestic Product
Kyoto Protocol: Protocols United Nations Framework Convention on Climate Change
NGO: Nongovernment Organization
NIMBY: Not in my Backyard
Paris Agreement: 21st Conference of Parties
PM2.5: Particulate Matter less than 2.5 Micrometers
PRC: People’s Republic of China
Px: Paraxylene
SEPA: State Environmental Protection Administration
SO2: Sulfur Dioxide
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Chapter I
Grassroots: The Bottom of the Middle Kingdom

Introduction

Mass environmental protests in nondemocracies are often met with government intervention, most often in the form of suppression. Nondemocratic political systems determine policy and regulation in almost all of spheres of life, frequently utilizing their ability to motivate rapid economic production above the health of the environment. Forces with more leverage in democracies, such as public opinion, civil society, and media, are not as productive or influential in the shadow of repressive elites. Steven Hess asserts that the autocrat is chiefly concerned with preserving power. Any type of resistance, symbolic or otherwise, must be met with swift action (Hess, 2013). Even the natural environment, at best, comes second to an autocratic regime’s firm hold on political and economic prowess, and, further, a stable society. Environmental protests across Thailand, Vietnam, and Russia exhibit how environmental protests operate in three modern authoritarian regimes.

In response to the Vietnamese central government’s desire to foster rapid industrial growth akin to China, Vietnamese people have taken to forming blockades at factory entrances, such as one textile plant in Hanoi (Nyugen, 2017). In this instance of protest, police arrived and used water cannons to dissolve the crowd (Nyugen, 2017). Since the Thai coup of 2014, which placed the National Council for Peace and Order into power, loose environmental laws and regulation allow particularly harmful industries the power to produce quickly, even if it means harming the local environment (Corben, 2017). Naturally, this has led to localized protests across Thailand. Each of these regimes has responded to the protests, though the results of each response are not impactful. In the case of Thailand, officials have ordered some plants to reassess
their environmental impact, though with “lukewarm” regulations in place it appears as if the
government is merely co-opting their citizens (Corben, 2017). In the Russian Federation,
prominent activists have difficulty speaking out against President Vladimir Putin’s propaganda
(Tamkin, 2017). It is common knowledge among environmental activists in Russia that they face
“police intimidation, trumped up criminal charges, and prison” (Vidal, 2014). These cases paint a
picture of struggle and hardship for any person standing up for the environment in their country.
The People’s Republic of China (PRC), while maintaining authoritarian rule, may present a
different story.

Worldwide, the PRC is the highest contributor of greenhouse gas emissions, accounting
for just over 28% of global carbon dioxide (CO2) emissions in 2016 (Statista, 2017). However,
China has also seen meteoric economic growth, averaging gross domestic product (GDP) growth
at about 10% each year since the 1990s (The World Bank, 2017). The cost of this growth fell
upon what used to be substantially clearer skies and rivers. The strangled environment taxes the
health of Chinese citizens, who can be seen roaming the streets of China’s dense cities wearing
masks to subvert the effects of air pollution. China’s rural inhabitants, whose agricultural
livelihood depends on the condition of the soil and rivers, face streams of chemicals leaking into
their crops and water resources. The long-term cost of continued environmental disregard is
evident, but how willing is China to sacrifice economic progress for the sake of environmental
health, and consequently the health of its citizens? And, to what end can this economy sustain
progress without facing the fiscal detriments of ecological harm?

The Chinese Communist Party (CCP) slowly recognized the environmental crisis on its
hands following Mao Zedong’s “campaigns of destruction” throughout the middle of the 20th
century (Economy, 50). China passed its first bout of environmental regulations in the 1980s
under Deng Xiaoping, although they were at massive odds with Deng’s narrow focus on massive economic development, which required substantial amounts of natural resources. In 1984, the National Committee for Environmental Protection was established, approving its first law in 1987, titled the Law on Air Pollution Prevention and Control of the People’s Republic of China (Managi & Kaneko, 2010). Over the next fourteen years, China would have “430 sets of environmental standards…at the central government level and 1,020 sets of laws, regulations, ordinances and rules at the local level” (Managi & Kaneko, 12). The CCP has also allowed the establishment of local environmental courts and registered nongovernmental organizations (Gao and Wang, 2010). However, legislation is only as useful as its level of implementation. China is subsequently notorious for its failure to administer the environmental legislation it holds itself to, sparking protests among its citizens as pollution climbs to dangerous levels. The question I am looking to uncover, at least partially, is how the surge in public environmental protests since 2004 may impact the increase in environmental regulation in China.

Protests in China constitute an interesting case study, as government officials look down upon any sort of “widespread” protest and react swiftly to halt their operation and growth (Yang, 2015). Environmental protests are, however, gaining traction in China and becoming more disruptive, and so, in order to maintain control, the CCP must facilitate appropriate responses. This possibly stems from the Party’s fear that the widespread protests may escalate quickly into a united social movement. Herein lies the importance of this research question. Positive responses to critical civilian protests are largely uncharacteristic of authoritarian administrations such as China, yet the CCP appears to make at least some concessions to the widespread protests against pollution (factory construction, chemical pollution, etc.). Examining environmental protests in China will answer the question of under which circumstances the voice of the public is heard,
and to what degree that voice can impact the enforcement of legislation. Its significance lies in whether or not we can surmise that civil society impacts government action, rather than issues the Chinese government has already placed on its national agenda. Moreover, research on environmental activism in authoritarian countries is lacking, especially in comparison to democracies.

The study of China’s civil society is extensive (Cai, 2010; Deng and O’Brien, 2014; Ding; 2002; Gilley, 2004; Green and Luehrmann, 2016; Heurlin, 2016; Lang and Xu, 2013; Ling, 2008; O’Brien and Li, 2006; Spires, 2011; Steinhardt and Wu, 2015; Thibault, 2011; Zhao, 2008). In order to understand the measure of success attributed to grassroots activism, the relationship between China’s civil society and government bodies will require more analysis. Impact can be measured by examining how successful individual protests are. Moreover, charting regulation and policy patterns alongside each protest can help examine the responsiveness of the Chinese government. For example, if the results of this experiment show that concerns related to air pollution spark a majority of protest, an increase in air pollution regulation might suggest that officials are responding to the aims of protesters. The literature review will demonstrate how current scholarship sees protests and their impact in nondemocracies, including how we can recognize successful protests in the PRC.

**Literature Review**

Activism and social movements tend to be discussed in the same context, yet seeing as China’s widespread environmental activism has not grown into a “movement,” this literature review will only discuss activism and how it relates to Chinese environmental contention. A social movement can only be considered such if it expresses widespread, collective action
advocating for change in a particular sphere of social life. William Gamson refers specifically to the notion that a movement must work first to build a “collective identity” if it wishes to succeed (Gamson, 1991; 27). Often times, participants in social movements use similar tactics to achieve their goals and unify around a single message. Activism can instead refer to any form of social unrest aimed at promoting change in some areas of life. Collective identity does not need to be present. In China, it has not yet been adequately confirmed that even the worst cases of pollution lead to regular protests (Deng & Yang, 2013). However, keeping in mind that activism can and does lead to unified social movements, I will discuss literature that considers the origins of social movements. Political opportunity is one such theme that displays itself across much of the literature discussing both protest politics and social movements, alongside the measure of how much “impact” civil society exerts upon the legislation enforcement. The players involved in the arena of environmental contention are also worthy of attention.

Political Opportunity and Impact

Political opportunity lends great importance to the objective analysis of social protests, as it provides a widely accepted and useful framework to research originating factors. This provides the foundation for legitimate research into contention (which refers to the pressure between governments and society practicing activism), as well as a basis to study the confounding idea that civil organization can exist in authoritarian administrations. Governing institutions have several factors that could provide the basis for activists to generate possible claims (McAdam, Tarrow, and Tilley, 2009). Across the literature surrounding this topic, one feature in particular stands out from the rest: there has been a change in “informal power relations” or “changes in the institutional structure” of the Chinese political system (McAdam, McCarthy, Zald, 1996). The
power dynamic of the government structure has changed and allows room for civil society organizations to operate. I describe this dynamic below.

The Chinese central government has granted local governments a lot more leniency, especially in regards to worsening environmental conditions (Spires, 2011). This, in turn, gives local civil society the ability to engage in local politics. The result of this new ability has given rise to several other forms of civic engagement, namely “Not in my Backyard” activism (NIMBY), numerous forms of nongovernment organizations (NGOs), including registered, non-profit, student environmental associations, and the infamous governmentally organized NGOs, which require NGOs to register for a sponsor within the Chinese government (Yang, 2005).

According to research gathered by Jennifer Turner for the China Environmental Series, the total growth in these NGOs together has dramatically increased between 1994 and 2004 (Yang, 2005). This provides the basis and the claims necessary to discuss policy impact in the environmental realm. A combination of rising environmental concerns and government sympathy over those concerns provide fertile land for these associations to grow.

Additionally, formal power relations become more blurred because of the prominence given to local governance. Across several case studies, the roles lawyers, civil organizations or protesting groups, government agencies, and even government officials play each contribute to the ultimate success, or failure, of a case. For example, an anti-incinerator protest beginning in 2005 in the Haidian district of Beijing demonstrates the multitude of actors necessary for the success of environmental protests. The smog and smell the waste incinerator produced attracted the attention of protesters in the form of bulletin board displays and mobilization near government offices (Lang and Xu, 2013). For example, people living near the construction site displayed banners stating, “In the name of the elderly, mothers and children, please do not build
the incinerator plant here!” (Lang and Xu, 2013; 836). Not long after, lawyers and the State Environmental Protection Administration (SEPA) arrived to assess the legality of the incinerator’s operation in the locale, while petitions flooded the desks of local government officials. The Haidian government postponed the incinerator project for reconsideration until the Beijing Olympic Games had ended, and eventually closed the incinerator down (Lang and Xu).

The Haidian incinerator case typifies a couple of characteristics typical of a contentious environmental episode in China. First, the case did not mention NGO involvement, clarifying the distinction between civilian and NGO protests. Departments in the Chinese government typically sponsor NGOs, and are therefore subject to scrutiny should the NGO become involved in protests (Gilley, 2004). Second, it highlights the multi-faceted hand of environmental protection enforcement, showcasing the throng of explanatory factors that could have focused the most impact on the government’s decision to relocate the incinerator. The case shows the government’s hesitancy to engage in civilian dissent while the international community watches, as highlighted by Haidian’s initial project postponement until after the 2008 Beijing Olympics. Again, external influences might have made the most impact on government action in this case, lending further importance to the study of successful social movements and protests across nondemocracies.

“Movement success” analysis is, in large part, attributed to William Gamson. Again, the situation in China has not garnered enough national unity to achieve a movement, yet the magnitude and size of protests across China allows the application of movement study, framework, and terminology. Gamson claims that success is better thought of and measured as “a set of outcomes” (Gamson, 2009; 414). This method of attribution is closely tied to how success can be measured across several of the case studies in this study. Lang and Xu’s study of anti-
incinerator campaigns measures the outcomes of such contention in China along a spectrum of other outcomes contributed to “ecological modernization” in waste management (Lang and Xu, 2013). Deng and O’Brien’s article on Societies of Senior Citizens looks to the successes and failures of popular environmental protests in rural China as a method of measuring the plausibility of continued protest and efficacy (Deng and O’Brien, 2014 & O’Brien and Li, 2006).

Impact is an important aspect of contentious political research. In general, how does one measure “impact” in the context of Chinese protests? Existing literature on this topic in China is scant, although case studies may present some conclusions. In large part, the literature on environmental protests has utilized case studies to demonstrate the effectiveness of resistance. However, several documented cases label the relocation of environmentally harmful infrastructure (waste incinerators, chemical factories, etc.) as successful. While this could be considered a victory for the localized protest, the relocation does not fall in line with legislation that reduces harmful infrastructure. Therefore, only cases that succeeded in shutting down or suspending harmful infrastructure are considered for research on implementation of environmentally friendly policy in this study. Moreover, reported cases of protests have decreased in recent years due to the so-called “Arab Spring” uprisings; the CCP has placed new restrictions on reporters, lawyers, and anyone labeled an activist (Jacobs, 2011). This could prove detrimental to research opportunities in this topic as scholars try to understand where environmental contention in China is headed, and even the accuracy to which that can be determined.

Classifying impact this way typifies the outcome structure of these articles, and presents a trend among environmental contention research in China. If this is brought back out to the general field of contentious politics, the lack of clarity concerning the direct impact in Chinese
environmental contention is clear to see. Lang and Xu go so far as to admit that they are more cautious when approaching the topic of impact. Rather, they prefer to point out correlations instead of providing conclusions and allowing the reader to draw deductions themselves, noting the government’s drive to “increase waste sorting and recycling in Guangzhou…apparently energized by the successful protests against waste incineration” (Lang and Xu, 2013; 844).

Steinhardt and Wu begin their article about popular environmental contention in China by noting their own wariness with stating a protest’s influence on government policy, focusing rather on the increase and evolution of contentious politics in China (Steinhardt and Wu, 2015). With this in mind, the prevailing approach concerning “impact” is to exercise caution, although authors look more toward a protest’s success and failure in concluding their hypotheses alongside Gamson’s successful movement framework.

Assuming that NGO existence in authoritarian regimes depends at least in part that a portion of NGOs are facilitated through government monitoring mechanisms (Böhmelt, 2014), the leap to engagement in non-contentious politics on the part of most NGOs is necessary (Thibaut, 2011). NGOs veer away from protests in order to ensure their survival, a necessary tightrope in authoritarian regimes since civilians are free to employ more aggressive tactics (Spires, 2011). This disconnect, in itself, reveals a common trend displayed across literature for this topic: for the most part, official organization and short-term civilian mobilization are not discussed in congruence with one another.

The overall study of social movements and political activism needs to be addressed in authoritarian China, where civil society is a lot less prone to opposition towards the state (Thibaut, 2011). Noticeably, research in the area of environmental contention leans toward the role that NGOs play in environmental governance, whereas less tangible research exists in terms
of unaffiliated mass protests. Clear connections are made in literature determining the effectiveness of NGOs in environmental governance, usually through the use of case studies. The unaffiliated are not given so much clarity.

Most of the literature showcases environmental civil unrest as persistent and long lasting, although the outcome of “villager protests” is not distinctly shown. A case in Dongyang demonstrates villagers’ discontent with a local industrial park, their turmoil arising from the affect the pollution may have on their offspring (Deng and Yang, 2013). However, when officials did not delay the factory’s construction, villagers instead turned their attention to the effect construction would have on land degradation in the area (Deng and Yang, 2013). The protest lasted from 2001 until 2005, and included several petitions as well as violent, destructive outbreaks from nearby villagers such as the destruction of the interior portion of one of the chemical factories (Deng and Yang, 2013 & Deng and O’Brien, 2014). The final result came when the affected county shut down eleven factories in the industrial park, although there is not a clear picture as to what measure of impact the protest had on the decision. Shortly before the closing announcement, the issue brought international attention (Deng and O’Brien, 2014). External pressures, such as media outlets or international organizations, could have provoked the government to make haste in their decision.

The literature is lacking in recent cases of environmental protests to propel the topic forward, mostly due to the restrictions the CCP has placed on reporting. Recent case studies barely make it to the late 2000s, and the most helpful and complete case studies come from the early 2000s. This is not so much a fault of the scholarship as a problem inherent from studying China, especially since reporting laws have been tightened and strictly enforced within the past few years under General Secretary and President Xi Jinping, “the most authoritarian leader since
Mao” (Osnos, 2015). Fortunately, for those wishing to continue the study of environmental contention in China, independent bloggers have taken to reporting incidents on social media sites. Access to foreign reporting is another outlet available for research; although informational inaccuracy, such as number of protest participants or the nature of the protest, can play a part in tainting the validity of data gathered this way.

The role of NGOs contributes to a significant amount of political and societal strength for those wishing to take part in shaping policy. Not only do the local and national governments allow, though in separate forms, both registered and non-registered NGOs to operate, they allow them to engage in social issues (Spires, 2011). Fortunately, both registered and nonregistered NGOs can play a part in influencing policy. For example, some have gone on to claim that the multitude of registered, or government-sponsored NGOs, give an outlet for the Chinese people to voice their concerns to the government, and are therefore healthy for Chinese society (Saich, 2000). Unfortunately, due to a lack of trust in the Chinese government on the part of individual citizens, there is subsequently not a lot of faith placed in sponsored NGOs (Spires, 2011). As a result, political drama runs rampant throughout even the “nongovernmental” sphere (Gilley, 2004), mostly a result of mistrust or fear of how the government might respond in kind (Spires, 2011).

A considerable gap in the literature revolving around this falls in the discussion of actual environmental legislation, and attributing protest success to instances that achieve success in only the relocation of environmentally hazardous infrastructure, instead of its cancellation. When considering climate change as a national (and even global) issue, the enforcement of national legislation is the overall end that will achieve China’s goals set for climate change reduction. Not examining Chinese legislation alongside protesters’ goals and aims creates a narrowed view of
the entire situation unfolding in the legal area of China’s environmental realm. Placing civil society’s goals alongside Chinese legislation would also create easily measurable data points. Moreover, as Steinhardt and Wu have mentioned, viewing a protest’s success in a localized frame can have troubling results for the country as a whole (Steinhardt and Wu). It is unhelpful, though useful in some contexts, to attribute success to an anti-incinerator protest that succeeded in moving the waste incinerator to a community that will likely endure the harmful effects of the incinerator.

Methodology and Research Design

What impact has environmental contention had in China on the enforcement of environmental regulation? I expect to find that:

1. As protests increase in coastal areas, environmental regulation will also increase. I expect this result because development and population is concentrated here most. With the combination of higher population and higher quality of education, the government officials are perhaps held to a higher standard.

2. As protests increase in continental areas, environmental regulation will not change due to decreased population density in these areas. Size matters to Chinese officials, so a lack of dense protest demonstrations would, I expect, lessen the incentive to enforce environmental regulation.

3. As protests concerning air pollution increase, overall environmental regulation across the provinces selected will increase. I expect this result because of China’s responsive attitude
toward popular discontent alongside high numbers of protest toward smog and other forms of air pollution.

This research performs an experiment in which I select cases of environmental protests ranging from 2004 until December 2016. *The China Daily* (US Edition), *China Digital Times* website, and the *Environmental Justice Atlas* (EJ Atlas) provide ample amounts of cases to use in order to determine the outcome of the research. *China Daily*, a state-run news outlet operating out of Beijing, reports cases in a manner in line with standard publicizing, disseminating information about where and when the protest was and the actors involved. *China Digital Times* was founded in Berkeley, California in 2003 as a response to growing Internet usage and acts independently from the Chinese government to advocate for “uncensored” Chinese news. This outlet pulls from other news outlets, such as *China Daily* and *Xinhua*, to report a more comprehensive look at its reportings. The EJ Atlas works to increase the transparency to users of ecological conflicts worldwide, gathering data from institutions including NGOs, academic circles, state data sets, and several other sources (Temper et al., 2015).

Utilizing the distinctions of these media outlets this research will seek to demonstrate two claims: a) environmental contention has increased throughout the 2004-2016 and b) governments have increasingly conceded to, either partially or in whole, the desires of civil actors. This will serve as the primary relationship for my research. I will examine whether or not as cases of environmental protests have increased, so too has government implementation of environmental regulation. I will examine five provinces during the given time period in order to obtain the results needed for the hypotheses: Sichuan, Henan, Beijing, Jiangsu, and Guangdong. These five
Fig. 1.1: Map of China with Sample Provinces

This map was generated using mapchart.net
selections represent distinct stratifications for this research including north and south, coastal and continental, and urban and rural divisions.

Beginning in 2004, I will select three to five cases (as are available) per year through 2016. The case reports will include the type of protest and the actors involved in them, as well as the time of year and the specific location. I will record the announced result for each individual case, such as the cancellation of the construction of a garbage incinerator. Since this research seeks to identify the effectiveness of environmental contention in China, I will seek the medium-term results of each case. For example, I will consider a garbage incinerator that began construction in 2005, but was cancelled through an announcement made by the local government in response to mass protests. However, in 2008 a newspaper reports that the garbage incinerator will resume construction. The conclusion for this case would be that the protest was ineffective and regulation has not increased. I will code demonstrations as effective if they meet certain factors, including a government response to cancel construction of plants or incinerators, and no further cases have been reported. I can also track this by comparing the statistics the *China Statistical Yearbook* provides and the cases of success in each protest. While this does not establish direct causation, the combination of statistical correlation and the cancellation of environmentally detrimental construction would show believable causation, at least partially. Due to the attempt to randomize case selection, I attempt to a make a larger inference from the forty-one cases I examine from 2004 to 2016. I will select cases throughout varying times of the year, given their availability.

As I discussed in the literature review, several articles begin with environmentalism and its role in political protests. Framed this way, these articles tend to focus more on the abilities of protesters to succeed in an authoritarian context, hence the study of China. However, this
detracts from the subject of environmentalism, and instead allows room for only what seems like the spread of democratic rights throughout China. In order to increase focus on environmentalism, an urgent topic of study especially for global superpowers, framing these issues in environmental terms gives the field a more complete understanding of the status of environmental regulation in China. This can be done through an increase in the presence of policy research and data gathered from Chinese policy, compared to the demonstrations and protests occurring in light of the China’s environmental crisis.

Environmental governance in China has a longer history than one might expect, considering its worldwide notoriety for pollution issues. China started its initial attempt at an environmental protection law (EPL) in 1979, by recognizing the need to “safeguard the environment” and promote a “legal network for environmental protection” (Economy, 100). However, the rhetoric surrounding China throughout the rest of the 20th century revolved around development, not environmental protection (Economy, 102). Revisions have been made to the EPL throughout the handful of decades since its trial run in the late 1970s, most of which focus responsibility of managing the environment on local governments. For example, a 1989 provision to the EPL obligated local governments in China to “establish environmental standards…in areas under their jurisdiction” and take steps to ensure these standards are enforced (Palmer, 793).

Within the past few years, the National People’s Congress (NPC) has revised the EPL to give more responsibility and initiative to local governments. The most recent revision was actually the first time that the public held the ability to influence environmental law (Zhang et al., 2016). Most importantly, the newest revisions give Environmental Protection Bureaus (EPBs) “governing powers” in the form of recommendations to local governments (Zhang et al.,
2016). However, influence through local governments is only as productive as the local government’s willingness to implement the recommendation at hand. This highlights another aspect of environmental governance issues at the local levels of government.

Applying William Gamson’s framework can help accomplish a clearer image of the stance the CCP has taken toward groups of environmental protesters. In his “challenged outcome” framework, Gamson identifies four types of outcomes attributed to social movements. This same framework can be used in the instance of social protest research. By placing particular protests, or “mass incidents,” throughout the selected timeframe into one of these four groups (full response, preemption, co-optation, collapse), this topic can benefit from a more parsimonious and beneficial examination as protest challenges and government acceptance are paired up against one another (Gamson, 2009). This fits both the popular “success/failure” model that many authors in this field have grown accustomed to, while adding another element of post-protest government response that assists in determining the initial impact of the protest.

The other side of this question considers the enforcement of environmental regulation. For this section of research, I look for increases in national environmental regulation throughout the timeframe of this study. Increased environmental regulation will include cases of factory inspection, closing down environmentally detrimental infrastructure, cracking down on non-compliant government officials and requiring emissions reporting from relevant actors in the private sector. I expect to find that the type of protest in some provinces will correlate with a type of environmental regulation at the national level. For example, in provinces particularly prone to garbage incinerator use, I expect to find that most protests object to their construction, subsequently petitioning the government to end construction or dismantle the incinerators. This would lead to an increase in official regulation concerning the discharge of harmful dioxins (the
culprit produced from waste incinerators) in that province, and subsequently demonstrate the effectiveness of environmental contention in light of increasing external pressure to reduce emissions.

William Gamson’s framework defining movement success suggests that research examines the success or failure of a protest or movement as “a set of outcomes” (Gamson, 414). The outcomes Gamson describes are helpful in categorizing each individual protest occurrence. By labeling each of the cases according to those outcomes, they can help explain which provinces are more likely to integrate environmental regulation in response to protests. The framework utilizes “acceptance” to show whether the antagonist accepts the rhetoric of the protest. Environmental contention has seen widespread acceptance among Chinese elites, so this research will examine the “new advantages” portion more in depth. Depending on whether or not this research finds that Chinese civil society has received advantages from their actions will, according to Gamson’s framework, subsequently help illustrate whether or not the Chinese government is taking firm actions toward limiting harmful atmospheric emissions, or adopting the environmental agenda as a propagandist tool to appease both internal and external groups. This framework will additionally help classify results from each individual case, producing results of the status of each province’s advantages throughout the course of the selected timeframe. I expect some provinces might exhibit acceptance of environmental regulation on behalf of local officials while simultaneous attempts are made to continue ignoring regulation, while others may demonstrate the opposite. I discuss this at length in Chapter III.

International pressures and national economic concerns can also explain the uptick in China’s positive environmental reaction. China’s image abroad and a healthy economy are cornerstones to a regime’s influence, so reactions based on these factors are to be expected. It is
important to understand the other influences that could help shape China’s present and future actions in the realm of environmental regulation. Economic productivity has long taken a blow due to an increase in smog and air pollution in cities that are particularly prone to these forms of emission (Managi & Kaneko, 2006). In order to curb the annual drop in economic growth caused by pollutants, China has put in place measures such as wastewater treatment plants to increase efficient use of natural resources that would otherwise remain polluted and hazardous (Managi & Kaneko, 2006). However, examining the impact that an otherwise oppressed group has on actual enforcement of Chinese regulation remains the most important question to answer in order to understand the growing influence of protests in authoritarian states.
Chapter II
Growing Green

Introduction

Incidents of environmental protests across the People’s Republic of China (PRC) have been rising year to year, as indicated in a handful of reports in the Chinese media. The Pew Research Center conducted a 2015 poll regarding Chinese citizens’ primary concerns, air pollution and water pollution fell in the number two and three spots, respectively, underneath “corrupt officials” (Wike and Parker, 2015). According to the *South China Morning Post*, environmental protests have grown around 30% each year since 1996, rising 120% from 2010 to 2011 (Chun and Lin, 2014; Kennedy, 2012; Liu, 2013; *South China Morning Post*, 2013). The State Environmental Protection Administration (SEPA) in China reported around 50,000 environmental protests in 2005 (Go, Suzuki, and Xiaoxia, 2008). It was difficult locating information that showed more specific trends concerning pollution type, however, the *EJ Atlas* presented sixty-one cases of reported protest across the continent that fall within the period I use in this study. Of those sixty-one cases, thirty-six reported air pollution protests, which accounts for over half of the reported cases *EJ Atlas* was able to locate all over China. The same applies for the cases in this study, which contains twenty-five cases of air pollution protest out of forty-one cases (across just five provinces).

While the collective environmental conscience in China has not yet evolved into any sort of formal movement, one can argue that the growth of environmental protests rivals infamous cases of mass discontent over land confiscation or labor disputes. This lends great importance to the study of available environmental protest data, as well as its ability to significantly impact environmental regulation implementation (something that labor or “land grab” protests have
ultimately failed at influencing). The data presented in this chapter highlights trends in instances of environmental protests from 2004-2016 in Beijing, Guangdong, Hunan, Jiangsu, and Sichuan. Changes in environmental regulation and reported levels of emissions and pollutants are presented for each area.

First, I demonstrate the outcomes of two instances of massive pollution protest in China. One instance, a large-scale protest against a paraxylene (Px) plant in Dalian, presents an example of the failure to impact government action to uphold environmental regulation, despite tens of thousands of participants. A second case took place further south in Shanghai, in which approximately 50,000 people gathered at one point to protest another Px plant, although this culminated in what may be viewed as a success for protesters. Analyzing these two cases will help clarify how the most prominent environmental protests start, endure, and end.

In the summer of 2011, Typhoon Muifa made for Dalian, a large city in the northeastern province of Liaoning. Ocean waves pounded the dikes protecting Jinzhou Industrial Park. Storm drainage exposed the presence of a Px plant within the city limits once portions of the dikes crumbled away (Watts, 2011). This discovery was especially contentious to Dalian citizens due to its proximity to the city; the plant was built only twenty kilometers from the center of the city (Hao, 2011). Ten thousand protesters gathered to object the existence of the plant soon after (Hao). A BBC report on this protest highlighted the banner protesters held, one that read, “Give me back my home and garden! Px out! Protect Dalian!” (BBC, 2011). The initial result of this protest was standard for a gathering of this magnitude. Dalian’s local government responded with a statement announcing the plant’s closure and a plan to move it to a nearby island, with proper distance from Dalian in accordance with environmental regulations (Temper, del Bene and Martinez-Alier, 2015). At first, this case could be considered successful, however, the
medium-term view indicates that the plant never actually ceased Px production. The planned relocation never occurred (Watts, 2012). It is rumored that officials did not want to shut down the plant, because doing so would have resulted in massive income loss (Watts). While a seemingly swift government response settled this case of protest and eased public complaints, this case cannot be considered a success. The plant continued its operation within city limits.

A Px protest in Shanghai’s Jinshan district may be viewed as more successful. Similar to Dalian, the protest comprised of at least ten thousand people in a coastal, urban populace with at least 5 million residents. However, unlike the former case, this protest occurred prior to the construction of the plant. This plant was to be built in another part of Shanghai originally, but was moved to the Jinshan district after several construction accidents in the former area (Temper et al., 2015). Following rumors that the Px plant would be built in the Jinshan district, tens of thousands of protesters gathered, bearing banners that shouted “PX Out!” (Temper et al.) Officials later announced that the plant would not be built.

The difference between these two protests is significant. From it, we can observe a variance among many of the cases in this experiment; several incidents take issue with proposed construction as opposed to infrastructure that is already in place. How do activists impact enforcement for a factory that does not yet exist? Often times, Px plants pose the most significant environmental hazards. Shoddy construction and careless operation can lead to enormous disasters, such as explosions and the subsequent, several-day long oil fires the explosions produce (Jing & Huang, 2015). Moreover, completed Px projects normally endure as sources of significant environmental harm (Wang, 2016). It is therefore valid to assume that incidents will break out against these proposed projects. Preemptive protests with regards to consistently violating infrastructure or industries will be considered for this experiment.
Each side of the research equation is presented in this chapter, including provincial variance and occurrence, the “type” of each protest (air, water, or soil), and whether each protest can be considered successful. I categorize this information in the appendix. The appendix details several important aspects of each of the forty-one cases that are not referenced in the main body of this thesis. It breaks down each case into the relevant details examined in this study, such as the reported site, pollution type, size of the protest, and a brief outline discussing the result. Each result gives some indication as to which “outcome” connects to the case.

For example, a 2004 protest located in Shutangshan, Hunan (Case 2) ended with the “preemption” outcome, in which there were “new advantages” (the factory or plant was moved), but no government “acceptance,” meaning the broader goal of the protesters was not met. Appendix A provides the most specific location reported (county, city, village, etc.) and then reports the pollution type, with a brief description attributing the pollution type to a specific industry for all forty-one cases. In the case of the Hunan protest, protesters targeted an Allicin plant, which had been pumping sulfurous fumes into the air as a result of its Allicin production. By 2004, protesters were storming the factory at night to attempt to shut down the factory (Temper et al., 2015). After hundreds of people deliberated with the local government, the factory was relocated. This short account reflects the important details pertinent to the appendix. Serious protesting began in 2004 in Shutangshan with at least hundreds of protesters. This outcome, as will be discussed later, falls under the “preemption” category because the factory had only been relocated, instead of shut down. The rest of the cases in the appendix follow this method.

Then, each case is examined for whether or not it upholds current environmental regulation. Only regulation that existed at the time of the protest will be considered for the
enforcement variable. Protesters that gather to object the construction or operation of a factory or plant that meets environmental regulation are not included in this experiment. This data represents the quantitative aspect of the experiment, and will be used in Chapter III to analyze the measure of impact on enforcement, and subsequently molded into William Gamson’s 2009 “Challenged Outcome Framework.” This will help determine to what degree the Chinese government is co-opting or preempting the instances of activism in my selected cases.

For the data in this experiment, I selected forty-one cases of environmental protest from English reported news sites, in most instances from China Daily (US Edition) and the EJ Atlas, as well as cases I found through other news sources, such as Radio Free Asia and the New York Times. Of the forty cases, seventeen came from Guangdong, seven from Sichuan, six from Hunan, five from Beijing, and five from Jiangsu. Cases were found inside the search functions of each reporting site, except in the case of EJ Atlas in which a map was used to pinpoint instances of protests. I used search terms such as “pollution” or “environment(al),” “protest” or “mass incident,” “factory construction,” “incinerator,” “smog,” “waste” or “river waste,” “chemical,” and the subsequent province for which I was searching. After I exhausted all case searches, only 2004, 2005, and 2006 did not meet the mark for the three to five case range; each year had only two (English) reported protests across all five provinces in this thesis.

Most articles contained the information needed to fulfill the quantitative components of this experiment, including the date the protest started, the type of pollution (air, water, and soil) associated with the protest, its size, and whether or not the protest can be considered successful. As mentioned in Chapter I, I only consider a protest successful if it succeeded in a government statement declaring the cancellation of plans to construct harmful infrastructure, shut down the offending building, or measures were imposed upon the offender to reduce pollutants in
compliance with regulation. Cases that succeeded in relocating the offender are not considered successful in terms of complying with environmental regulation. If the site was in violation of current regulation, then solely relocating the site does not fulfill the standard as delineated in this experiment. Furthermore, the size of the protest is included to show the case’s status as a “mass incident,” which should generally include at least one hundred people. Normally, a news article reported size estimates such as “hundreds of protesters” or “over ten thousand participants,” so these will be the numbers shown in this chapter’s tables.

Data Examining Success and Failure across Provinces and Pollution Type

Several articles disclosed the type of pollution through the identified complaint of each protest. For example, an article may report that protesters gathered at the site of a garbage incinerator to dispute the heavy smog settling around their village. In this instance, the source of the complaint is clear. Other articles did not specify the complaint, so the case is categorized according to whatever type of pollution is most often identified with the site. In the case of the garbage incinerator, for example, if the coverage left out specific protest complaints, such as smog, I assume that this protest was in regards to air pollution, or the potential for air pollution.

Figure 2.1 details cases per province, looking at instances of air, water, and soil pollution protests. Keeping in mind that this dataset excludes several thousand unreported (or reported, though only in Chinese media) mass incidents, I believe this chart is fairly representative for what I am studying in this thesis. These cases represent the largest protests across the provinces, and are therefore likely to have the most influence on government action. The attention garnered by these reported cases feature hundreds, if not thousands, of participants. If regulation is not enforced even among the most visible of cases, this paints a dreary picture for other instances of
Chinese activism. If more protests are successful than not, then odds increase for success in those cases that were not located or not reported for this experiment. My hypothesis examining government attention and responsiveness to air pollution, for example, hopes to indicate that officials respond with more policy implementation to the most common form of protest (air pollution). If this experiment were to demonstrate relative success for cases of air pollution, this could indicate that most cases of air pollution protest experience relative success. If the experiment were to demonstrate failure under this category, then this could signify the opposite.

Time seemed to have little bearing on the ease of locating cases. Instances of protest were slightly easier to find in the latter years of the timeline, as I obtained at least four cases between 2014 and 2016. In most years I only found three cases of protest in the areas selected. I suspect that as the environment worsened that there would be more protests, and subsequently more reported protests across the provinces I chose for this experiment. Moreover, as expected, air pollution incidents were the dominant form of protest for most provinces (all except Jiangsu, which only had one case of air pollution protest). Guangdong, the province with the most reported cases, had over 75% of their incidents related to air pollution. Even Sichuan, a Western continental province, saw over 60% of their protests under air pollution.

The charts on page seven stratify protest success and failure across the five provinces included in the experiment, as well as instances of success and failure across the type of protests, namely air, water, and soil. I located the result of each protest through either the concluding text of the news report, which often indicated the result of the protest, or referencing another article that followed the story and reported the result. Cases of protest that succeeded in forcing the offender to relocate are not considered successful under the outline of this experiment. The protesters may have achieved what they desired, but if the offender broke regulation, then
enforcement cannot be applied because the industry planned on carrying out their plans elsewhere. Protests that triumphed in suspending operations of the polluter, forced the polluter to observe cleaner industrial practices, or shut down the polluter all together are considered successes.

Successful cases of environmental protests in Beijing, Guangdong, and Hunan were fairly even in occurrence with cases of failure between 2005 and 2016, as demonstrated in Figure 2.2. The same cannot be said about Jiangsu and Sichuan. Jiangsu saw complete success throughout that period, while Sichuan saw only one case of success (the rest are considered protest failure). This data has some implications for the coastal and continental classification discussed in the hypotheses in Chapter I. Guangdong and Jiangsu, two coastal provinces, are the only provinces with more cases of success than failure, though it should be noted that Guangdong saw only one more successful case than the cases of reported failure. The continental provinces, namely Hunan and Sichuan, both experienced more cases of protest failure than success, with special attention to Sichuan, which saw several more failures than successes. 88% of Sichuan’s cases ended in failure. Beijing is a special case, as it is fairly close to the coast and an overwhelmingly large metropolis, but it is technically landlocked. Because it is China’s capital, and therefore most representative of Chinese central policy, this experiment includes Beijing in the coastal category, since it is the most likely case to see the most environmental regulation enforcement. Therefore, Beijing is the only case in this category, alongside Jiangsu and Guangdong, to experience more cases of failure than success.
Figure 2.1 Cases of Air, Water, and Soil Pollution per Province\(^1\) (N=41)

![Graph showing cases of pollution per province](image)


\(^1\)This figure only reports those cases examined in this study
Fig. 2.2: Instances of Protest Success and Failure per Province, 2004-2016\(^2\) (N=41)

Fig. 2.3: Air, Water, and Soil Protest Success and Failure, 2004-2016\(^3\) (N=41)

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\(^2\) These figures only report those cases examined in this study

\(^3\) These figures are sourced from the National Bureau of Statistics of China, http://www.stats.gov.cn/english/statisticaldata/annualdata/
Data Examining Pollutants

Statistics examining the amount of pollution across the provinces should be examined as well, not only to discover if they are increasing or decreasing, but also to see at what rate emissions are changing alongside cases of successful or failed protests. As discussed in Chapter I, this information will assist in determining if successful protests contribute to environmental regulation enforcement. In order to analyze which statistics to look for that accurately reflect whether protests are assisting with a change in emissions output, I examined the primary pollutants associated with air, water, and soil pollution, and subsequently the availability of the statistics with regard to those pollutants.

The “Particulate Matter less than 2.5 micrometers” measure, or PM2.5, is a common form of measuring air quality (EPA, 2016). Particulate matter describes the size of very small and potentially harmful particles that form due to chemical compounds, such as sulfur dioxide, reacting with each other in the air. A size of 2.5 micrometers is dangerous in terms of the smog these particles create and their ability to settle deep inside respiratory systems (EPA, 2016). Exposure to PM2.5 has been scientifically proven to influence health adversely. In one study, researchers concluded that for every significant increase in PM2.5 contact, particulate matter-related mortality also increased in that area 2.8% (Kloog et al., 2013). However, in order to gauge the potential reduction in emissions from power plants or factories, sulfur dioxide (SO2) presence should be examined. SO2 is a compound more closely associated with power plant and factory emissions, alongside carbon dioxide. SO2 is also an emission found in motor vehicle pollutants, although a recent study conducted by the Chinese Academy of Sciences claims that motor vehicle emissions account for only about four percent of air pollution in Beijing, whereas SO2 emissions from plants or factories account for about twenty-five percent (Piao, 2014).
Therefore, the data I collect concerning SO2 emissions represent, for the most part, emissions from power plants or factories.

As is seen in Figure 2.3, cases of protests with regards to air pollution were the largest in number throughout the chosen time period. Data and information regarding air pollutants were easiest to find as a result. Water and soil pollution presented less information, and in the case of soil pollution, I was unable to locate any consistent data reporting soil pollutants over time. The only potential source of soil pollution came from examining solid waste amounts, although there were either not enough data points to display an accurate picture of soil pollution trends, or any specific differentiation between hazardous and non-hazardous solid waste. As a result, there are not any charts displaying trends of soil pollution change.

However, I was able to locate one consistent source of water pollutants that can assist in determining impact in a manner consistent with the information I collected regarding SO2 emissions. Chemical Oxide Demand (COD) is a measure used to determine the amount of oxygen a certain area of water can take in, in order to break down both organic and inorganic materials. The higher the COD level, the less likely the water is able to break down harmful discharge, such as wastewater (Mancy, K. H., 1971). The COD discharge measure provides the ability to determine the health of each province’s water sources, and these sources’ ability to break down discharge from factories, power plants, and other infrastructure that disposes of wastewater. I expect this measure may slightly change with effective protests, though because of the bounty of domestic wastewater, I will look more towards actual policy implementation to uncover the impact of protests over water sources.
Fig. 2.4: Sulfur Dioxide Concentration per Provincial Capital, 2004-2015\(^4\) (N=41)

Sourced from *National Bureau of Statistics of China*,

\(^4\) This figure only reports those cases examined in this study
The National Bureau of Statistics of China has published datasets in the China Statistical Database (CSD) every year since 1996. The CSD houses several datasets ranging from living conditions to foreign trade to environmental health. The data from the Figure 2.4 and Figure 2.5 were obtained from the “Environmental Protection” category. In each category are several subcategories. For example, within the “Environmental Protection” dataset, subcategories like “Emission and Treatment of Waste Gas by Region” and “Ambient Air Quality by City” are included. I chose to present graphs of the data ranging from 2004-2015, as 2016 data has not been published yet. Most of the data across the timeline stayed consistent, although differences in subcategories provide some challenges. For example, while gathering statistics regarding the volume of sulfur dioxide present in the air per province, new subcategories replaced ones I had been using beginning in the 2010 report, and the database presented sulfur dioxide concentration emitted by industry and consumers as separate tables, whereas 2011-2015 presented the concentration as one collective figure.

In order to address this problem, I provide two charts that outline concentration of sulfur dioxide: Figure 2.4 examines the concentration of sulfur dioxide in the capital cities of each province in this experiment, and Figure 2.5 presents sulfur dioxide volume for each province as a whole. Furthermore, examining the capitals as separate from the province allows a distinct perspective comparing how well the capitals (and subsequently the most populated cities for each province examined in this thesis) fare in terms of air quality versus the rest of the province. The trends established from these charts will be helpful in analyzing the impact of protests in each of the provinces.
Figure 2.5: Amount of Sulfur Dioxide per Province, 2004-2015\(^5\) (N=41)

Sourced from the *National Bureau of Statistics of China*,

\(^5\) This figure only reports those cases examined in this study
Figure 2.4 shows a fairly consistent downward trend of SO2 concentration in each provincial capital. Guangzhou, Guangdong has the most significant drop, as it had had one of the higher concentrations of SO2 in 2004 to one of lowest of the cases in 2015. Changsha, Hunan also shows an impressive dip in concentration, starting at almost 90 micrograms per meter cubed, which is significantly higher than the other capitals, and settling around the average volume that the other capitals measured in 2015. Nanjing, while having lowered its overall SO2 concentration throughout the timeline did not experience as significant a decline as the other capitals. Moreover, it began as the capital with the lowest SO2 concentration and ended up as the capital with the highest volume in 2015.

Figure 2.5 shows steady declines of SO2 amounts from 2004 to 2015, as measured in tens of thousands of tons. Compared to Figure 2.4, which saw dramatic changes in SO2 volume in each capital city, Figure 2.5 does not present many. The position with which each capital started in 2004 did not end up shifting significantly up to the timeline’s end in 2015. For example, Guangdong, Jiangsu, and Sichuan provinces all began with around 1.2 million tons of SO2, and successively ended with around 70 or 80 million tons of SO2. Although Figures 2.4 and 2.5 cannot be compared extensively due to differing units, one can conclude that SO2 concentrations in capital cities and the surrounding provincial area differ in terms of the rate at which SO2 is reduced.
Fig. 2.6: Chemical Oxygen Demand Discharge per Province, 2004-2015⁶ (N=41)

Sourced from National Bureau of Statistics of China
(http://www.stats.gov.cn/english/statisticaldata/annualdata/)

⁶This figure only reports those cases examined in this study
Figure 2.6 presents chemical oxygen demand (COD) discharge, and its fluctuating measure across the timeline. From 2004 to 2010 (the data of which was taken from a 2005 report and 2011 report, respectively) demonstrates a very gradual decline. A severe increase takes place in 2011 (this data was taken from the 2012 report), and again gradually declines until the end of the graph. For each region, the amount of COD discharge almost doubles, or in the case of Guangdong more than doubles. This reported data is concerning, especially from a validity standpoint, however, Statista reports a very similar jump in between 2010 and 2011 (Statista, 2016). If these statistics are accurate, it would not bode well for protest efficacy. Because of the switch in national leadership occurring in 2012 from Hu Jintao to Xi Jinping, the reporting methods may have changed, or the data collecting methods changed. Regardless, I will examine 2010-2011 as a separate account in Chapter III, and subsequently 2004-2009 and 2012-2015 as separate accounts.

Conclusions

The data examined in this chapter shows that protest impact needs to be examined alongside national policy implementation in order to gain a clearer picture of how protests can lead to decreases in environmental harm. The data from the National Bureau of Statistics of China show that air and water pollution have been decreasing in general, both within provinces and in their capital cities. Environmental protests are simultaneously increasing. This chapter alone cannot demonstrate whether protests have an impact on the decreasing trends shown in the datasets. Moreover, it is not sufficient in showing differences between provinces, including coastal and continental stratifications.
Chapter III will not only examine implementation of environmental regulations per province, but will also draw comparisons with the data presented in this chapter, including whether or not regulation enforcement matches up with decreases in pollutants per pollution type. For example, if larger amounts of protests occurred toward water pollutants in a certain province, and increases in government regulation alongside decreases in water pollutants (primarily COD discharge), this would present a convincing argument in favor of protest impact. Specifically in reference to air pollution, both figures presenting SO2 concentration showed steady declines over time. Paired with government action in response to air pollution protests, this may show a promising picture for environmental protest efficacy. However, there are other potential influencing factors at play. The growing global effort to combat the adverse costs as seen in the 21st Conference of Parties could be placing pressure on China to carry out and enforce environmental reforms. I do not deny that this is playing a role, but this does not explain why localized protests have been able to interrupt factory construction sporadically. If China were beginning to curb to international pressure, officials would respond to environmental protests with the same vigor they do with other social protests (such as land reclamation or labor protests). Chapter III will also examine William Gamson’s social movement theory, especially his thoughts on movement impact, in order to see how the government responds to environmental complaints in the broader sense. The data in this chapter will be amplified through the qualitative analysis offered in the next chapter.
Chapter III
Framing Protest Outcomes

Introduction

One of the more complicated puzzles this experiment attempts to unravel is how and why Chinese officials react to environmental protests. Chapter II demonstrates that the numbers of successful protests are more or less equal with the number of failed protests across a majority of the cases, with the exception of Sichuan and Jiangsu (Figure 2.2). The type of protest (air, water, or soil) does not have much bearing on its outcome either (Figure 2.3). While these quantitative data points are significant in presenting the relative success or failure experienced in each province, a qualitative examination of each case is necessary to help determine why each protest succeeds or fails, as well as to gain an understanding of what may impact the actual enforcement of regulation. These are the primary tasks of Chapter III.

Appendix A lists each case of protest analyzed in this experiment. In addition to cataloging the case location, type, and its success or failure, it also lists the relative size and the rationale for the specified outcome. This chapter will look at relevant factors for the success or failure of an instance of protests. Moreover, if protests that consistently failed did so because of high amounts of violence, this experiment will also suggest that protestor violence is indicative of failure. The following sections of this chapter examine the evolution of environmental regulation alongside the growth of environmental protests in China, and finally merge the results into a model suggesting patterns of impact in its broadest terms. More specifically, official initiatives and policies directed at environmental improvement are examined for similarities with the aims of each protest. For example, if paper mills are common targets among cases, and the government subsequently releases an initiative that focuses on reducing paper mill construction
or even investments in cleaner mill operation, there is a possibility that this was due to the presence of a protest.

Lastly, these figures are examined through the lens of political opportunity in order to examine why protests were allowed to operate under normally repressive government officials. Each province is analyzed separately, as opposed to grouping them according pollution type.

**Chinese Environmental Regulation, 2002-2016**

Although inklings of environmental activism existed prior to 2002, the PRC ratified the protocols to the United Nations Framework Convention on Climate Change (often referred to as the Kyoto Protocol) in August 2002, which paved the way for increased attention to environmental matters within its borders and its involvement in the global shift toward conservation (UNFCCC, 2014). The Kyoto Protocol is a United Nations agreement that sets carbon reduction targets for each state that commits itself to the language of the document. Interestingly, China also joined the World Trade Organization in 2002, hinting at a sense of reform throughout China’s central government (Xia et al., 2016). Since 2002, China has developed several policy actions and initiatives to combat its worsening physical environment. In fact, since 2005 (the year in which the Kyoto Protocol entered into force), the PRC has released a major new environmental policy every year, with 2007 serving as the only exception, culminating in their ratification of the 21st Conference of the Parties in September 2016.

In 2003, three policies were enacted concerning environmental protection, namely the Cleaner Production Promotion Law, the Environmental Impact Assessment Law, and a policy named “On Accelerating the Development of Circular Economy.” The Cleaner Production Promotion Law does not target any industry specifically, but encourages several levels of
government, most notably local institutions, develop “green” blueprints for industries to follow (NPC, 2007). This law is significant as it begins the realization of involving local governments in conservation efforts. More pointedly, the Environmental Impact Assessment (EIA) Law paves the way for lawful action civilians or other parts of civil society could take against construction projects that could potentially result in environmental harm. EIAs require firms to conduct impact assessments of the land they plan to build upon, examining wildlife, water resource, and soil impact, among other things (Environmental Impact Assessment Law, 2003). This policy also requires firms to hold public hearings to gain insight about the potential sensitivity of environmental issues in the area (EIA, 2003).

To investigate further the efficacy of these EIAs, the rest of this section is dedicated to explaining the regulations and initiatives relevant to the industrial sector proposed in this fourteen-year period. Three subsections are included, focusing on air pollution, water pollution, and soil pollution respectively. In each subsection, I discuss major policies promulgated between 2004 and 2016 with relation to each type of pollution. Each policy is examined for content including what type of infrastructure is targeted (directly or indirectly), what the policy is aiming to accomplish, and the timeframe for which the policy was debated and finally released. I cross-reference these policies with the protests outlined in Appendix A to discuss the degree of similarity between the policies and protests, primarily with regards to time, the aims of each, and the setting with which each took place.

For example, if there were several protests targeting radioactive waste dumping during a two or three-year period, and within that same timeframe, a policy came out that targeted firms with records of prolific radioactive waste dumping, it could be said that these protests assisted in motivating the government to create policy to combat the environmental offenders. This may
also ease the amount of protests. This will assist in assessing how both national and regional
governments react and adapt to the growing number of protests occurring throughout the
country, thereby supporting the section of this chapter that employs social movement theories.
The end of each subsection will conclude with a discussion concerning how impactful each type
of protest appeared to be with regards to policy implementation.

Air

Examining protests alongside policy that relates to air pollution can be difficult, as air
pollution protests are, by far, the most abundant type. For the first several years of the 2004-2016
timeline analyzed in this thesis, protests concerning air pollution come out about even with water
and soil protests. However, beginning around 2010, cases of air pollution protest account for
almost 75% of the reported cases analyzed in this experiment. I expect to see that policy and
initiatives concerning air pollution will coalesce around the latter years of this study, however,
careful observations as to the content of the policies and initiatives alongside the demands of
protesters are very important for the accurate results.

The years 2005-2010 saw several policies released having to do with developing
renewable energy sources and utilizing their contributions for continued economic growth, with
special attention to combatting air pollution. The National People’s Congress released the
Renewable Energy Law, the Energy Conservation Law, and the Circular Economy Promotion
Law within this five-year period (Xia et al., 2016). The texts of these laws suggest incentives for
particular industries to adopt the measures by targeting certain technologies in each sector. For
example, the Energy Conservation Law encourages the industrial to use equipment such as
boilers, furnaces, and motor pumps that use clean coal and other innovative technologies in the
industrial sector (Law of the People’s Republic of China on Energy Conservation, 2008). It even prohibits the construction of new coal-powered or gasoline-powered forms of energy production. Several times, this law mentions the role of coal in the fight to conserve energy, however the law points subtly to its harmful role in contributing to China’s air pollution problem. It notes the importance of cutting down on the use of motor vehicles and the need to cut down on air conditioning in the real estate sector. Both of these are significant factors when considering contribution to China’s air pollution, especially as its citizens grow wealthier (Ye, 2015).

This policy is difficult to compare with the protest data. While it does target air pollution, it focuses on topics that are popular subjects of protest such as motor vehicle use and coal-fired power plants. Of the 28 cases of air pollution collected in this research, there are only two protests that target coal-fired power plant pollution. However, this does not mean that the air pollution protests that occurred around 2008 lacked impact on the enforcement of environmental regulation. If anything, demonstrations could have shown each respective level of government that the people are willing to protest when conditions are worsening. An examination of post-2010 air pollution protests assists in determining impact around this timeframe.

Between 2004 and 2010 there were eleven cases of air pollution protest across the five provinces surveyed in this study. Of the eleven cases, eight were unsuccessful and three may be considered as successful by the standards used in this study. Even in large cities, such as Beijing (population: about 22 million) and Guangzhou (population: about 15 million), protesters fail to force government implementation of environmentally hazardous infrastructure (Statista, 2018). The only successes that occurred in this timeframe did so because the protesters succeeded in making the government conduct a more thorough environmental impact assessment (EIA). In most cases, this occurred before the construction started, as can be seen in the successful 2010
protest in Foshan, Guangdong. This group of cases demonstrates that, regardless of location or size of the protest, more legitimate and process-oriented tactics, such as calling for another EIA, are more effective.

China’s Eleventh Five-Year plan (2006-2010) also saw a handful of environmental polices focused on air pollution, including concentrations of sulfur dioxide in the atmosphere. The plan aims specifically at shutting down highly inefficient power plants and installing “desulfurization” equipment on several coal-powered plants (Cao et al. 2009). As far as this regulation goes, coal is the primary target once again. However, upon examination of the cases, most protests were in opposition to the construction of plants or garbage incinerators. Very few were actually in regards to existing infrastructure. Approximately 25% of air pollution protests targeted sites where a factory or garbage incinerator had already been built. This suggests that protests break out more often due to announced plans rather than buildings already present.

The Twelfth Five-Year Plan (2011-2015) continues to outline measures to decrease sulfur dioxide emissions, including the continuation of goals from the previous Five-Year Plan. However, this plan emphasizes the need to build clean and technologically efficient waste disposal facilities, including clean incinerators, a measure that did not receive much attention in the previous five years (National 12th Five-Year Plan for Environmental Protection, 2011). This likely highlights that government officials realized the issues inefficient garbage incinerators pose, as well as the protests their construction caused. Up until 2011, nine of the eleven cases of air pollution protests reported garbage incinerators as the target of their ire. The ensuing years, following the Twelfth Five-Year Plan, saw a decline in the amount of garbage incineration protests. Only six out of the fifteen air pollution protests contested garbage incinerators, and five out of those six cases took place in Guangdong. The magnitude of garbage incinerator protests,
by far the most prevalent type of protest reported in the selection of cases used in this experiment, lessened significantly following the establishment of the Twelfth Five-Year Plan.

**Water**

Between 2008 and 2014, two major policies were released with regards to water pollution. The 2008 Water Pollution Prevention and Control Law is a fairly comprehensive policy that targets urban and rural settings alike, as well as industrial and shipping-related forms of water contamination. Interestingly, the majority of protests in this study regarding water pollution occurred in 2008 and before as indicated in Appendix A. This comprehensive water pollution policy could have been in response to the plurality of water pollution cases occurring between 2004 and 2008, where almost half targeted water contamination of some sort. In 2014, the State Council released a policy titled “Regulation of Urban Drainage and Sewage Treatment” that describes methods concerning how drainage facilities should be built, and how the resulting water should be directed, whether through wastewater plants or rainwater lines (Regulation on Urban Drainage and Sewage Treatment, 2013). The text of this policy speaks mostly to the urban populace. Case 24 from Appendix A points to a relatively well-known case of protest in Jiangsu province in 2012, targeting a wastewater discharge system within a Japanese-owned paper mill. While this is two years behind the advent of the Urban Drainage law, the magnitude of people present at the site of the protest (numbered in the thousands), alongside its location in a coastal province, could have made a big enough impact at the national level to merit a new, national policy. Moreover, the creation of the Ten-Point Water Plan of 2015 aims at further curbing water pollution, improving technological standards, and encouraging public participation as its primary targets. However, this plan appears to disregard rural settings altogether. The policy aims at
specifically improving the cleanliness of “urban drinking water” and to “improve the environmental quality of coastal areas” (China Water Risk, 2015). Moreover, a significant portion of the text refers directly to improve the “urban water environment” in Beijing, Tianjin, Hebei, the Pearl River Delta and the Yangtze River Delta (China Water Risk). This plan does refer to increasing the efficiency of water used for agricultural purposes, though, unlike the key urban areas specifically mentioned, rural areas receive no direct statement.

The success of these three water pollution policies can be seen in the decline of cases of protests. In my experiment most of the cases concerning water pollution occurred in 2008 and before. After 2008, there were only two cases of protest in all five provinces. This can be attributed in part to the success of national policy and also the size of participation in the protests. The first case of water pollution protest in this study occurred in Sichuan in 2004, with reported numbers of at least 100,000 people. Protests of this category arising afterwards never had less than several hundreds of participants. Considering the drop in reported water pollution protests during the latter half of the timeline, these types of protests may have decreased altogether. Moreover, besides their jump in 2011, COD levels saw steady decreases every year in each province. The presence of policy, such as the three described above, discourages firms from contaminating water sources with waste or chemicals. With policy release occurring around the same time as nationally significant protests, civilian impact on creation of this policy can be ascertained.

The aforementioned Twelfth Five-Year plan mentioned water pollution more often than not, which is significant given the lack of attention given to it in previous plans. Within the “Key Projects” portion of the Plan, the first two points discussed directly relate to China’s proposals to combat water contamination, specifically in river basins and sources of drinking water (12th plan
source). This is significant because, leading up to the advent of the Twelfth Five-Year Plan, the only instances of reported water pollution protest throughout the entire timeline occurred before 2010. Every instance of protest in this experiment, save for one, took place to rally against a firm found guilty of contaminating drinking water sources.

Soil

Taking into consideration all of China’s environmental policy throughout nearly the first one and a half decades of the 21st century, soil pollution regulation seems to be the least covered. Of all the key policies discussed in Qiong Xia’s research paper on Chinese environmental policy efficacy, only one regulation addresses the issue of soil pollution. The “Solid Waste Pollution Prevention and Control Law” sought to control and gain an accurate image as to the amounts of solid waste present in each province, and put in place alternatives to dumping and using environmentally harmful materials in industry. However, throughout the selection of reported protests gathered for this study, none of the protests occurred to object solid waste pile-up; most concerned radiation from nuclear waste, with others relating to mining contamination or oil buildup.

Each of the Five-Year plans addresses soil pollution to some degree, indicating its probable unimportance at the national level. The Eleventh Five-Year Plan (2006-2010) once again addresses the threats posed to the environment from the large amounts of solid waste. The Twelfth Five-Year Plan does address other forms of soil pollution, namely remediating previously contaminated plots of land and taking steps to ensure the proper disposal of nuclear waste to prevent soil radiation poisoning. So while the aims of protests were discussed within the Five-Year plans, it is difficult to establish direct impact due to the relative imprecision with
which soil pollution is addressed at the national level. Moreover, instances of soil pollution protest from 2004 to 2016 seem scattered and do not generally follow as precise a pattern as air pollution and water pollution protests do, per release of environmental regulation. Therefore, soil pollution cases are used more to determine how protests operate in China in the following section, and will have less to do with their impact on regulation enforcement.

**Applying William Gamson’s Social Movement Theory**

William Gamson reminds us that social movement success is better thought of “as a set of outcomes” rather than using a black or white approach (Gamson, 414). In a unified social movement, these outcomes can come in the form government concessions (or a lack thereof), the achievements of the movement leader and their subsequent treatment of the supposed beneficiaries, among other things (414). Even though China’s blooming environmental activism has not yet reached social movement status, many of the same techniques Gamson uses to identify movement success can be attributed to the set of protests in this experiment. He divides his concepts into two components, namely “new advantages” and “acceptance” (414). Whereas “new advantages” refers to benefits members of the social movement gain, “acceptance” signifies how the supposedly ruling opposition recognizes the movement’s ideals and demands.

**Figure 3.1 “Challenged Outcome Framework”**

<table>
<thead>
<tr>
<th>New Advantages</th>
<th>Official Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full</td>
</tr>
<tr>
<td>Full</td>
<td>Full Response</td>
</tr>
<tr>
<td>None</td>
<td>Co-optation</td>
</tr>
<tr>
<td></td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Preemption</td>
</tr>
<tr>
<td></td>
<td>Failure</td>
</tr>
</tbody>
</table>

Framing this table within the bounds of the scattered Chinese environmental protests requires nothing more than examining each protest separately. Each of the outcomes, save for “collapse,” applies to a subsequent outcome a group of protesters achieved or did not achieve. A protest does not “collapse” in the traditional sense; the unification factor inherent to a social movement does not endure in a group of protesters. Once a protest ends in these cases, regardless of the outcome, it ends. There were not any regrouping efforts, save for one case (the Lake Taihu protests persisted over multiple years). What Gamson denotes as “collapse” will be referred to throughout as “failure.”

The protest outcomes are decided by whether or not the incident succeeded in obtaining new advantages, such as plant closure or plant movement for example, or if the authorities “accepted” the demands of the protesters, which is drawn from the government’s response to the protests. Successful outcomes fall under the category of “full response,” when both new advantages and acceptances are achieved, and “co-optation,” when groups obtain government acceptance but lack in terms of benefits received. Co-optation normally occurs when environmentally detrimental projects are \textit{temporarily} shut down and re-examined through further environmental impact assessments. This is considered successful because the protest, while it did not achieve plant closures or the like, authorities listened to the complaints and committed to multi-year closures to enhance environmental safety. In the meantime, any suffering induced through pollution is also suspended. While this outcome is certainly beneficial to some extent, advantages are harder to ascertain. In some cases, plants or factories that were ordered to suspend or shut down operations continued to operate without penalty (Cindy, 2017). On these occasions, it is difficult to tell what role the authorities played in the plants’ continued operation,
and whether or not government officials only appeared accepting of the protesters’ demands. For this reason, these cases fall under “co-optation.”

Failed outcomes happen as a result of denied acceptance and advantages. Pre-emption, which this experiment frames as failure, occurs when protesters receive benefits, such as the relocation of a plant or factory, but do not achieve much in the form of government acceptance or regulation enforcement. For most protests, officials preempted the incident in order to quell a protest that gained too much traction. Instead of suffering profit loss and public instability, officials moved construction sites. This outcome demonstrates circumstances in which environmental regulation is not enforced and the public’s desire for a cleaner environment is moved out of sight. The following paragraphs address these outcomes, according to each province, and further stratified into their respective coastal and continental divides. These outcomes will also address the patterns of national policy noted earlier in this chapter, and finally the data trends from graphs in Chapter II.

**Hunan and Sichuan: The Continental Provinces**

Protests taking place in Hunan province present a curious story, as the first several protests throughout the timeline rallied against water polluting infrastructure. Even those cases with complaints pertaining to soil pollution deliberated the consequences the pollutants would have on groundwater. Another interesting trend common among most of the Hunan cases is that protesters were alerted to pollutants long after construction was completed or pollution had damaged their communities. The first five of the seven cases revealed this trend. For example, the 2009 cases in Liuyang and Wugang, while successful, were sparked after autopsies revealed copious amounts of cadmium or manganese (from mining operations) in people who had died
near each respective factory or plant. These autopsies sparked protests among communities surrounding the offending operations, demonstrating that the protesters were unaware of the effect mining or plant operations had on their population until after the fact.

Interestingly, the final two reported protests in Hunan, occurring in 2014 and 2016, gathered in response to announced plans to construct factories, which, in the eyes of the protesters, could have had a negative impact on air quality. This juxtaposes the standard for a protest’s occurrence in Hunan: the participants knew of the potential consequences of each factory’s operation. That this occurred toward the latter end of the experiment’s timeline is curious; it indicates that citizens of Hunan were becoming more aware of the environmental harm that industrial growth posed. Whereas before, protest participants objected to already operating factories or polluting infrastructure, more recent protests oppose these before they are built.

Pollution type did not seem to have any bearing on the direction a protest took. Instead, the result of the protest presents a more compelling story. After applying Gamson’s framework, five out of seven of the cases fell under the category of “new advantages.” Although two of those five cases did not achieve any tangible form of official acceptance, it shows that the Hunan provincial government was more interested in cooperating with the protesters in order to restore public stability. The cases that achieved “preemption,” meaning officials did not accept the rhetoric of the protest and instead relocated the plant or factory, demonstrate that even if the local government appears to agree with the protest, they are uninterested in enforcing environmental regulation. The same can be ascertained for the protests that completely failed. It was not until the 2016 case in Nan that officials began revealing their intentions to consult with the public concerning the construction of any more plants, factories, or incinerators. More
specifically, officials stated they would “cease all work related to the project and not start up again without public support” (Associated Press, 2016).

Sichuan’s cases are no more promising. Of the eight cases throughout the timeline, six of them ended in failure, one ended in co-optation, and one protest turned up as a full response. What is unique about the Sichuan cases is that all of the failed cases under review were unsuccessful because police forces dispersed participants, or put up blockades or increased presence to deter protests from occurring. In a few cases, such as in Pengzhou and Chengdu, police detected plans before the incident could take place. Two of the eight protests were quashed once local authorities picked up on their activity. Another common trend among Sichuan’s reported protests showed strong government presence and support for the individual projects. The support can be seen in the result of each project; their responses to protests were normally forceful, and three of the eight cases had instances of bullying and violence to disperse protesters.

The abnormal amount of failures (compared to successes) in Sichuan’s case begs the question as to why there was little achievement when protests did occur. Other than substantial government involvement in the projects, reports of each incident focused also on the presence of police, and their subsequent reactions, at each protests’ site. It seems that authorities play a more enforcing role in Sichuan than in other provinces. All of the failures can be attributed to police involvement, rather than on the tactics or methods of the protesters, all of which managed similar approaches when compared to other protests’ operations. Moreover, protests appeared to persist in Pengzhou, an area outside of Chengdu, where government interests and citizen unrest collided on three separate occasions, with regards to three individual chemical plants. All three of these
cases of protest, which took place at the sites of the chemical plants and even outside
government offices located in Chengdu, ended in failure.

The two cases that did not end in breakdown ended in ways consistent with successes across the other provinces in this experiment. The 2008 Gaodong protest ended in co-optation when citizens of Gaodong spoke out against a manganese smelter that contaminated their water source. As in Hunan, the local government understood their pleas. Unlike Hunan, even with national attention given to the case, nothing was done about the manganese mining operation and protesters were bullied into submission. Although the residents of Gaodong did not receive any “new advantages,” each respective form of government “accepted” at face the residents’ wishes. This can be seen in the next case at Shifang in 2012, which coincidentally was the only other case of mining protest, which subsequently ended in success, or “full response.” The plans to build the smelter were cancelled.

Jiangsu and Guangdong: The Coastal Provinces

Among the cases reviewed in this experiment, Jiangsu appears unique in that it was the only province that did not see any failed protests. Three of the five cases came up under full response, while the other two saw co-optation due to factory or plant suspension instead of closure. Interestingly enough, Jiangsu protests were also the smallest in terms of a protest’s participants. Most cases numbered only in the hundreds. Moreover, Jiangsu’s protests were the least violent and destructive out of all the provinces. Only one of the five protests, which was also one of the biggest, resorted to violence, whereas other provinces had at least three protests where groups of protesters became destructive. There is not anything to indicate why this might be the case, except that perhaps due to the small number of cases across Jiangsu there is less of a
sample to identify violent cases. Violent protests are harder to understand in terms of their reporting, as it would make sense that the more disruptive a protest, the more likely it is that it would get news coverage. However, it would also make sense due to the CCP’s strict control over the media that protests that defied authorities and caused mass disruption would not find much, if any, coverage.

Interestingly, Jiangsu displayed a pattern running in reverse compared to Hunan and Sichuan. The first three protests received full response, meaning authorities conceded to a protest’s demands and accepted their aims. The last two protests, occurring in 2016, fell into the co-optation category, in that authorities suspended the operations of the plants instead of shutting them down entirely. Keeping in mind the general trend China is displaying with regards to decreases in harmful pollutants, this pattern is surprisingly contrasting, especially considering Jiangsu’s location near the coast and proximity to Shanghai. The graphs in Figures 2.4 and 2.5 confirm this. Although Jiangsu began with promising amounts of emissions (In 2004, Nanjing had the lowest concentration of sulfur dioxide out of the five provincial capitals), it ended in 2016 with the highest concentrations of sulfur dioxide across the province, even in Nanjing.

Despite this concerning recent trend toward co-optation, Jiangsu’s cases all demonstrate government willingness to accept the environmental ideology the public presents. Even if operations were not completely shut down, every protest had some benefit in terms of the local government’s ability to respond to grievances, which cannot be said for any of the other provinces. Although the direction of Jiangsu’s ability to properly implement environmental regulation is shaky, the face of the issue is such that the government is properly enforcing regulation at the present time.
Guangdong had the most cases of reported protests, with seventeen cases between 2004 and 2016, compared to the next highest province, Sichuan, which had only eight. This could provide the experiment with a more clear and careful analysis of Guangdong’s protest efficacy and ability to influence regulation enforcement. However, there are not any clear patterns from the existing stratifications I set for the experiment. For example, successes and failures did not lean toward one side of the timeline. In fact, there were just as many “full responses” as there were “failures.” In order to try and ascertain a clearer pattern, I isolated all the cases that protested the construction or operation of garbage incinerators, of which there were ten. I came up with the same results; there were just as many successes as there were failures. Next, I broke up Guangdong into regions (north, south, east, and west) to try and ascertain if one part of the province had more successes or failures than others. I was not able to pull any patterns from this breakdown either. Protests with instances of violence or higher than average participant magnitude did not present any relevant findings.

Lastly, I inspected the reasons for the outcome of each of the seventeen protests. Fortunately, I found a general pattern. Of the successful cases, in which were six “full responses” and three “co-optations,” five were successful because government officials wanted to restore social stability and four because proper environmental risk assessments had not been carried out. The two cases that fell under the category of “preemption,” while they only succeeded in relocating a proposed construction site were also done in order to restore public stability. The reaction to the plurality of Guangdong cases occurred with regards to combatting social unrest. In terms of the case failures, of which there were six, four protests were not successful because construction had already started. This seems to be a trend common among failures across all five provinces. The other two failures in Guangdong were a result of coal-fired power plants already
in operation, which authorities permitted to run despite the harm it imposed upon the environment and public health.

Another peculiar aspect of the Guangdong cases is the abundance of air pollution protests. While most forms of protests in each province amounted to air pollution, other than Jiangsu, other forms of protests normally fell one or two cases under the number of air pollution protests. Out of Guangdong’s seventeen cases, thirteen considered air pollution. There were only three cases of the next highest form (soil pollution). Taking into account Guangdong’s massive population, this makes sense. In 2016, Guangdong contained nearly 110 million people (Statista, 2016). Paired with Guangdong’s booming economy (the highest in terms of gross regional product in 2016), this province has the potential to produce a lot of waste, as seen in the abundance of garbage incinerator protests. Unfortunately there were more failures than successes, though only by one case. It appears as though Guangdong authorities are not willing to sacrifice their economic prowess in exchange for environmental restoration. However, based upon the outcomes discussed in the previous paragraph, Guangdong is primarily concerned with preserving public stability.

**Beijing**

Out of Beijing’s four cases, only one of them succeeded. Reported protests in Beijing only occurred from 2006 to 2012 too, demonstrating the tight timeframe and amount of content with which the experiment can operate. Through the combined efforts of data provided through the *EJ Atlas* and Thomas Johnson’s examination of garbage incinerators in Beijing, a more comprehensive picture can be established despite the small amount of cases.
Three of the four Beijing cases unfolded in very similar ways. Not only did they all target waste incinerators, the tactics the protesters used, such as petitions and public forums, were present among the three cases as well. The issues all stemmed from the fact that local authorities did not properly consult or notify residents within the affected area. The 2009 case in the Changping district demonstrates this issue. When the construction of the waste incinerator was about to begin, notice was given through the distribution of only three written posters posted in public areas (Johnson, 2013). In a district with well over half of a million people, this is not sufficient (World Population Review, 2018). A photo of the notice was passed around, and the protests ensued. Similar tactics occurred across the rest of the protests, including some coordination with SEPA (Johnson, 2013).

Despite these efforts, only the 2006 Liulitun protest succeeded (though it was not until 2011 that officials announced the closure of the waste incinerator). As Johnson notes, this case most likely succeeded due to the area’s middle to upper class society, which normally have the capability to form knowledgeable and extensive anti-incinerator networks with local NGOs. Lower class districts, such as those in Gaoantun and Asuwei, do not have the means to resist with the methods seen in upper class communities and are “more easily placated through compensation and therefore less likely to oppose an incinerator” (Johnson, 125). Although Beijing provided the least number of reported protests, the outcomes of each isolated protest help provide insight as to the impact other communities across China may have on regulation enforcement.
Figure 3.2: Summary of Sample Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Full Response (new advantages and official acceptance)</th>
<th>Co-optation (No new advantages, but official acceptance)</th>
<th>Preemption (New advantages, but no official acceptance)</th>
<th>Failure (no new advantages and no official acceptance)</th>
<th>Timeline Protests Occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>2006-2012</td>
</tr>
<tr>
<td>Guangdong</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>2005-2016</td>
</tr>
<tr>
<td>Hunan</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2004-2016</td>
</tr>
<tr>
<td>Jiangsu</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2007-2016</td>
</tr>
<tr>
<td>Sichuan</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>2004-2015</td>
</tr>
</tbody>
</table>
Conclusions

Each province in this experiment has its own story to tell, and has dealt with the progression of national environmental regulation differently. While united in their aims to subvert the harmful effects of pollution in their communities, every community has had to adapt to the politics of their region, whether through petitions and extensive government networks or mass, violent upheavals. Alongside the data from Chapter II, the first part of this chapter shows how, at least at the national level, categories of protests and national policy coexist. As public concern over a particular ecological sorting, so too did national concern. The same cannot be said at the provincial level.

Upon categorizing each protest according to their outcomes, this experiment can gain a more precise picture as to why protests were succeeding or failing in their communities, and then over the province as a whole. The continental cases in Sichuan and Hunan appear to confirm Johnson’s reasoning from his study in Beijing; lower class communities bear the brunt of the worst environmental offenses. In Hunan, even though there were almost as many successes as failures, many citizens were unaware of the environmental hazards posed by factories or plants until severe sickness and even death plagued their communities. Upon protesting, the public normally achieved at worst the movement of the offending infrastructure, and at best a complete closure. Among these successes, local authorities came through with further enforcement, compelling industries to conduct more thorough risk assessments and submissions of inspected water quality reports. In Sichuan, the abundance of unsuccessful protests speaks to the hard stance officials take toward environmental activism.

Cases occurring in the coastal provinces and Beijing establish that, even in failure, the public is advancing their efforts to raise environmental awareness in these regions. Jiangsu’s
complete lack of failure shows the government’s willingness to take into account public concern with regards to new construction projects. In doing so, authorities can avoid the troubling presence of activism while maintaining higher environmental standards. In Guangdong, though numbers of failures were still relatively high, concern for social stability revealed to the public that large and policy-centered protests could provide new advantages. However, due to Guangdong’s population and economic prestige, public voice was often squandered in favor of much-needed waste incinerators. Most importantly, this chapter was able to shape a clearer image as to why and how Chinese officials respond to environmental protests. As social actors improve their tactical ability to shape this enforcement, whether through networking or massive, upsetting demonstrations, officials will have to commit to a frame with which to propel the identity of the PRC.
Chapter IV
Muddying the Water: The Future of Environmental Activism

Introduction

The story of environmental contention in China can be gleaned, at least partly, from the statistics and cases presented in these chapters and the forty-one cases in Appendix A. Environmental activism is scattered, localized, and its width reaches barely beyond provincial borders. Response from the Chinese Communist Party’s (CCP) national body toward this activism is scarce. Even at the local levels, officials’ reactions do not often promise success or public improvement concerning the protests in this thesis. Only about one out of every three cases examined in this study ended in favor of the protesters’ demands, with well over half of those successes confined to coastal regions. To the international community, the CCP may seem environmentally active, and even proactive, considering Li Keqiang’s 2014 “war on pollution,” in addition to their ratification of the 21st Conference of Parties (also known as the Paris Agreement) in 2016. With the United States’ departure from the Paris Agreement, several news reports indicate the possibility of China’s rise to the global environmental stage (Hilton, 2016; Seligmann, 2018; Zhang, 2017). While at face value, China’s potential as a leader in climate change may seem plausible, their response to domestic incidents and severely delayed reactions to environmental hazards demonstrates that China must practice more enforcement and public consultation than the sample examined in this study has shown.

China’s more recent environmental activity, from a national perspective, shows that the CCP has “rebranded itself as the global steward of green initiatives” (Zhang, 2017). One of China’s primary initiatives revolves around the construction of renewable energy sources (mainly solar, water, and wind) to replace coal-fired power plants across the country. According
to China’s National Energy Administration and the China Electricity Council, renewable energy infrastructure accounts for about 70% of the “new capacity added” for energy sources in the first half of 2017 (Mathews, 2017). However, this does not mean that China is slowing its overall demand for energy produced from coal. China continues to export its coal-energy production to other countries, through the construction of Chinese-owned factories in foreign lands, in order to maintain the power needs of their own population (Institute for Energy Research, 2017). While China’s global coal production networks lie outside the bounds of this study, it demonstrates the insidious costs with which their “global environmental leadership” is achieved. While the country appears to be pushing ahead as a whole, the marginalized appear to bear the burdens of development. The results of this study validate this attitude to some extent.

In order to glean a clearer picture of the present domestic environmental situation in China, revisiting the past three years of environmental activism is helpful. The following section will reintroduce the results from 2014-2016 protests from this study. This will determine the relative success or failure recent protests have experienced. In 2014, my sample included four reported protests in two provinces: Hunan and Guangdong. This year is helpful in that there is representation from both continental and coastal China. Hunan experienced two failures and Guangdong two relative successes (the plants’ construction were delayed). Three of the four cases took issue with plant construction. In 2015, there were also four reported protests: three in Guangdong and one in Sichuan. Only one of these protests succeeded (case 33); curiously, this case was the only one in which the protest took issue with plant construction. The other three protested plants that were already operating. These three protests subsequently failed.

In my sample, there were five protests in 2016: two in Jiangsu, one in Sichuan, one in Hunan, and one in Guangdong. The two failed protests in 2016 occurred in Guangdong and
Sichuan. The Guangdong failure was a fairly standard case; officials announced that the garbage incinerator met all of the official guidelines for operation, and no further action was needed. The Sichuan failure was also standard for the cases in the continental provinces examined in this study; officials appeared more interested in maintaining social stability than giving in to public demands. The three successes (two in Jiangsu and one in Hunan), achieved suspension of their respective targets, falling under the category of “co-optation.”

When compared to the protests included in the 2004-2013 timeline, there is not much differentiation. Several protests throughout this timeline ended in success due to protests surrounding the construction of plants or factories, rather than incidents over those already existing. A successful outcome is likely where pre-existing infrastructure is concerned. Moreover, several protests (both successes and failures) ended where the restoration of social stability as a priority over the issues the public held.

Due to the variation in outcomes, especially when examined province to province, it is difficult to state definitively that China’s environmental activism has evolved into a full-fledged social movement. This is not entirely surprising, as social movements are incredibly difficult to create and sustain in China. Not only are they illegal, the components typical of a social movement can be impossible to meet (Qi, 2017). For example, “workers are not allowed to form unions independent from the state…” which highlights the inability of public organizations to engage in any sort of collective movement against the state, such as a labor strike (Qi, 115). It inhibits the ability of individuals to form a collective identity. In terms of environmental activism, public groups such as nongovernmental organizations (NGOs) cannot form outside of the auspices of the state either. New environmental activism is limited to the isolated protests examined in this study. This was the reason behind the coastal and continental stratifications
observed. Due to the significant variation in protest tactics and outcomes, as well as increasingly strict restrictions and rules, the CCP has been able to avoid an environmental social movement. Unlike the differentiation in protest tactics, official responses across the selected provinces have been fairly similar. I would posit that this is a primary reason behind the lack of a unified social movement. So long as the CCP continues to make concessions in the face of environmental protests, protesters will be content (in the instance of successes) with plant closures, as opposed to reaching out beyond their communities to form networks for more environmental activity.

The rest of this chapter will focus primarily on the examination of the hypotheses presented in the first chapter. For each hypothesis, I will use the quantitative data from Chapter II and the qualitative data from Chapter III to determine their results. Keeping in mind that the case selection is limited to only the five provinces used in this experiment, these results do not reflect the country as a whole, rather just those five provinces. However, it is my hope that these provinces are the most representative of environmental protests across China, and therefore inferences can be made as to environmental regulation enforcement across the whole country. With that in mind, I will again present each hypothesis and their individual analyses.

**Hypothesis Examination**

*Hypothesis #1: As protests increase in coastal areas, environmental regulation will also increase.*

Using Jiangsu and Guangdong as representative cases of coastal provinces with booming economies, I expected to find that as protests rose in these areas, that regulation would also rise due to the nature of the tactics activists used during each episode. These provinces, due to the
combined forces of high population (almost 80 million in Jiangsu and 110 million in Guangdong) and high levels of economic activity (Jiangsu had a gross regional product (GRP) of 85,900.94 hundred million yuan in 2016 and Guangdong had a GRP of 89,879.23 million yuan), would have a higher chance of success (Statista, 2018; NBS, 2017). With higher populations, I forecasted that these cases would contain more people, and it would therefore be more challenging for officials to disperse crowds and end the incidents as they occurred. With higher levels of economic activity, I expected that higher levels of education and an abundance of polluting plants and factories would spark higher numbers of organized and cohesive protests than would be found in continental provinces. In order to maintain stability in these provinces, government officials would be forced to implement environmental regulation, or face the specter of a growing social movement.

At the surface level, this hypothesis is supported from the data presented in Chapter II and in Appendix A. In Jiangsu and Guangdong, levels of SO2 and COD both decreased over time. This does not indicate protests’ impact, but rather it shows that Guangdong and Jiangsu’s governments produced reports demonstrating a downward trend for each type of emission. For Jiangsu, levels of COD proved the most development out of any of the provinces. Its successes in two cases of water pollution and two soil pollution protests exhibit that official enforcement of those pollutants in particular are higher than its enforcement concerning air pollution, for which Jiangsu showed the least improvement. Moreover, a clear majority of Jiangsu’s reported cases occurred after 2011, demonstrating increases in their frequency.

Protests in Guangdong also increased in capacity, although a year earlier. Having thirteen cases of air pollution protest, it should be easiest to ascertain if protests have an impact on regulation enforcement by examining air pollution data in Guangdong. SO2 levels in
Guangdong’s capital, Guangzhou, showed the most improvement throughout the timeline. Overall, Guangdong province had the highest decrease (almost a decrease of sixty cubic meters of SO2 from 2005 to 2016), alongside Hunan, of SO2 volume out of all the provinces. The high number of air pollution protests in Guangdong (there are thirteen protests in this study) compared to reported improvement in their emission reductions is very notable. In fact, six out of the nine Guangdong successes in my study were air pollution protests. Most of those successes may be viewed as “full responses” instead of “co-optation,” indicating the efficacy of their protests.

In this study, the coastal provinces demonstrated the most success overall. Both Guangdong and Jiangsu achieved more successful protests than failed protests, and among those successes reached both “new advantages” and “acceptance” in a majority of them. Moreover, the most popular type of protest in each province received the most attention in terms of emission reduction. In Jiangsu, large reductions in COD levels correlated with tremendous successes in water and groundwater pollution protests. Jiangsu had one case of air pollution protest throughout this study’s timeline, and subsequently did not see much improvement in SO2 emissions. While causality cannot be confirmed solely from this linkage, I would argue that the protest’s impact is partially revealed here. In Guangdong, the sizable amount of air pollution protests correlated with the highest reductions in SO2 emissions out of all the examined provinces. The higher the protest’s success in these areas per type of pollution, the higher the pollutant reductions are, which therefore indicates higher levels of regulation enforcement.
Hypothesis #2: As protests increase in rural areas, environmental regulation enforcement will not change.

I chose Hunan and Sichuan as representative cases of the continental regions of China due to their significant populations and the higher frequency of protests when compared to other continental provinces. I posited that as environmental protests frequency rise among these provinces that environmental regulation enforcement would remain unchanged because of the smaller economies inherent in western provinces and lower levels of education, specifically concerning environmentally hazardous industries. Access to the Internet is significantly lower in these provinces than in the coastal provinces, and can further impact access to news of prolific environmental harm (Statista, 2016). In 2016, Hunan had a GRP of 34,590.56 hundred million yuan and Sichuan had a GRP of 36,980.22 hundred million yuan (NBS, 2017) Due to Internet availability and their smaller economies, I expected that Sichuan and Hunan would achieve little success in their cases and have little to no impact on environmental regulation enforcement. In addition, if these provinces’ governments achieved reduction in emissions, which they did, it would not have much to do with environmental activism.

The results of this study do not support this hypothesis. Declines in emissions, with regards to both SO2 and COD, are apparent. Sichuan actually achieved one of the highest overall reductions in SO2 (almost a 50 cubic meter decrease), alongside Guangdong. It is difficult to explain this in connection to cases of protest, as Sichuan experienced high levels of failure throughout the timeline. Out of the eight reported protests, there is only one success. Unique to Sichuan, for the most part, was the amount of preemptive activity on part of the authorities as
protests began to develop. Several cases exhibited how police cracked down on protests before they even really began, or even the rapidity with which protests were dispersed.

Hunan presented decreasing levels of SO2 and COD as well, and showcased another relatively unique characteristic among protests as noted before: most demonstrators gathered to protest an operation already functioning, as opposed to plans to construct a plant or factory with the potential to pollute. Despite the relative lack of success protesters experienced when speaking out against existing infrastructure, Hunan protesters were successful in shutting down polluting operations in half of the cases dealing with operating plants and factories (in this instance, over a smelter and a chemical plant). Hunan’s activists, for a majority of the timeline under examination, seemed unaware of the detriments mining operations or chemical plants caused. This was evident in the protests’ approach, which normally did not begin until people began to die and children fell severely ill. For example, Case 2 in Shutangshan occurred after the loss of several forms of livestock, including cows, chickens, bees, and fish, and as villagers began to pass away from various forms of cancer. It was not until after an investigation published a report of harmful emissions emitted from a local factory that protests started to gather momentum, including several attempts to shut off the factory’s electricity (Temper et al., 2015). Sickness and fatalities added legitimate cause for the eventual closure of those operations in Hunan. The Shutangshan case, while it did not succeed according to the guidelines of this experiment, did succeed in moving the factory to another part of China.

A more apt conclusion regarding the continental provinces would consider that as environmental protests increased, officials and authorities did not show increases in levels of concession. Most often in Sichuan’s cases, officials learned and perfected ways to stifle protests, as can be seen in the eventual preemptive dispersion of protests before they began (see Cases 27
and 37 in Appendix A). In Hunan, it appeared as if one of the only ways to achieve success was to connect a factory’s existence with sickness and death (see Cases 2, 4, 14, 15, and 29). The continental provinces showed the least possible impact on environmental enforcement.

_Hypothesis #3: As protests concerning air pollution increase, overall environmental regulation across the provinces selected will increase_

Air pollution protests had the most reported cases among the three pollution types. Therefore, it seemed appropriate to examine if the most popular form of protest made the most impact on decisions to enforce environmental policy. To recount, air pollution protests counted for 61% of the all the cases in this experiment, and 67% of those protests did not result in success. One quarter of those unsuccessful protests ended with a preemptive response (due to the relocation of a proposed plant, factory, or operation), with the rest ending in complete failure. Air pollution protests also increased throughout time. As referenced in Appendix A, from 2004 to 2009 there were seven cases of reported air pollution protest among the five provinces. From 2010-2016, there were eighteen reported cases. I hypothesized that due to this increase in protests that air pollution regulation enforcement would also increase.

It is relatively simple to demonstrate a correlation. Per the SO2 data presented in Chapter II, emissions generally decrease year to year as air pollution protests increase across the provinces in this study. Along these same lines, instances of air pollution protest success also increased over time. Whereas pre-2010 results saw only one successful protest (14% of air pollution protests were successful), post-2010 results saw seven (39% of air pollution protests were successful). These numbers show plainly that increases in successful and unsuccessful air pollution protests coincide with provincial improvements in air and water quality. Additionally, as Chapter III notes, increasing attention is paid to waste incinerators and SO2-emmitting
infrastructure throughout time. Considering the high economic prestige of Guangdong, the province with the most air-related pollution protests, impact could have reached the national level given the magnitude of these protests (specifically considering waste incineration).

The Future of Environmentalism in China

Given the results of this experiment, I expect environmental protests to continue to increase in frequency over the next few years. As China continues to grow in both size and economic heft, the CCP will face numerous environmental challenges. This study demonstrated the impact of waste incinerators in Guangdong; several protests resisted their construction, and more of them failed than succeeded.

In Beijing, waste incinerator construction instigated three out of the four protests. Only one of those succeeded (though it took five years to succeed). Moreover, Beijing’s last reported protest occurred in 2012, begging the question as to why more protests have not made it to media outlets as they have in other provinces. While there is not any information that attempts to answer this question, I would posit that Beijing officials fear widespread dissent most in the capital city, and therefore potential activism is monitored more closely. If communities across China noticed environmental unrest occurring in Beijing, it may inspire activists to act out more often, or more aggressively. I will also, then, argue that this trend will continue. News reports will likely keep environmental activism in Beijing, and other forms of activism for that matter, under wraps. Additionally, Chinese companies are preparing to build more coal-powered plants both inside and outside of China, which could prove detrimental both to its commitment to the Paris Agreement and the patience of China’s citizens (Urgewald, 2017).
Considering the trends displayed in this study, I contend that air pollution protest will continue as the most prevalent form of pollution for activists to demonstrate against. Given the direction that the continental provinces in this study (Hunan and Sichuan) are headed, I expect that officials will experience difficulties when responding to protest demands. Outcomes will begin to tend more towards co-optation as citizens become more aware of the harmful consequences of nearby plants and factories, and subsequently cognizant of the most effective tactics to use in protests. The most successful tactic in this study, by far, is gathering in response to the construction of a plant or factory rather than against one that has already been built. This is not surprising. Shutting down factories and plants that are already built present the most costly alternative to responding to protest demands. If citizens begin to employ this method, I believe they will have more success. Additionally, cooperation with NGOs or other public institutions could prove fruitful. As I have mentioned in a previous chapter, public institutions have played a hand in the actual formation of the 2014 EPL (Zhang et al., 2016). Through closer interactions with these organizations, mass incidents could be curtailed, potentially avoiding violence and arrests, and government-citizen dialogue can be increased.

Areas for Future Research

This study suffered from the limited availability of English-language reported cases. A replication of this experiment would include protests reported in Mandarin reported news sites, blogs, and other forms of media. Given this opportunity, the study would not be limited to the handful of websites that report environmental incidents. Rather, several other reporting mediums, such as private blogs and localized news agencies, could be used to develop a much larger dataset. Not only would this diversify and provide more validity to the study’s findings, the cases
themselves could experience separate accounts as more reports on the same incident are published. This anomaly occurred a handful of times in this study with regards to the size of the protest. In some instances, a report would set a cap at around 1,000 participants, whereas another report would claim the protest reached 100,000 people. Moreover, blogs and media outlets do not report on every single case of protest. Especially in provinces such as Hunan and Sichuan where Internet access is limited (Statista, 2016), it is more difficult for protests to emerge into the media. Gaining access to government records of the protests, while difficult, would help solve this issue.

Considering China’s ratification of the Paris Agreement (2016), examining environmental regulation enforcement over an extensive period since 2016 and the protests’ impact could help reveal if international involvement has assisted in developing China’s internal sense of environmentalism. Given the CCP’s claim to copious amounts of “green” initiatives, a study modeled in this way would determine to what extent China has implanted the conditions of a global agreement, especially in the context of an authoritarian state. A partial goal of this study was to provide insight as to democratic prospects in China given the widespread nature of environmental protests and the higher frequency at which they operate when compared to other protests. Moreover, Xi Jinping’s “New Era” ideology could be a significant indicator for the increased detention of environmental activism. Obedience and faith in the Party shines as a key beacon in this ideology, signaling a potential end to the heights that environmental protests have reached as outlined in this study.

Lastly, prospects for an operational social movement could be a topic of further studies when considering environmental activism. This experiment posited that the conditions were not yet present to consider China’s environmental activism as a full-fledged social movement.
However, framing this study under the conditions examining how social movements evolve may provide the field with a better understanding of how evolution occurs in modern authoritarian states. The case of China, undoubtedly a contemporary influence for developing states across the globe, could model how other states react to contention within their borders.

**Conclusions**

The CCP will face a dire situation in the coming years as environmental protests begin to increase alongside scarce resources and public demands. China’s resource and environmental problems are no secret. The South-North Water Transfer Project, Beijing’s all-too-common smog “red alerts,” and verging desertification all contribute to the burgeoning issues Beijing will have to solve at some near point in time. The public, who carries the lion’s share of this burden, may soon run out of patience with the pace at which officials respond to and cover up environmental hazards. As this study shows, increasing environmental awareness and protests have assisted in pushing each level of government toward some responsive policy, whether through updated EPLs or the involvement of the public in environmental protection bureaus.

The primary issue now, as it always has been, lies in the central government’s ability to enforce these appeasement policies at the local levels. All too often, local and provincial officials fall prey to the temptation of heightening their economic production at the cost of public health and welfare. Due to this, local environmental protection bureaus will need to be given even more power in the next revision of the EPL; arguably, to carry out their own impact assessments at potential project sites, and take environmental offenders to impartial, uncorrupt environmental courts.
However, each level of government is also painfully aware of the balance that must be struck between public consultations and enforcement. If officials give in too easily, the public may demand more. Inversely, if authorities crack down too hard too often, they may face a ravenous public, or worse, criticism from the central government. Ultimately, the power to enforce and produce new rules will have to arise from the top, and close attention paid to the activities of officials near the bottom. I worry, though, that the CCP’s thirst for global prestige may overtake their attention to environmental concerns, as needs for production and economic growth increase. It may not matter if the skies rain gold or grime, so long as they are Red
Appendix A: Protests Under Examination

<table>
<thead>
<tr>
<th>Year</th>
<th>Location (province &amp; city/county)</th>
<th>Pollution Type (Water, Air, Soil)</th>
<th>Reported Estimated Size (people)</th>
<th>Result</th>
<th>William Gamson Classification</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004 (2 cases)</td>
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<tr>
<td>2005 (2 cases)</td>
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</tr>
<tr>
<td>Year</td>
<td>Location</td>
<td>Issue Description</td>
<td>Number of Protestors</td>
<td>Outcome</td>
<td>Source</td>
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<tr>
<td>2007</td>
<td>Jiangsu (Wuxi)</td>
<td>Water (chemical dumping) closed factories around the lake and enacted efforts to clean up water sources in and around Lake Taihu, which would allow the once healthy fishing industry to continue years down the road.</td>
<td>100s</td>
<td>Full Response</td>
<td>Temper, Leah, Daniela del Bene and Joan Martinez-Alier (2015) “Mapping the Frontiers and Front Lines of Global Environmental Justice: the EJAtlas” Journal of Political Ecology, 22, 255-278, retrieved from <a href="https://ejatlas.org/conflict/severe-water-pollution-at-taihu-lake-jiangsu-china">https://ejatlas.org/conflict/severe-water-pollution-at-taihu-lake-jiangsu-china</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Issue</th>
<th>Noted Action</th>
<th>Outcome</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 (3 cases)</td>
<td></td>
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<tr>
<td>10.</td>
<td>Sichuan (Gaodong)</td>
<td>Water (Manganese mining operations)</td>
<td>Not reported</td>
<td>Report indicates that government officials merely listened to the complaints of the surrounding petitioners, but continued with mining operations.</td>
<td>Failure</td>
</tr>
<tr>
<td>2009 (5 cases)</td>
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</tr>
<tr>
<td>Case Number</td>
<td>Location</td>
<td>Issue</td>
<td>Population</td>
<td>Outcomes</td>
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</tr>
<tr>
<td>14. Hunan (Liuyang)</td>
<td>Water (cadmium mining operations)</td>
<td>1,000</td>
<td>The factory was shut down due to environmental hazards brought up in protests, such as the sickness, headaches, and nausea villagers experienced.</td>
<td>Full Response</td>
<td>Le, Yu and Pomfret, James (2009) “China Closes Factory After Cadmium Pollution Protest” Reuters, retrieved from <a href="https://www.reuters.com/article/us-china-protest-pollution/china-closes-factory-after-cadmium-pollution-protest-idUSTRE57216H20090803">https://www.reuters.com/article/us-china-protest-pollution/china-closes-factory-after-cadmium-pollution-protest-idUSTRE57216H20090803</a></td>
</tr>
<tr>
<td>15. Hunan (Wugang)</td>
<td>Soil (manganese contamination)</td>
<td>1,000</td>
<td>The factory was shut down due to environmental hazards brought up in protests, such as the chronic lead poisoning several local villagers experienced.</td>
<td>Full Response</td>
<td>Pearce, Fred (2010) “As China’s Pollution Toll Grows, Protestors and Media Push Back” <em>Yale Environment 360</em>, retrieved from <a href="http://e360.yale.edu/features/as_chinas_pollution_toll_grows_protestors_and_media_push_back">http://e360.yale.edu/features/as_chinas_pollution_toll_grows_protestors_and_media_push_back</a></td>
</tr>
</tbody>
</table>

**2010 (3 cases)**

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Location</th>
<th>Issue</th>
<th>Population</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Guangdong (Guangzhou)</td>
<td>Air (garbage incinerator)</td>
<td>Not reported</td>
<td>The protest was ignored, and more incinerators are planned</td>
<td>Failure</td>
</tr>
<tr>
<td>Case Number</td>
<td>Location (City, Province)</td>
<td>Type of Impact</td>
<td>Scale</td>
<td>Description</td>
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<tr>
<td>20.</td>
<td>Guangdong (Haimen)</td>
<td>Air (coal-fire plant pollution)</td>
<td>100s</td>
<td>This power plant is still in operation.</td>
</tr>
<tr>
<td>21.</td>
<td>Guangdong (Haining)</td>
<td>Soil (improper waste disposal)</td>
<td>500</td>
<td>Officials forced the factory to shut down due to illegal dumping that protestors brought to their attention.</td>
</tr>
<tr>
<td>22.</td>
<td>Jiangsu (Nanjing)</td>
<td>Soil (soil erosion)</td>
<td>100s</td>
<td>Project was cancelled due to protestor’s concerns over the construction’s detrimental effects on local soil and trees.</td>
</tr>
<tr>
<td>23.</td>
<td>Beijing (Shenyang)</td>
<td>Soil (radiation poisoning)</td>
<td>300</td>
<td>The crowds dispersed due to the presence of police.</td>
</tr>
</tbody>
</table>

2011 (3 cases)

2012 (3 cases)

All sources are cited accordingly.
<table>
<thead>
<tr>
<th>No.</th>
<th>Region</th>
<th>Issue Type</th>
<th>Duration</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.</td>
<td>Jiangsu (Qidong)</td>
<td>Water (paper mill pollution)</td>
<td>1,000s</td>
<td>Officials closed down the mill due to environmental concerns protesters brought up, such as the worsening condition of their drinking water.</td>
<td>Wade, Samuel (2012) “Pipeline Project Cancelled After Protests” China Digital Times, retrieved from <a href="https://chinadigitaltimes.net/2012/07/pipeline-project-cancelled-after-protests/">https://chinadigitaltimes.net/2012/07/pipeline-project-cancelled-after-protests/</a></td>
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<tr>
<td>2013 (3 cases)</td>
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<tr>
<td>27.</td>
<td>Sichuan (Chengdu)</td>
<td>Air (paraxylene plant)</td>
<td>Not reported</td>
<td>Authorities shut down protests before crowds could gain momentum, and allowed the plant to continue operating.</td>
<td>SCMP Staff (2013) “Government Toughens Stance on Environmental Protestors amid Kunming, Chengdu Actions” South China Morning Post, retrieved from <a href="http://www.scmp.com/news/china/article/1241474/governments-toughen-their-stance-towards-environmental-protesters">http://www.scmp.com/news/china/article/1241474/governments-toughen-their-stance-towards-environmental-protesters</a></td>
</tr>
<tr>
<td>Case Number</td>
<td>Location</td>
<td>Issue</td>
<td>Impact</td>
<td>Source</td>
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</tbody>
</table>

2015 (4 cases)
<table>
<thead>
<tr>
<th></th>
<th>Guangdong (Luoding)</th>
<th></th>
<th></th>
<th>Guangdong (Yangchun)</th>
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<th></th>
<th>Guangdong (Heyuan)</th>
<th></th>
<th></th>
<th>Sichuan (Neijiang)</th>
<th></th>
<th></th>
<th>Sichuan (Chengdu)</th>
<th></th>
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</tr>
</thead>
</table>

**2016 (5 protests)**

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Issue Type</th>
<th>Time Frame</th>
<th>News Source</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.</td>
<td>Jiangsu (Nantong)</td>
<td>Air (paraxylene pollution)</td>
<td>100s</td>
<td>Officials announced that operations for this plant and 28 others in the area were suspended to carry out environmental impact assessments.</td>
<td>Co-optation</td>
</tr>
<tr>
<td>39.</td>
<td>Jiangsu (Lianyungang)</td>
<td>Soil (nuclear waste processing)</td>
<td>1,000s</td>
<td>Construction plans were suspended in order to carry out an impact assessment.</td>
<td>Co-optation</td>
</tr>
<tr>
<td>40.</td>
<td>Hunan (Nan)</td>
<td>Air (garbage incinerator)</td>
<td>100s</td>
<td>Construction plans were suspended due to protest demands.</td>
<td>Co-optation</td>
</tr>
<tr>
<td>41.</td>
<td>Guangdong (Zhaoqing)</td>
<td>Air (garbage incinerator)</td>
<td>1,300</td>
<td>The report mentioned that authorities scattered the protestors and arrested 21 of them for questioning. The incinerator is still in operation.</td>
<td>Failure</td>
</tr>
</tbody>
</table>
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