

Local Environmental Governance Innovation in China: Staging ‘Triangular Dialogues’ for Industrial Air Pollution Control

Abstract

Studies of environmental governance in China mainly discuss bilateral encounters, such as popular protests against polluting companies, NGO collaboration with local authorities, or local government collusion with enterprises which can lead to the sabotage of effective pollution controls. This article studies a case in which a communication mechanism involving multiple actors created a basis for the innovative and successful enforcement of air pollution regulation. Pressurized by popular protests and superior level policy mandates, the Environmental Protection Bureau (EPB) in Hangzhou City started to employ a dialogue forum which ultimately brought residents, enterprises as well as government agencies together to implement local air pollution control measures. Through information-sharing, interest mediation and trust building in a gradually more horizontal process, the government-led multiple stakeholders’ dialogue helped to overcome the agency’s structural weakness, regulate the polluting companies and address residents’ complaints. We conclude that this case study can provide some insights into the ways in which opportunities for driving forward innovative and effective environmental governance strategies at the local level emerged against the background of recently enforced top-level environmental protection policies in China.

Keywords: China, environmental governance, governance innovation, industrial air pollution, pollution regulation, stakeholder dialogue

Introduction

After more than 30 years of rapid economic development in China, the resulting serious effects of massive air, soil and water pollution on ecological systems and human health have started to arouse public awareness and stimulate political debate at a dramatic pace. Most recently, i.e. since the 2010s, air pollution appears to have gained prominence above all other environmental problems in China.¹ And although a ‘share of bad air’ has long been regarded as an inevitable side-effect of much desired urban industrialization,² this is no longer always the case even in China.³ As elsewhere, vehicle exhaust emissions and individual consumption (especially emissions from cooking, heating, etc.) are being treated as contributing to the overall problem, but these issues, of course, pale in comparison with the contributions to pollution made by industry.⁴ Unable to ignore the scientific evidence, international regimes for pollution reduction and public pressure, China’s government authorities have, for many years now, tried to find ways to enforce the technological upgrading of industrial facilities and the control of their emissions. As an ultima ratio, they have increasingly started to opt for the complete closure of factories and power plants in inner-city areas, or their

relocation beyond the vicinities of residential areas, which has become a highly symbolic regulatory measure.

That said, effective industrial pollution control and relocation remains a significant challenge for the Chinese government. Particularly at the local level, these newly enforced policy initiatives touch upon a plethora of political, economic, social and ecological interests. Local authorities, predominantly those at the city and county levels, bear the brunt of the work involved in implementing higher level mandates in the face of a steady headwind: often, local companies do not comply with pollution regulations and resettlement schedules, and the increasingly informed and recalcitrant local populace has started to press for faster and more effective results in air pollution regulation. In addition, under the current political circumstances, the entanglement of local governments with local businesses usually acts as an impediment to effective environmental policy implementation and this is increasingly coming under fire, while the incentives for achievements in environmental protection have multiplied as a result of the reforms in the cadre performance evaluation system. Consequently, local bureaucracies have had to develop delicate strategies to deal with these divergent stress factors, which are usually handled *separately* and *bilaterally*. Similarly, social science research on local industrial pollution regulation also tends to focus on one dimension of the interfaces involved and the relationships between the various actors: local authorities vis-à-vis polluters, protesters vis-à-vis polluters, and local authorities vis-à-vis protesters. However, research on the ways in which local bureaucracies synchronously mobilize or coopt plural stakeholders for the implementation of environmental policies is still limited.

In this article, we discuss the developments which led a local Environmental Protection Bureau (EPB) to employ a rather innovative strategy to improve industrial air pollution control measures and factory relocation in Hangzhou City, Zhejiang Province. In particular, we investigate the way in which the EPB, after going through a process of gradually learning how to best accommodate the conflicting interests of the enterprises responsible for the pollution and the citizens involved, ultimately established and employed a multi-party communication mechanism, which we refer to as a '*triangular dialogue*'. This dialogue mechanism helped to channel strong public discontent into a form of strategic mobilization, which facilitated the EPB-steered implementation of industrial air pollution regulation measures vis-à-vis the enterprises.

Between March 2015 and June 2016, we conducted four rounds of semi-structured

interviews with local government officials, residents in the areas affected by pollution, company managers, and NGO activists in Hangzhou. We analyzed our interview data and site observations, triangulating the results of this with media and NGO reports as well as other accessible sources, such as social media and online BBS data. Local scholars who had conducted research on environmental policies in Hangzhou also shared their assessments. As a general framework, we employ a retrospective and comparative approach to trace the processes involved in the EPB's innovative attempts to regulate industrial pollution in Hangzhou City between 2008 and 2013.

Three observable outcomes – although these should be treated with caution – help to assert the effectiveness of this new policy implementation strategy from the perspective of the local EPB: a reduction in the measurable pollution output, a decrease in citizens' complaints about air pollution, and the ultimate closure or relocation of the enterprises responsible for the pollution, involving technological upgrades. We therefore argue that, although this single story does not, of course, signal the general institutionalization of horizontal public participation in environmental governance, it can at least be seen as an indication of the maneuvering room available for increasingly effective environmental policy implementation in China today, where now even the local authorities may go against formerly sacrosanct 'vested interests'.

The article is structured as follows: we first situate our observation of the Hangzhou City EPB's 'triangular dialogue' within the literature on environmental governance and political innovation in China. We then introduce our case study by providing some further background information about Hangzhou City's industrial air pollution control policy. The main part of this article traces the phases of the learning process that unfolded between 2008 and 2012, describing the events that led to the staging of the multilateral dialogue platforms by the Hangzhou City EPB as well as the effects. In conclusion, we review our main findings and assess their validity with regard to making prognoses about the dynamics of industrial pollution regulation and environmental governance in China.

Approaches to environmental governance and changing stakeholder interaction in China

Industrial pollution regulation measures are, of course, subject to the same difficulties that account for the massive implementation gaps in environmental governance in

China in general, such as goal displacement, dispersed enforcement, corruption, lack of transparency and public oversight.⁵

At the macro level, ‘fragmented authoritarianism’⁶ and ‘selected policy implementation’⁷ have become the academic buzzwords for describing how policies made at the State Council level have collided with the organizational and political goals of China’s local state bureaucracy. Environmental protection, in particular, as a ‘softer’ policy, usually has to yield to other, mainly economic targets, which are traditionally more rewarding for the implementors on the ground. Although many observers have noted that indicators related to environmental protection have been elevated in evaluation procedures in recent years,⁸ it is easy to understand how industrial air pollution regulation measures, in particular, touch upon the very core of the conflicting goals and interests already mentioned. Indeed, it is the manifold ‘fragile convergence’ of governmental, popular and economic forces that leads to an enormous variation in the regulation of industrial pollution in China.⁹

At the very micro, or organizational level, this becomes even easier to grasp. In this context, studies have often pointed out that the local Environmental Protection Bureau (EPB), the main unit tasked with the coordination and ultimate supervision of pollution regulation policies, is not equipped to deal with the complexities involved.¹⁰ This includes the EPB’s finances, number of staff, and clear authoritative mandates that could be used to override other local agencies’ competencies. Regarded as one of the weakest departments within the governmental hierarchy, an EPB does not usually have the means to promote meaningful environmental protection measures vis-à-vis more powerful departments, such as the Economy and Information Technology Commission and the Development and Reform Commission, with their often divergent goals and strong links within the local economy. Even if backed by the local leader, who, incentivized by the new central environmental policies, is interested in ‘greener’ development,¹¹ an EPB may still encounter difficulties when attempting to act against powerful polluting local enterprises. Polluting enterprises very often only superficially comply with the new rules, and local agencies tolerate or even collude with polluting factories, which leads to many decoupling problems in regulatory compliance.¹² Regulation enforcement becomes especially difficult or even impossible if local EPBs cannot secure enough public support.¹³ Some analysts have even gone to such lengths as to claim that, in China, the lack of support by public stakeholders (including private enterprises, societal organizations and the population) at the local level – a

‘participation gap’ – is the main reason for the prevailing environmental policy implementation gap.¹⁴

At the same time, civil actors play a particular role in decentralized environmental governance.¹⁵ Chinese citizens have started to contest industrial pollution through activism, by turning to the media and to environmental NGOs, and demanding a response from local governments and other actors.¹⁶ However, emerging public participation in environmental governance also represents a risk for local governments and, consequently, forces them to try to channel public activism and its potentially unintended and less controllable dynamics into a more inclusive governance system.¹⁷ And indeed, there is growing evidence in recent research literature that local governments are trying out innovative ways to tackle the implementation gap by institutionalizing types of public stakeholder participation in environmental governance.¹⁸ A multitude of studies on different ‘participatory’ institutions is now available, such as environmental impact assessments, draft legislation commenting sessions, and information transparency procedures,¹⁹ and also on diverse groups of actors, such as NGOs or protesters seeking or demanding participation in a specific case.²⁰ But only very rarely is light shed on the regular implementation agencies on the side of the government itself by means of comprehensive²¹ and systematic analyses of their particular strategies vis-à-vis the various parties involved, such as citizens, polluting factories and other stakeholders.²²

This article aims to fill the gap by exploring the mechanism of government-led multiple-actor participation in environmental governance. We offer an account of how a local EPB, acting as a bureaucratic driver of innovation, employed a dialogue mechanism to improve the outcomes of industrial air pollution control measures. A window of opportunity for innovation opened when the existing institutions could no longer deal with the emerging problems. Under the pressure of public activism and the political support by local leaders, the Hangzhou City EPB employed a communication mechanism, which we refer to as ‘triangular dialogue’, since it was meant to bring *together* representatives of community residents, polluting enterprises and other government departments involved. Sharing information and establishing trust in a gradually more horizontal process apparently helped the local EPB to overcome its structural weakness, while the ‘triangular dialogues’ effectiveness matched Hangzhou municipal government’s ambitious planning for pollution reduction in its inner-city districts. As a result, the EPB became increasingly capable of achieving its tasks

relatively smoothly and sustainably, regulating the polluting enterprises and dealing with residents' complaints.

'Not in our neighborhoods': triggering a strategy for enforced industrial pollution control in Hangzhou

Hangzhou City lies in the south of the Yangtze River delta and is the capital city of Zhejiang Province. With a population of roughly 8.9 million, Hangzhou consists of nine urban districts, two county-level cities and two counties. Located within these urban districts, most of Hangzhou's chemical plants, printing works facilities, paper mills and pharmaceutical factories were previously situated in two old industrial parks, called the Banshan (半山地区) and the Beidaqiao (北大桥地区) areas, which were established at the end of the 1980s.²³ The enterprises in these two areas accounted for 80% of the city's total coal consumption and more than 70% of pollution emissions.²⁴

As a result of Hangzhou's accelerating urbanization process, more and more new residential areas had been built around or close to old industrial parks in these two urban districts. New residents living near polluting enterprises in these districts suffered mainly from air and water pollution. The Hangzhou EPB soon found itself facing a massive wave of public complaints about air pollution in residential areas. In 2006 alone, the Hangzhou City EPB received around 1,250 complaints from community residents about the industrial pollution stemming from the Banshan and the Beidaqiao old industrial parks.²⁵

The community residents' protests against air pollution drove the Hangzhou EPB to try to alleviate the situation by pledging to take faster action against the polluting enterprises. But citizens had little faith in the local government's sincerity. They formed a self-help organization to protest against pollution, blocked the main entrance of polluting factories, and even submitted a government-internal report, obtained by the help of journalists, along with the petition letters to Zhejiang's provincial government office. Both the provincial and the municipal leaders found themselves forced to respond to the widespread petitioning activity and increasing risk for local social stability, and they tasked the city level EPB with the explicit order to take action.

With leadership support: more ambitious attempts at pollution reduction in Hangzhou's inner-city districts

In response to the increasing number of complaints by residents, city leaders backed the advance of industrial air pollution reduction in Hangzhou. On the one hand, they were worried that the many complaints and public protests against polluting factories would pose a risk to social stability that could get out of hand; this would lead to much negative publicity for Hangzhou – and also damage their own political reputation. On the other hand, they grasped that, in addition to achieving air pollution control, the successful relocation of polluting factories would also benefit urban planning strategies and budgets. For example, if the polluting factories could be more quickly persuaded to relocate or close down, the municipal government would be able to transfer the freed land to real estate developers, which would create revenues.²⁶

Hangzhou's city mayor at that time, Cai Qi (now the Party secretary of Beijing), claimed that environmental governance in the Banshan and the Beidaqiao districts would now be a test for the capability and credibility of Hangzhou's government. Municipal authorities would need to use a “strong hand” (铁腕) to initiate an “environmental protection storm” (环保风暴) in order to build an environmentally friendly and habitable city.²⁷ Following his call, the vice city mayor and the director of Hangzhou's EPB carried out some rounds of investigations in the Banshan and the Beidaqiao old industrial parks with the aim of developing a related plan.

With this support by local leaders, the city government promulgated the first comprehensive policy for the control of industrial pollution, the ‘Comprehensive Regulation Scheme for Environmental Pollution in the Banshan Area of Hangzhou City’. This policy required that the worst pollution emitting industries, such as those connected with printing and dyeing, chemicals, textiles and paper, should be strictly examined or even relocated, depending on the level of the severity of measured pollution output. In 2009, a similar policy document was issued for the Beidaqiao Area.

In order to avoid administrative fragmentation problems, an inter-departmental coordination committee, the ‘Small Leading Group for Environment Pollution Regulation in the Banshan and Beidaqiao Areas’, was established at the municipal level and chaired by the city mayor. Among the members of this ‘Small Leading Group’ were the Hangzhou City EPB, the Hangzhou Economic and Information Commission, the Hangzhou Development and Reform Commission, the Hangzhou Bureau of Finance, three district governments, the Hangzhou City Construction Investment Group Co. Ltd, and the Hangzhou Industrial Investment Group Co. Ltd. In addition, with the support of the city leaders, an executive office for environment pollution

regulation was set up as a sub-unit of the EPB, with the special task of organizing and implementing the related measures.

The Hangzhou City EPB launched diverse strategies after being assigned these new implementation responsibilities in late 2007. For instance, temporary offices were established on site to follow up on the ‘Comprehensive Scheme for Environmental Pollution Regulation’, in order to improve the controls on polluting factories. An ‘environmental hotline’ was activated to record complaints made by residents. The Hangzhou EPB started by comprehensively investigating the overall situation of industrial pollution in its jurisdiction and confirmed the number of polluting factories that would be sentenced to closure or relocation. The next venture undertaken was the difficult process of coordination with other agencies in order to facilitate the implementation of the plan. For example, the Development and Reform Commission was asked to simplify the administrative approvals for relocation and the Bureau of Finance was asked to allocate subsidies for the technological upgrade and relocation of polluting enterprises.

An opportunity for innovation: the failure of bilateral encounters in pollution control

Serious weaknesses became apparent in the Hangzhou City EPB that obstructed implementation of the industrial regulation plan during the first years of its existence. The usual lack of internal horizontal coordination power at the municipal level,²⁸ was matched by a lack of capacity for the external enforcement of measures. The primary consequence of these weaknesses was that the polluting enterprises were not effectively supervised when, for example, during the day-shifts, they appeared to be complying with the regulations, but during the night-shifts, when the emissions were not usually being measured, the enterprises continued to release emissions. Furthermore, the entire process had been launched without any form of consultation with the resident population, which fortified the information asymmetry between them and all the other parties involved with regard to what was supposed to be going on around them.

One main cause of the EPB’s failure to enforce controls vis-à-vis polluting enterprises was the fact that most of these enterprises were state-owned (SOE). Some belonged to

the Hangzhou City Construction Investment Group, which was affiliated with Hangzhou's city government; others were owned by Zhejiang Province and managed by the Provincial Government State-Owned Assets Supervision and Administration Commission. That meant that the EPB would have to induce these government departments, including those at higher levels, to support the implementation of the regulation policies.

Hence, although the EPB had been able to locate the main polluting factories, pushing through with its plans turned out to be very difficult. The EPB's earlier bilateral attempts at communicating the new ideas for solutions to the public (Fig. 1), in order to establish mutual trust and to prevent protests, failed. Community residents harbored the suspicion that the Hangzhou EPB, as the representative of the city government in their eyes, shared too many common interests with the polluting enterprises and would therefore probably never really commit to controlling and eventually reducing or stopping the pollution, because this might come at the expense of GDP growth and render the enterprises less attractive for new investment. Also, since the residents could not see that any actual progress was being made, their complaints and protests continued to intensify.

[Figure 1, about here]

The Hangzhou EPB, aware of its lack of progress in fulfilling its tasks, realized that inadequate communications had constituted a major drawback. Innovative ways had to be found to bring together affected residents, representatives of the polluting factories and the relevant departments in Hangzhou's municipal government.

Moving towards more horizontal pollution control enforcement

The Hangzhou City EPB ultimately established a type of dialogue mechanism for meetings between enterprises and residents (厂群对话), which also involved a few other government agencies to which polluting enterprises were affiliated. During the meetings, the residents were encouraged to voice their complaints and raise their questions with the managers of the polluting enterprises. The managers had to answer residents' queries and offer suggestions on how industrial air pollution could be reduced in the short term. Government agencies in charge of polluting enterprises

pledged to enforce controls, while representatives of the EPB acted as coordinators and witnesses.

As our case will show, this innovative form of a ‘triangular dialogue’ would actually work as a kind of stakeholder communication during a semi-open process of air pollution regulation. This provided the EPB with channels through which they were able to distribute information about the policies and the progress in establishing pollution controls to community residents, and also allowed the EPB to utilize the residents’ demands, framed as the ‘local social good’, as leverage to put pressure on the enterprises while lobbying for more government internal attention and support.

Altogether, it was clearly the EPB that created and *steered* the dialogues. As the following analysis will show, the main mechanism was to reach a mutually accepted mode of pollution reduction mainly on the basis of information-sharing, trust-building and moderate interest *negotiation*.

Staging a ‘triangular dialogue’ in the Wanjia Huacheng community

In the case of the Wanjia Huacheng Community (万家花城小区), the Hangzhou EPB, for the first time, formally staged a real sort of dialogue platform, by bringing the managers of the polluting factories and the affected residents together – a process which we will now describe in more detail. Ultimately, the three rounds of dialogue that took place here were successful in establishing procedural trust between residents, managers and the local government, and ultimately resulted in the implementation of a mutually approved mode of pollution reduction in the area.

Intense public pressure by community residents

As introduced before, Wanjia Huacheng Community is a residential area in Beidaqiao District, which hosted more than 2,600 apartments and primarily office workers, local civil servants and businessmen. Community residents who had moved into their new apartments in 2010 quickly found that the entire area was suffused with pungent odors. They soon realized that the source of these odors was actually industrial waste gas from the Wanli Chemical factory. This factory, with over 200 workers and an annual output value of about CNY 210 million, was located in the northeast of the residential area, within an air-line distance of only 200 meters.

In mid-2010, residents sent more than 50 complaints per month to the Hangzhou City EPB.²⁹ It also slowly became apparent that the relocation of the Wanli Chemical factory, scheduled for the end of 2010 according to the Comprehensive Regulation Scheme for Environmental Pollution, would be delayed due to the lack of an alternative site. Faced with the prospect of being continually exposed to polluted air, the residents started to criticize the inaction of the Hangzhou City EPB and petitioned the provincial government. By the end of 2010, 60 residents had spontaneously formed a self-help organization to protest against the industrial air pollution. ‘Community residents, we should not keep silent but unite together for clean air’, one of the former leaders of the self-help organization recalled that this was how he had created the motto for their protest. Encouraged by their community, the angry residents converged on the Hangzhou EPB to demand the closure of the chemical factory in early 2011:

We didn’t trust the local EPB anymore. We wanted to take collective action to draw the government leaders’ attention and urge them to solve our problems.³⁰

In addition, in May 2011, a group of over 30 residents blocked the main entrance of the chemical plant and presented banners directed at the Hangzhou EPB that read ‘refuse chemical industrial pollution’ (拒绝化工污染) and ‘safeguard community residents’ air quality’ (保护社区居民空气质量).

When a group of residents even sought to enter the factories to stop the machinery, the Hangzhou EPB decided on an immediate intervention. Faced with the community residents’ lack of confidence in the official relocation plan, the bureau, in order to calm down public anger and to push the polluting SOEs to relocate or close down as soon as possible, decided to try a new approach: a kind of communication mode.

As the department responsible, the EPB could not see any other option but to try to create a dialogue platform involving both the local residents and the polluting enterprises, despite not knowing whether this would work at that time.³¹

The first meeting of the trilateral dialogue platform

During the first meeting of the so-called ‘dialogue platform involving enterprises and residents’ on 16 August, 2011, the director of Hangzhou’s EPB, the leaders of Hangzhou’s Economic and Information Commission, the Hangzhou Bureau of Finance and the Hangzhou Industrial Investment Group Co. Ltd, the community’s

Party secretary, the manager of Wanli Chemical Company, as well as representatives of the Wanjia Huacheng Community came together. In the course of this meeting, the Hangzhou EPB promised residents that the Wanli Chemical Company would have to stop production if it could not be relocated. The enterprise manager announced that a new site for the factory had now been found in Jiande County (建德县, within the jurisdiction of Hangzhou) and that the company would invest CNY 4,000,000 to upgrade filters in order to reduce the discharge of emissions until it was relocated. The city government's Bureau of Finance also agreed to allocating some extra subsidies to Wanli Chemical Company in order for it to be able to upgrade its emission reduction technology.

According to our interviewees, many community resident representatives openly showed their disbelief and lack of trust. "We all regarded this as the government's old tricks and we never wanted to be treated like monkeys anymore (我们却被当猴子耍)," recalled one of residents' representatives.³² In an attempt to ease the situation, the director of the Hangzhou City EPB disclosed his private cell phone number and encouraged residents to call him if they encountered any problems in the following process.

I was so surprised that this official would think of disclosing his private number. Suddenly, I had the hope that this at least showed that we had finally gained access to one of these leading officials.³³

At the end of the first meeting, a time for a second dialogue was agreed upon, when the compliance of the factory would be checked. As a trade-off, residents were asked to refrain from interfering with the factory's regular operations. After this first round, the number of residents' complaints decreased to under ten per month. As one of the participants of the dialogue meeting recalled:

This was a very new way for the local government to address industrial air pollution prevention and it impressed me a lot. Through the dialogue meeting, the factory manager learned how much we residents suffered from the bad air quality. He also agreed to keep residents updated about the progress of the factory's operations.³⁴

Immediately after the first dialogue, the Hangzhou EPB made efforts to continue towards a second dialogue. As one staff member from the Hangzhou EPB explained, 'not only did we regulate the polluting factory, but we also tried to find some financial and technical policy support for the factory management'.³⁵ The EPB submitted a proposal to the Hangzhou City department of finance, on behalf of the Wanli

Chemical Company, and requested a ‘subsidy for their efforts to reduce pollution’ (节能减排补助资金). After some more lobbying by the Hangzhou EPB, the finance department finally issued an official document (红头文件) announcing that it would allocate a special budget of CNY 2,400,000 as compensation for the additional expenditures incurred by the Wanli Chemical Company as a result of the forced relocation plans. This encouraged the Wanli Chemical Company to match the subsidy with CNY 5,000,000 (CNY 1,000,000 more than had been promised during the first meeting) of its own to invest in a technological upgrade that would help to prevent pollution.

Follow-up meetings among the stakeholders and visits to the new factory site

The second round of dialogue took place on 10 September 2011. During this follow-up meeting, citizens were informed that the Wanli Chemical Company had already invested more than CNY 10,000,000 to buy a new factory site to relocate to. Realizing that the residents still did not fully believe in the potential of the new dialogue platform, the EPB invited representatives from the community to pay a visit to the new site of the factory in Jiande shortly after the meeting.³⁶ Since half of these representatives were selected by the local EPB,³⁷ however, many other residents suspected that they might then be bribed by the Hangzhou EPB and would no longer fully represent the community:

Some of the [other] ‘uninvited’ residents followed our delegation’s mini bus with their own cars. They wanted to confirm for themselves that the new factory site really was the one that was supposed to be for the Wanli Chemical factory and to ensure that we did not try to fool them by way of taking them to a different new factory.³⁸

At the site, all the representatives of the Wanjia Huacheng neighbourhood were given information about the new factory, such as the results of the EIA that had been conducted, the completion date set for the new facility, etc. This also appeased the uninvited visitors. The newly obtained information about the new Wanli Chemical factory site was then widely shared among residents in the community via online groups and messenger services. Complaints to the EPB declined for a while. However, since there was still some time left before the enterprise would be able to move to the new factory site, community residents continued to suffer the odors caused by chemical pollutants.

The final meeting and the local diffusion of the stakeholder dialogue model

On 25 October 2011, a third meeting was convened to deal with this problem. The residents demanded that the factory should further reduce air pollution output. The local EPB likewise suggested that the factory scale down production or stop production at night and during the weekends when most of the residents were at home.³⁹ The factory managers, for their part, complained that they had already invested a great deal of extra money in upgrading filters just two months previously and that they would be unable to reach their production targets if they stopped work in between. Finally, however, weighing the costs against the benefits, the factory gave way to the local EPB's suggestion of accelerating the relocation process with the support of yet more government subsidies.

As the relocation date approached, however, the Wanli Chemical Company suddenly announced that it would not be able to move to the new site as scheduled since the power cable there was not ready, and that this would seriously delay the entire process. 'I was shocked when I heard this news. That meant all our three rounds of dialogues would have been in vain and we could lose the trust of the community residents again, which would refuel the serious conflict between the polluting factory and residents',⁴⁰ an official of the Hangzhou City EPB recounted. He therefore communicated directly with the party secretary and the county mayor of Jiande County, asking them to provide a temporary power cable, immediately, for the company. 'It was actually not the responsibility of the EPB to solve this problem for the Wanli Chemical Company, but I think by getting involved we showed our determination and sincerity. Both the residents and the company managers were able to see that.'⁴¹ At the beginning of 2012, the chemical plant was finally relocated to the new site in Jiande County.

In this way, the Hangzhou EPB completed its first 'triangular dialogue' between enterprises and residents and considered it a success. This led to the staging of even more such dialogue formats in the Banshan and the Beidaqiao districts: one thermal power plant had to be investigated because dark smoke was seen pouring out of its chimneys in early 2012; one steel plant had to cease intensive production in late 2012, because of the overall pollution this was causing, and one chemical factory was closed down due to serious dust emissions in 2013.

Achievements of Hangzhou's model of stakeholder dialogues

With the new ‘triangular dialogue’ (Fig. 2), although this was only one factor among many, the EPB of Hangzhou City was relatively effective in its long-term industrial air pollution regulation. The two areas under scrutiny in this study, Banshan and Beidaqiao, saw a significant reduction in industrial air pollution. The number of complaints made by residents about air pollution decreased sharply, from 1,250 in 2006 to 421 in 2012. A total of 450 enterprises were closed down or relocated between 2007 and 2013. In 2013, a ‘Comprehensive Scheme for a New Round of Environmental Pollution Regulation in the Banshan and the Beidaqiao Areas of Hangzhou City’ was promulgated to deepen and strengthen the regulation of industrial pollution in both areas. This proposed that no new industrial projects be built and all 33 polluting factories be closed down or relocated by the end of 2016.

[Figure 2, about here]

Finally, in June 2015, Hangzhou municipal government issued the ‘2015 Plan for Implementation of Air Pollution Control and Prevention in Hangzhou City’, which stated that all the remaining polluting industrial plants, including the largest (and state-owned) Hangzhou Steel Company, would be closed down or relocated by the end of 2015 – goals which have been realized at the time of writing. One of our informants attributed the new schedule to the ambitious preparations for the 2016 G20 summit in Hangzhou; the closure and relocation of the plants that were responsible for causing the pollution would not only avoid more complaints being made by local citizens about the continuing air pollution in their neighborhoods, but would also help to realize the highly symbolic ‘G20 blue’ when Hangzhou would be placed under the spotlight of international news in September 2016.⁴²

Although the Hangzhou model of ‘triangular dialogues’ was not emulated or enforced on a national basis in China, similar attempts, under the aegis of the local authorities, at resolving the conflict between local community residents and polluting enterprises that had been caused by air pollution, were observed in some other cities in the second half of the 2000s, for instance, in Shenzhen and Shijiazhuang. The timeline, at least, seems to confirm that the Hangzhou City EPB was a forerunner (or the origin) of this innovation. The events in Hangzhou were also reported in the national media, for example, in the *China Environment News*.⁴³ Most recently, in 2015, a township

government in the Minhang district of Shanghai City adopted a ‘dialogue platform’ to resolve the conflict that had arisen as a result of industrial air and water pollution and the policy was enforced with direct reference to the ‘Hangzhou model’.⁴⁴

Conclusions

Scholars have argued that plural environmental governance is crucial for the implementation of environmental policies.⁴⁵ Previous research on China has shown how bilateral encounters such as popular protests against polluting companies, public participation in the policy process, does influence local governments’ action in the field of environmental policies, but less attention has been paid to the ways in which local governments themselves handle and even strategically mobilize multiple stakeholders, including the public and polluting enterprises as well as government agencies, to improve the effectiveness of environmental policies. This article has aimed to bring the local bureaucracy back to the center of analysis by examining an innovative mechanism for enabling multi-stakeholder participation in industrial pollution regulation that was developed in Hangzhou City.

We argue that massive public activism, leader-level support and a certain overall political opportunity structure jointly triggered this bureaucratic innovation and contributed to the success of local industrial air pollution control. The in-depth case description of Wanjia Huacheng community demonstrated how the local EPB, sandwiched between discontented citizens and non-compliant enterprises, first failed in its bilateral interactions and then – with the support of local leaders – finally staged dialogues between all the involved stakeholders as well as local agencies to promote the implementation of air pollution control.

These dialogue meetings were successful in gradually establishing mutual trust between the parties involved, and they reduced conflicts between the polluting factories and the affected residents. Beyond forging a more symmetrical information exchange system, they also, arguably, nurtured a sense of empowerment on the part of the residents, by showing that their voices were being heard. Over a period of a few years and during various phases, the Hangzhou EPB gradually created a more horizontal communication mode with and among the conflicting parties, a mode that was later consistently adopted around Hangzhou and in other places in China. Altogether, the

Hangzhou EPB intervention was characterized by the way that it innovatively transformed public protest into a facilitator for pollution control and regulation both vis-à-vis the relevant enterprises, and also internally, in coordination with other crucial departments.

This case therefore shows that bringing local stakeholders on board helps environmental policy implementation, although we would not go so far as to label what we saw in Hangzhou as a new form of genuinely institutionalized public *participation* in local environmental governance. Public consultation mechanisms in China always need to be facilitated and steered by local authorities, on which they are also highly dependent. Different from what is usually described as Chinese ‘consultative authoritarianism’,⁴⁶ in our case, all public stakeholder inclusion eventually only happened on the output side, because the general relocation policy was already on the table. These mechanisms should therefore rather be categorized as ‘strategic mobilization’ that is intended to advance effective policy implementation.⁴⁷ In the local environmental state in China, initiatives and innovations like the one studied here will find support only when local governments are convinced that they benefit local economies and social stability.

Thinking about the broader significance of this case for our interpretation of Chinese politics, the question of generalization cannot be avoided. The third sector/service industry, including software design, e-commerce, culture and tourism, accounts for at least half of the entire GDP in Hangzhou.⁴⁸ This, of course, made it easier for local authorities to relocate or close down polluting industries without seriously compromising GDP growth. The significance and the effectiveness of industrial air pollution regulation, and of environmental policies in general, might therefore look very different in other cities in China, and perhaps even in most of them. In other words, innovations in environmental governance, such as this form of ‘triangular dialogue’, require certain conditions: namely, that local governments can afford them and that they enjoy the full support of local leaders. Furthermore, what happens around the new sites of the enterprises that were relocated, should certainly be seen as an important topic for further research.

However, although the ‘triangular dialogues’ in Hangzhou constituted a non-generalizable, single case, they point towards a potential space for a new trend to emerge in China’s environmental politics. Pressure and opportunities for driving forward innovative and effective implementation strategies can be expected to increase

against the background of recent environmental legislation and targets, and even lower levels of the local environmental bureaucracy may therefore be empowered to enter the previously sacrosanct areas of economic interests and government-business ties.

Figures

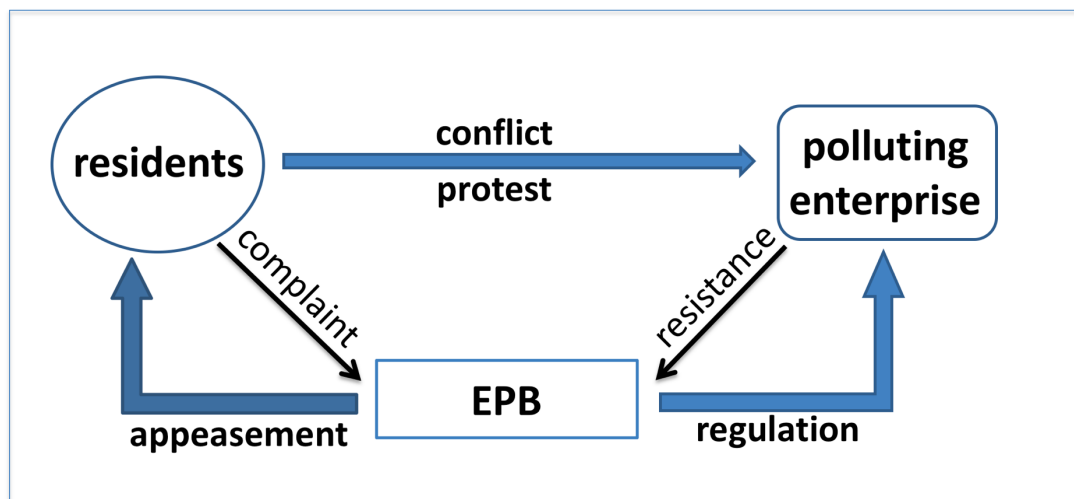


Figure 1: *The EPB’s earlier attempts at bilateral communication*

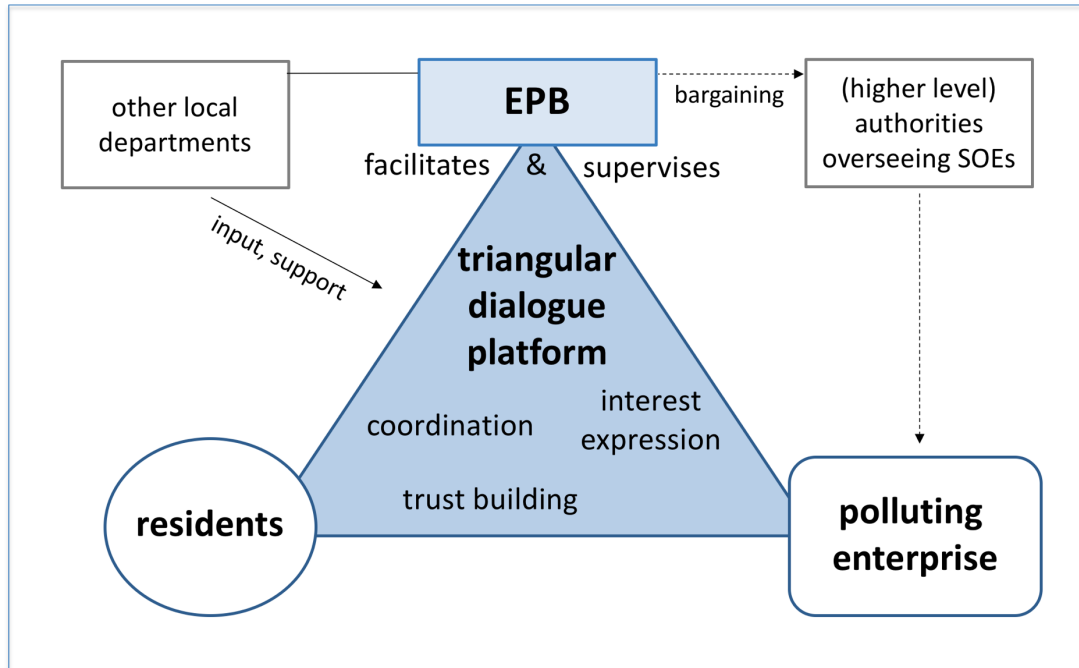


Figure 2: *The EPB’s later innovative ‘triangular dialogue’ mode*

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Notes

1. See Ahlers and Hansen, “Air Pollution: How Will China Win its Self-Declared War Against it?”; Kahn and Zheng, *Blue Skies over Beijing: Economic Growth and the Environment in China*.
2. Mosley, “Environmental History of Air Pollution and Protection”.
3. Ahlers and Hansen, “Air Pollution”.
4. For instance, between 2001 and 2013 alone, nationwide industrial sulphur dioxide (SO₂) and industrial nitrogen oxide discharges increased by 17% and 22% respectively, while industrial dust emissions increased the most, by 28%, which accounted for 85.6% of the total particulate emissions (data provided by the Ministry of Environmental Protection, 2015).
5. See Bergsten, *China's Rise: Challenges and Opportunities*; Chan, Wong, and Lo, “The Implementation Gap in Environmental Management in China”; Kostka and Mol, “Implementation and Participation in China's Local Environmental Politics”; Lo and Tang, “Institutional Reform, Economic Changes, and Local Environmental Management in China”.
6. Lieberthal and Oksenberg, *Policy Making in China: Leaders, Structures, and Processes*; Lieberthal, and Lampton, *Bureaucracy, Politics, and Decision Making in Post-Mao China*.
7. O'Brien and Li, “Selective Policy Implementation in Rural China”; Van Aken and Lewis, “The Political Economy of Noncompliance in China”.
8. See Heberer and Senz, “Streamlining Local Behaviour Through Communication, Incentives and Control”; Ran, “Perverse Incentive Structure and Policy Implementation Gap in China's Local Environmental Politics”.
9. See Van Rooij and Lo, “Fragile Convergence: Understanding Variation in the Enforcement of China's Industrial Pollution Law”; Shen and Steuer, “Conflict or Cooperation: The Patterns of Interaction Between State and Non-state Actors in China's Environmental Governance”.
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13. Johnson, “Environmentalism and NIMBYism in China”; Tilt, “The Political Ecology of Pollution Enforcement in China”; Van Rooij, “The People vs. Pollution”.
14. Zhan, Lo, and Tang, “Contextual Changes and Environmental Policy Implementation”; Li, Liu, and Li, “Getting Their Voices Heard”.
15. See Rooij, Stern, and Fürst, “The Authoritarian Logic of Regulatory Pluralism”; Steinhardt and Wu, “In the Name of the Public”; Schmitz, “China's New Weapon Against Water Pollution”.
16. See Deng and Yang, “Pollution and Protest in China: Environmental Mobilization in Context”; Lora-Wainwright, “The Inadequate Life: Rural Industrial Pollution and Lay Epidemiology in China”; Wong, “Environmental Protests and NIMBY Activism”; Wu, “Environmental Activism in Provincial China”; Zhan, and Tang, “Understanding the Implications of Government Ties for Nonprofit Operations and Functions”.
17. Grano and Zhang, “New Channels for Popular Participation in China”.
18. See Kostka and Mol. “Implementation and Participation in China's Local Environmental Politics”; Ran, Ran. ‘Perverse Incentive Structure and Policy Implementation Gap in China's Local Environmental Politics’; Wu, “Environmental Activism in Provincial China”.
19. Tang, Tang, and Lo, “Public Participation and Environmental Impact Assessment in Mainland China and Taiwan”; Grano, “The Role of Social Media in Environmental Protest in China”.
20. See Lang, and Xu, “Anti-incinerator Campaigns and the Evolution of Protest Politics in China”; Steinhardt and Wu, “In the Name of the Public”.
21. Lo, Liu, Li, and Wang, “Controlling Industrial Pollution in Urban China”.
22. The bulk of the ‘policy innovation’ and ‘policy entrepreneurs’ literature usually focuses on local *leaders/leading cadres* as innovative actors. See, for example, Chen and Göbel, “Regulations Against Revolution: Mapping Policy Innovations in China”; Mertha, *China's Water Warriors: Citizen Action and Policy Change*.
23. Interestingly enough, these two districts themselves were the product of an earlier phase of industrial relocation in the late 1970s/early 1980s, i.e. an attempt to move industrial facilities out of the city center to areas which were at that time only satellite towns or suburbs in Hangzhou's vicinity. See also Hangzhou Daily, “New Chemical [Industry] Park is Gradually Built”. We are very grateful to Lyu Yuan for providing us with this hint; see also his interesting account of Hangzhou's urban planning history at <http://www.jingluecn.com/spdp/1/2018-02-07/13633.html> (accessed 26 April 2018).
24. Data provided by the Hangzhou Environment Protection Bureau, 2011.

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25. Ibid.
 26. Interview with public administration scholars at Zhejiang University, 23 March 2015.
 27. Cai, "Use A Strong Hand to Control Industrial Pollution and to Rebuild A New City".
 28. See Li and Chan, "Clean Air in Urban China"; Mol and Carter, "China's Environmental Governance in Transition".
 29. China Environmental News, "From Industrial Park to Green Home".
 30. Interview with one of the former leaders of the self-help organization, 16 July 2015.
 31. Interview with an official from the Hangzhou City EPB, 22 March 2015.
 32. Interview with one of the former leading representatives of the Wanjia Huacheng Community residents' organization, 21 July 2015.
 33. Interview with one of the former leading representatives of the Wanjia Huacheng Community residents' organization, 21 July 2015.
 34. Interview with one of the former leading representatives of the Wanjia Huacheng Community residents' organization, 21 July 2015.
 35. Interview with an official from the Hangzhou City EPB, 11 July 2016.
 36. Interview with an official from the Hangzhou City EPB, 11 July 2016.
 37. The residents' committee assisted the EPB in selecting half of the representatives. The other half came from the homeowners' association.
 38. Interview with an official from the Hangzhou City EPB, 22 March 2015.
 39. Meanwhile, the EPB occupied a room in the factory as a temporary office to monitor the factory's compliance.
 40. Interview, 11 July 2016.
 41. Interview, 11 July 2016.
 42. Interview with a scholar from Zhejiang University, 8 November 2015.
 43. China Environmental News, "From Industrial Park to Green Home".
 44. See the report "Staging a consultation platform and conciliating conflicts between enterprises and residents" at Maqiao Township government's website, 20 May 2015, available at: http://www.shmq.gov.cn/sites/maqiaozhen/maqiaozhen_content.aspx?ctgid=d4894652-c1ca-4d18-9be9-63cc7bc3a5b3&infoId=dee3e45e-f8a2-4c49-b020-0dc1a843203a (accessed 9 September 2016).
 45. See Carter and Mol, *Environmental Governance in China*; Ran, "Perverse Incentive Structure and Policy Implementation Gap in China's Local Environmental Politics".
 46. He and Warren, "Authoritarian Deliberation: The Deliberative Turn in Chinese Political Development"; Teets, "Let Many Civil Societies Bloom"; Truex, "Consultative Authoritarianism and its Limits".
 47. Ahlers and Schubert, "Effective Policy Implementation in China's Local State"; Li, Miao, and Lang, "The Local Environmental State in China".
 48. In 2016, the percentage reached 61.2% according to the Hangzhou Statistical Bureau's "Hangzhou National Economy and Social Development Statistical Bulletin".