

The Health Factor in Anti-Waste Incinerator Campaigns in Beijing and Guangzhou*

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Abstract

This article draws on interview and documentary data from three anti-incinerator campaigns in Beijing and Guangzhou to examine how urban middle-class homeowners respond to potential local health hazards. It illustrates how and why campaigners shifted from a heavily localized “not-in-my-back-yard” (NIMBY) approach that opposed incinerators based on their siting towards a much broader critique of incineration that exploited weaknesses in waste management policy. Although public health concerns remained central during the course of the three campaigns, how they were presented changed as campaigners developed expertise through self-study. This enabled them to construct an alternative narrative about incineration and present their arguments from a public interest perspective, thus deflecting the pejorative NIMBY label.

Keywords: waste incineration; middle class; environment; health; citizen advocacy; China

Municipal solid waste (MSW) treatment has become one of China’s most pressing environmental challenges.¹ In 2004, China surpassed the United States to become the world’s biggest generator of MSW.² In that year, China generated 190 million tonnes of MSW; it is forecast that this will increase to at least 480 million tonnes by 2030 owing to rapid urbanization and growing consumption.³ According to the World Bank, “no country has ever experienced as large, or as rapid, an increase in waste generation.”⁴ With growing pressure on urban land resources undermining the attractiveness of landfill, the Chinese central government plans to increase significantly the quantity of MSW treated by incineration.

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1 There are three categories of solid waste in China: industrial solid waste, hazardous waste, and municipal solid waste. See Huang, Qifei et al. 2006.

2 World Bank 2005.

3 Ibid.

4 Ibid., 1.

In 2002, less than 1 per cent of Chinese MSW was incinerated.⁵ By 2010, this had increased to 20 per cent, and the current target is to incinerate 35 per cent of MSW by 2015.⁶ It is predicted that China will have over 300 waste incinerators by the end of the 12th Five-Year Plan in 2015 compared with 103 in 2010.⁷ As one journalist put it, “cities are going from being besieged by waste to being surrounded by waste incinerators.”⁸

This rapid expansion of China’s waste incineration capacity has generated concern among local communities about the possible public health impact. The burning of waste produces potentially harmful pollutants such as dioxins, furans and heavy metals.⁹ Reports of widely diverging incineration technology and operating standards across different local level jurisdictions in China suggest that public concern is not unfounded.¹⁰ Although government officials and industry representatives insist that incinerator emissions can be controlled within “safe” levels, studies have shown that *perception* of health risk is often enough to mobilize public opposition against waste infrastructure.¹¹ Several “mass incidents” involving urban middle-class homeowners opposed to the construction, or operation, of incinerators have been recorded across a number of Chinese cities. Health concerns have been at the forefront of these opposition campaigns.¹²

Scholarly research into Chinese urban middle-class environmental activism has predominantly focused on ENGOs.¹³ Most of these organizations engage in what Jürgen Hofrichter and Karlheinz Reif call “general concern” environmentalism: they are motivated by a “general concern about the national and global [environmental] situation.”¹⁴ In contrast, “personal complaint” environmentalists are only concerned with defending their personal interests against environmental threats.¹⁵ As part of their strategy of “depoliticizing” environmental activism, Peter Ho has argued that ENGOs tend to avoid developing relationships with

5 Asian Development Bank 2009.

6 General Office of the State Council. 2012. “‘Shier wu’ quanguo chengzhen shenghuo laji wuhaihua chuli sheshi jianshe guihua” (Plan for national construction of facilities for harmless treatment of municipal household waste during the ‘12th Five-Year Plan’), 19 April, http://www.gov.cn/zw/gk/2012-05/04/content_2129302.htm. Accessed 14 October 2012.

7 New Century 2012.

8 Interview GZ59 with journalist, Guangzhou, 24 July 2012.

9 For an excellent introduction to the health impacts of incineration, see Rootes 2009.

10 Bradsher 2009; Balkan 2012. In a rare academic study, researchers from the Chinese Academy of Sciences in Dalian found significant divergence in dioxin emissions from 19 waste incinerators: six were within stringent EU standards whilst three others exceeded much laxer national standards. EU standards for incinerator dioxin emissions are set at 0.1 ng TEQ/Nm³ (nanograms of toxic equivalent quantity per normal cubic metre). Chinese standards are currently set at 1.0 ng TEQ/Nm³. Average emissions across the 19 incinerators were 0.423 ng TEQ/Nm³. See Ni et al. 2009.

11 Rootes 2009. One survey conducted in China found that 92% of respondents believed that incinerators are harmful to public health. See Yang, Changjiang 2010.

12 Yang, Changjiang 2010.

13 See, e.g., Saich 2000; Schwartz 2004; Yang, Guobin 2005; Tang and Zhan 2008. A 2004 survey of environmental NGO Friends of Nature members found that 95% had been educated to at least college level. See Yang, Guobin 2010b.

14 Hofrichter and Reif 1990, 119.

15 Ibid.

personal complaint environmentalists, preferring instead to foster *guanxi* 关系 (personal relations or connections) with sympathetic Party-state officials.¹⁶ More recent studies suggest that some ENGOs have begun to engage in policy advocacy and have formed links with pollution victims.¹⁷ For example, organizations such as the Centre for Legal Assistance to Pollution Victims (CLAPV) and Shouwang jiayuan 守望家园 (Civil Society Watch) have helped pollution victims to seek redress for health and economic damages.¹⁸ However, these exceptions notwithstanding, few urban ENGOs participate in work related to industrial pollution and its impact on human health. They prefer instead to focus on politically benign issues such as environmental education and conservation, whilst utilizing “global” discourses to recruit members and appeal to international donors.¹⁹

Studies of episodic, localized environmental activism in China have concentrated on rural areas where pollution victims are usually “isolated” from intermediary aid provided by ENGOs and lawyers.²⁰ In contrast with ENGOs, these “personal complaint” environmentalists only mobilize when their own interests are threatened by environmental degradation. For example, in his study of environmental protest in rural China, Jun Jing argues that rural dwellers were more concerned with seeking “social justice to protect the ecological basis of human existence” than with pursuing environmental quality as a general concern.²¹ In some cases, rural pollution victims resort to “boundary-spanning contention”²² and even outright protest to extract concessions from polluters and local officials.²³ Yet, concession-seeking is not always synonymous with pollution reduction. Studies have revealed that local social, economic and political contexts strongly influence rural dwellers’ responses to pollution.²⁴ For example, Benjamin van Rooij and colleagues have showed how residents of one village became financially dependent on compensation payments from a local polluter, a situation which in turn undermined the basis for societal opposition to environmental degradation.²⁵ Perceptions that continued pollution is inevitable regardless of citizen action, and difficulties in proving the causal link between environmental degradation and disease, also help to explain why some rural residents stop short of demanding the cessation of polluting activities.²⁶

By examining urban middle-class opposition to waste incinerators in Beijing and Guangzhou, this article focuses on a different demographic group from those examined by existing studies of “personal complaint” environmentalism

16 Ho 2008.

17 van Rooij 2010; Zhan and Tang 2011.

18 van Rooij 2010. See also Yang, Guobin 2010a.

19 Ho 2008; van Rooij 2010; Yang 2010b; Lora-Wainwright et al. 2012; Zhan and Tang 2011.

20 van Rooij 2010.

21 Jing 2003, 159.

22 O’Brien 2003.

23 See, e.g., Jing 2003; Ma 2008/2009.

24 van Rooij et al. 2012; Tilt 2010.

25 van Rooij et al. 2012; Lora-Wainwright 2013; Lora-Wainwright et al. 2012.

26 Deng and Yang Guobin 2013; Lora-Wainwright et al. 2012.

in China.²⁷ Moreover, waste incineration involves a different set of issues compared to the type of rural industrial pollution referred to in the literature. Unlike industrial pollution – which studies have shown can bring financial opportunities to poor rural dwellers – incinerators bring potentially serious health concerns (be they actual or perceived) but no discernible benefits to urban middle-class homeowners. Furthermore, whereas existing studies address citizen responses to actual pollution,²⁸ much opposition to incineration is pre-emptive in that it occurs *before* incinerators have been constructed.

This article draws on qualitative empirical data from three anti-incinerator campaigns conducted between 2006 and 2012 in Liulitun 六里屯 and Asuwei 阿苏卫 in Beijing, and in Guangzhou's Panyu 番禺 district. The Liulitun incinerator plans were suspended in 2007 following citizen unrest, and an alternative site for the facility was announced in early 2011. Opposition to the Panyu incinerator emerged in 2009. It resulted in the project's suspension until 2012, when an alternative site was announced. The Asuwei incinerator project was also put on hold in 2009 following opposition: it remains in limbo as of late 2012. I conducted over 50 interviews with anti-incineration activists, ENGO representatives, lawyers and waste experts in the two cities between 2009 and 2012. I also participated in site visits and informal social gatherings involving anti-incineration campaigners. Documentary sources in the form of petition letters and reports on waste incineration written by activists were also consulted.

This article is structured as follows. The next section explains how government policies have created a “golden age” for waste incineration; it also notes the dearth of transparency and public participation in siting decisions. I then discuss the three campaigns in the context of several main phases through which they evolved. In all three cases, initial opposition could be classified as “not-in-my-backyard” (NIMBY) activism that limited discussions to siting issues. Activists then redefined the problem as one of general concern. I argue that this was predominantly a strategic move designed to deflect the pejorative NIMBY label and maintain opposition over an extended period of time. Learning was key to this process. In all three cases, campaigners obtained “ownership” of the waste issue through self-study and networking with sympathetic waste experts and environmental NGOs. This enabled them to contest the public health reassurances issued by government and industry from a “rational,” facts-based perspective, and to put forward an alternative narrative that framed the waste issue as a broader policy concern rather than as a local issue. By showing how the three campaigns bridged parochial siting opposition with broader public interest concerns, this article suggests that a more complex relationship exists between “personal complaint” and “general concern” forms of activism than is portrayed in existing studies.

27 For exceptions, see Zhu and Ho 2008; Cai 2005; Shi and Cai 2006. However, none of these studies examines pollution and/or health concerns.

28 See, e.g., van Rooij et al. 2012; Jing 2003.

A “Golden Age” for Waste Incineration

Chinese cities began to establish formal waste management systems in the late 1980s.²⁹ However, investment in waste management has lagged behind other issues such as air and water pollution control.³⁰ Furthermore, waste recycling rates are low compared with other countries.³¹ As a result of rapidly increasing MSW generation, the existing waste infrastructure is coming under severe strain. According to the Asian Development Bank, almost half of China’s MSW is untreated and disposed of in unsuitable landfill sites on the outskirts of cities.³² In 2009, an official from the Ministry of Construction – a department strongly in favour of incineration – claimed that one third of all Chinese cities were surrounded by waste.³³

The central government has strongly advocated expanding waste incineration capacity to cope with an impending waste crisis. Officials have introduced policies to encourage investment in waste incineration, including tax rebates and subsidies to incinerator operators for every tonne of waste burnt and every unit of electricity generated. Commentators have referred to these policies as heralding the onset of a “waste incineration golden age” that has encouraged domestic and foreign companies to enter the market in search of profits.³⁴ One study estimates that 280 billion yuan will be invested in MSW treatment during the 12th Five-Year Plan.³⁵

The official rationale for expanding incineration is threefold. First, many cities’ landfill sites are either full or close to capacity. Incinerators, which can burn waste for decades, are therefore required to avoid cities becoming “besieged by waste” (*laji weicheng* 垃圾围城). Second, incineration is attractive because it requires fewer scarce land resources than landfill. Finally, energy can be generated as a by-product of burning waste. In China, this is categorized as renewable energy. For all of these reasons, incineration is seen as preferable to continued reliance on landfill. In larger cities, each district is nominally responsible for handling its own waste. Beijing plans to have nine incinerators in operation by 2015, and Guangzhou expects to have six by 2014.

The introduction of waste incinerators into China has taken place with little or no transparency or consultation with local communities about the level of acceptable risk. This was certainly the case with the Panyu, Asuwei and Liulitun incinerators. Liulitun residents in Beijing’s Haidian district learned of the planned incinerator in late 2006. This was one year after it had been formally approved and just several months before construction was due to begin. It was not until

29 Davey 2012.

30 OECD 2007.

31 Davey 2012; OECD 2007.

32 Asian Development Bank 2009.

33 *People’s Daily*. 2009. “Laji weicheng” (Waste surrounds the cities), 1 April, <http://society.people.com.cn/GB/97741/125117/9065450.html>. Accessed 14 March 2011.

34 New Century 2012.

35 Yang, Changjiang 2012.

the autumn of 2009, three years after the siting decision had been taken, that significant numbers of local residents became aware of plans to construct an incinerator at Dashijie huijiangcun 大石街会江村 in the Panyu district of Guangzhou. Local awareness was only raised after a local journalist spread news of the project via online community bulletin boards following a government announcement that construction was imminent.³⁶ Residents living close to the site of the proposed incinerator at Asuwei in Beijing's Changping district discovered it by chance in late 2009 after one of them stumbled upon one of only three public notices announcing the project whilst visiting the local government offices. The Liulitun and Panyu sites were both close to densely populated areas.³⁷ Opposition to the Asuwei project mainly came from wealthy residents of the nearby Aobei 奥北 villa community.

Although these three campaigns were conducted at different times and in different locations, they shared many characteristics. In all three cases, local residents mobilized against incinerators that were still in the planning stages: they were opposing *potential* rather than *actual* health damage. Campaigners adopted similar tactics, including petitioning the authorities, protesting and utilizing internet discussion forums to raise awareness and mobilize support from within their communities.³⁸ The campaigners established contact with each other, both in person and via the internet. I attended a social gathering in Beijing organized by one campaign leader where representatives from all three cases were present, along with “anti-incineration” experts and ENGO staff members. Thus, although the campaigns were geographically dispersed, they were not completely isolated from each other.

“Not-In-My-Backyard” (NIMBY)

The NIMBY label is often used pejoratively to describe selfish and uninformed localized opposition to facilities such as incinerators that are deemed necessary for the public good.³⁹ NIMBY actors tend to limit discourse and concerns to narrow siting issues rather than engaging in wider discussions about, for example, the relationship between lifestyles and waste.⁴⁰ However, studies have shown that the goals of NIMBY actors can expand from opposing unwanted projects in their own backyards to campaigning against locating such projects anywhere.⁴¹ This is sometimes referred to as “not-in-anybody’s-backyard” (NIABY) activism, whereby citizens adopt a more “general concern” view of the problem rather than a parochial, localized one.

36 Huang and Yip 2012.

37 In petitioning documents, Panyu campaigners claimed that 70,000–100,000 local residents would be directly affected by the incinerator. Liulitun residents claimed that 100,000 people were living or working nearby.

38 On the role of the internet in homeowner activism, see Huang and Yip 2012.

39 Shevory 2007.

40 Fletcher 2003.

41 See, e.g., Shemtov 1999; Hess 2007.

After discovering the incinerator projects at a relatively late stage, campaigners from Liulitun, Asuwei and Panyu recognized the urgency of mobilizing opposition *before* construction work could begin.⁴² Initial opposition was largely informed by NIMBY sentiment: the overwhelming objective was to prevent an incinerator from being built locally.⁴³ Whilst petitioning various government departments, campaigners concentrated on “flawed” siting decisions. They argued that the incinerators should be built in alternative locations with lower population densities, where fewer people would be exposed to pollution. Similar to Kevin O’Brien and Lianjiang Li’s “rightful resisters,”⁴⁴ residents questioned the legality of the siting decisions. For example, Liulitun residents cited the 2006 “Notice regarding strengthening of environmental impact assessment management work for projects involving electricity generation from biomass” – which states that incinerators should “ordinarily” not be located in, or upwind from, densely populated areas – as evidence that the site selection was flawed. In January 2007, they filed an administrative review application with the Ministry of Environmental Protection (MEP). They asked the MEP to overturn the Beijing Municipal Environmental Protection Bureau’s decision to approve the incinerator project’s environmental impact assessment (EIA) report. Liulitun campaigners had discovered egregious errors in the report, including incorrect wind direction measurements and the inaccurate claim that dioxins could be monitored in real time.

Panyu campaigners cited the same 2006 notice in petitioning materials sent to local and central government departments.⁴⁵ Several residents also drafted an administrative review application to challenge the siting decision. However, they did not submit it because construction work was imminent and campaigners felt that there was insufficient time to pursue this course of action.⁴⁶ Although Liulitun residents could identify errors in the EIA report, the Panyu project’s EIA had not yet been completed. Asuwei residents also questioned the project’s siting decision. They pointed out that the incinerator site was upwind and upstream from several densely populated communities, which, they argued, rendered it unsuitable.

Local residents also demanded a voice in the decision-making process. In Panyu and Liulitun there was a strong feeling that, by allowing incinerators to be built in areas with high opposition, local officials had violated public opinion (*minyi* 民意) and that by failing to consider public opinion, the siting decisions lacked legitimacy. One Panyu campaigner described a 10,000-signature petition against the incinerator as “public opinion material” (*minyi de ziliao* 民意的资料)

42 Interviews BJ02, BJ03 and BJ04 with anti-incinerator campaigners, Beijing, 29 July 2009; interview GZ47 with anti-incinerator campaigner, Guangzhou, 17 July 2012.

43 Interview GZ46 with anti-incinerator campaigner, Guangzhou, 17 July 2012.

44 O’Brien and Li 2006.

45 Petition document on file with author.

46 Interview GZ46.

that should inform government siting decisions.⁴⁷ Participants from all three cases demanded the right to be informed and consulted about incinerators through, for example, public hearings as legislated for by the 2002 EIA Law and its implementing measures. Yet, whilst the EIA Law allows for public consultation in relation to projects liable to have a significant impact on local residents, some campaigners, perhaps deliberately, misinterpreted this to mean that the public had a veto over unwelcome projects. For example, an Asuwei campaigner claimed that: “Chinese laws stipulate the right of public participation... Before you start construction you must do an environmental impact assessment. If ordinary people in the vicinity don’t agree [with the project], then you can’t begin construction.”⁴⁸

The focus on procedural errors provided a safe “entry point” (*qieru dian* 切入点) from which campaigners could defend their interests – by challenging siting decisions from a NIMBY perspective – whilst remaining within the law.⁴⁹ It also accorded with the interviewees’ desire to avoid “extreme” tactics.⁵⁰ However, this approach had little impact on the authorities. After concluding that their petitioning efforts had been ineffective, residents from all three districts resorted to public protest. On 5 June 2007 (World Environment Day), approximately 1,000 Liulitun residents surrounded the MEP headquarters in Beijing after failing to receive any official response to their administrative review application within the statutory time limit. Over 100 Asuwei residents drove to the Agricultural Exhibition Centre on 4 September 2009, which was at that time hosting the Beijing Environment and Hygiene Fair, and staged a protest. And on 23 November 2009, over 1,000 Panyu residents marched on the municipal government building to express their opposition to the proposed incinerator.

As residents applied pressure to local officials through petitions and protests, health concerns were used to dramatize grievances and convey a sense of urgency against an impending threat. Campaigners closely associated incineration with dioxins and cancer. For example, the Liulitun campaigners surrounding the MEP headquarters in Beijing claimed that their action was in defence of their “right to life and health” (*shengming jiankang quan* 生命健康权), and that they “refused [to be subjected to] cancer” (*jujue aizheng* 拒绝癌症). In addition, several Liulitun residents hung banners from their residential buildings displaying statements such as “incineration produces highly carcinogenic dioxins” (*laji fenshao chansheng qiangzhi aiwu – er’eying* 垃圾焚烧产生强致癌物 - 二恶英), and “we don’t want to breathe toxic air” (*women bu xiang huxi youdu de kongqi* 我们不想呼吸有毒的空气). The Asuwei residents converging on the Agricultural Exhibition Centre displayed badges expressing opposition to “carcinogenic

47 Interview GZ20 with anti-incinerator campaigner, Guangzhou, 24 August 2011.

48 Gdct.gov.cn. 2011. “Chai Jing: ‘Hunzi’ gongmin Huang Xiaoshan – weiquan dou shi bei bi de” (Chai Jing: “hooligan” citizen Huang Xiaoshan – all rights-upholding has been forced). 30 December, http://www.gdct.gov.cn/life/xmhs/201112/t20111230_641971.html#text. Accessed 6 October 2012.

49 Interview BJ07 with environmental lawyer, Beijing, 29 November 2010.

50 Interviews BJ02, BJ03, BJ04; interview BJ05 with anti-incinerator campaigner, Beijing, 28 November 2010; interview GZ20.

dioxins” (*zhiai er'eying* 致癌二恶英). They also hung banners outside their homes proclaiming the link between incineration and birth defects. Panyu residents displayed signs declaring their “refusal to breathe toxic gas” (*jujue huxi duqi* 拒绝呼吸毒气). During the 23 November protest, participants circulated a list of cancer victims from Likeng village in Guangzhou’s Baiyun district, the site of the city’s first waste incinerator which had been in operation since 2006. It claimed that between 1993 and 2005, only nine residents had died of cancer, whereas 42 had died of the disease since 2006.⁵¹

Public pressure led to the suspension of all three incinerator projects pending “further investigation.” Following the protests, local officials held meetings with residents; the latter were also invited to submit comments during the further investigation process. Local residents welcomed these concessions and public unrest was defused, at least in the short term. However, campaigners were fully aware that they had only won a temporary victory and that incinerators might still be built in their neighbourhoods. Small numbers of active campaigners maintained opposition by filling the void of uncertainty that had emerged after the projects had been halted.

Filling the Void: Citizens as Rational Actors

Local residents had been excluded from discussions concerning waste incinerators. The emergence of public opposition resulted in waste incineration being increasingly discussed and debated through internet forums, the media, and between residents in person. As the issue entered the public sphere, officials publicly downplayed campaigners’ health concerns. The deputy director of the Beijing Municipal Commission of City Administration and Environment (BMCCAE) stated:

City residents, please don’t worry! We [will operate incinerators] according to national standards and international standards... We will control dioxins within environmental regulatory standards, we won’t cause any harm to people’s health.⁵²

Panyu district officials asserted that “the government would never put forward a ‘polluting project’ (*wuran xiangmu* 污染项目),” and that the incinerator would operate to “international standards.”⁵³ They also attempted to reassure the public by holding a press conference at which four experts defended the technology. Suggesting that local residents’ concerns were irrational, one expert, Zheng Minghui 郑明辉 from the Chinese Academy of Sciences, stated that, “dioxins

51 People of Panyu. 2009. “Shei lai zhengjiu Likeng renmin?” (Who will save the people of Likeng?), <http://www.xici.net/d105860961.htm>. Accessed 21 November 2012. However, Li Qi and Chen Ajiang discovered significant inconsistencies in the cancer list during a site visit, suggesting that the number of casualties had been exaggerated. See Li and Chen 2013.

52 Yang, Changjiang 2010, 63.

53 *Guangzhou Daily*. 2009. “Guangzhou Panyu qu chengnuo laji fenshaochang bu tongguo huanping bu donggong” (Guangzhou’s Panyu district promises construction of waste incinerator will not begin if EIA is not passed), 31 October, <http://news.sina.com.cn/c/2009-10-31/040718945121.shtml>. Accessed 14 June 2010.

are tigers, not monsters, they can be harmful but they can also be controlled.”⁵⁴ Officials from both cities also suggested that the prevalence of incinerators in countries such as the US, Germany and Japan proved that the technology was safe.

Faced with these reassurances, the onus increasingly fell on incinerator opponents to prove that their concerns were genuine. Campaigners acknowledged that they were vulnerable to accusations of being purely motivated by selfish and irrational NIMBY sentiment. As a result, they attempted to portray themselves as “rational” (*lixing* 理性) actors. This meant basing their opposition to the incinerators on facts rather than emotion, and discussing incineration as a regional, national and even international issue rather than an exclusively local one. As one Panyu campaigner put it:

One problem was that we opposed waste incineration, but outsiders could say “why are you so selfish, it is only right for you to handle the waste you produce.” So, we wanted to show fully that waste incineration does not just affect Panyu or Guangzhou, it affects the whole region, the entire atmospheric environment... Therefore the problem was not just site selection, it was more related to the waste treatment approach.⁵⁵

This shift towards greater rationality was, therefore, strategic. Residents devoted considerable time to learning about all aspects of waste policy. Numerous studies of citizen opposition to local pollution hazards have shown how campaigners develop expertise in order to challenge opponents’ arguments. In the field of AIDS activism, Steven Epstein referred to this process as the “expertification of lay experts.”⁵⁶ In her study of anti-incinerator movements in the US, Ronit Shemtov argued that through accumulating expert knowledge, citizens obtained “ownership” of the issue.⁵⁷ This gave them legitimacy vis à vis the government in defining the problem and proposing solutions.⁵⁸

Campaigners from Liulitun, Asuwei and Panyu obtained ownership of the waste incineration issue through reading books and materials on the internet, and through consulting sympathetic experts in the two cities.⁵⁹ One Panyu campaigner stated that:

We didn’t use a violent or impulsive method of resistance. We used a rational approach, we spoke with data and facts. During the past two years we slowly became more rational, we basically learnt about the entire waste incineration field.⁶⁰

Health concerns remained central to citizen opposition. However, these concerns began to be expressed differently. As campaigners learnt about waste management practices overseas, they identified a number of weaknesses in China’s

54 *China News* 2009.

55 Interview GZ20.

56 Epstein 1996; see also Lora-Wainwright 2013.

57 Shemtov 1999.

58 Ibid.

59 For example, Zhao Zhangyuan, a retired research fellow from the Chinese Research Academy of Environmental Sciences, highlighted the dangers of waste incineration via his blog and through liaising in person with residents from all three cases.

60 Interview GZ21.

approach to incineration. They began to argue that officials viewed incinerators as an end-of-pipe dumping ground – somewhere they could “burn the waste and forget about it” (*yi shao liao zhi* 一烧了之) – rather than as the final step in a comprehensive, integrated waste treatment process predicated on waste reduction and sorting.⁶¹ Campaigners also questioned the government’s ability to ensure that incinerators would adhere to pollution standards.

As their understanding of the issues developed, some campaigners shifted away from outright hostility towards incineration, and towards a more considered opposition to “reckless incineration” (*luan shao* 乱烧). One Asuwei resident declared that “we don’t disagree with incineration; the issue is about *how* to burn.”⁶² Campaigners learned that, in order to minimize production of harmful by-products such as dioxins, incineration should occur at or above 800 degrees Celsius, and that partial burning of waste should be avoided.⁶³ Compared with other countries, Chinese MSW contains a relatively high amount (around 60 per cent) of moist kitchen waste. Maintaining a high enough incineration temperature is therefore challenging.⁶⁴ Moreover, waste sorting prior to incineration, including separating wet from dry waste and removing hazardous materials, is limited.⁶⁵ As well as posing a challenge in terms of maintaining a high enough temperature, a lack of upstream waste reduction and sorting increased the number of incinerators required. The campaigners’ argument that incineration without adequate waste sorting exacerbated health risks therefore undermined official safety assurances. One Panyu campaigner asserted that, “I went from opposing incineration outright to supporting environmentally-friendly and healthy incineration based on waste sorting... Opposing unscientific, environmentally-unfriendly incineration is not the same as opposing incineration.”⁶⁶

Campaigners contrasted their own “rational” outlook with what they portrayed as local officials’ “irrationality.” They called the impartiality of officials into question by suggesting that they were in cahoots with incinerator operators. As one Panyu resident said, “we believe that government officials will benefit financially from waste incineration, otherwise they wouldn’t be promoting it to such a large extent.”⁶⁷ As a result, local residents suggested that officials and pro-incineration experts had exaggerated the positive aspects of burning waste and could not be trusted to carry out effective supervision of the incinerators. According to one Liulitun campaigner, “lots of people believe that Liulitun

61 Interview BJ06 with anti-incinerator campaigner, Beijing, 29 November 2010. See also People Online 2009.

62 Interview BJ06.

63 World Health Organization 2011.

64 Zhang, Tan and Gersberg 2010. According to one report, many incinerator operators add coal in order to meet minimum temperature requirements. See Economist Intelligence Unit. 2012. “China economy: rubbish plans?” 8 March, <http://blogs-images.forbes.com/davidferris/files/2012/06/China-economy-Rubbish-plans.pdf>. Accessed 14 October 2012.

65 For example, only an estimated 15% of MSW in Beijing is separated. See Zhang, Tan and Gersberg 2010.

66 Interview GZ47.

67 Ibid.

[campaigners] vilified (*chouhua* 丑化) incinerators, but reality proves that it was the government that acted first, lots of experts beautified (*meihua* 美化) incinerators.”⁶⁸ Another Liulitun resident accused experts of trying to “hoodwink” (*huyou* 忽悠) residents. He used the following example to illustrate his point:

When the experts introduced incineration technology, even though the mayor was present, they still hid the truth from citizens and government officials. They said that a round structure built in the chimney of an Austrian incinerator was a revolving restaurant; in reality it was the incinerator control room. There is an incinerator with a revolving restaurant in the chimney, but that one is in Taipei.⁶⁹

Errors in the Liulitun EIA report also undermined trust in officials. One local resident alleged that “they even falsified information about common sense things such as wind direction. Trust disappeared in an instant, after that nobody trusted them.”⁷⁰ Panyu campaigners were similarly distrustful of what they saw as official attempts to gloss over the negative aspects of waste incineration. For example, they discovered that only two years previously Zheng Minghui had described dioxins as a “chemical time bomb” (*dingshi huaxue zhadan* 定时化学炸弹).⁷¹ In addition, the Panyu incinerator was tainted by corruption allegations after it emerged that the Guangzhou Municipal Government deputy general secretary’s brother had a strong commercial interest in the city’s incinerator projects.⁷² Several interviewees were concerned that incinerator operators, in collusion with local officials, would skimp on safety measures in order to save money and benefit financially.⁷³

For Panyu residents, serious health concerns affecting the Likeng incinerator further undermined safety reassurances. One official had claimed that Likeng operated according to European Union standards, but campaigners dismissed this claim as “easy to say, difficult to do.”⁷⁴ Furthermore, media reports suggested that the Likeng incinerator was responsible for a serious increase in cancer among local residents.⁷⁵ Early in the Panyu campaign, a group of residents visited Likeng where they met local residents who claimed that their health had been badly impacted by the incinerator. One local was quoted as saying that, “us people here, some have moved away, those with no money just have to stay here and wait to die.”⁷⁶ Several interviewees apparently discovered partially burned waste at the site. This convinced them that incinerator operators were cutting corners by failing to maintain high enough incineration temperatures.⁷⁷ In

68 Interview BJ10 with anti-incinerator campaigner, Beijing, 6 June 2011.

69 Interview BJ02.

70 Interview BJ38 with anti-incinerator campaigner, Beijing, 4 July 2012.

71 *China News* 2009.

72 Wikileaks.org. 2010. “Something stinks in Guangzhou – government forced to adopt new approach to solving city’s garbage problem,” 1 February, <http://wikileaks.org/cable/2010/02/10GUANGZHOU50.html>. Accessed 9 October 2012.

73 Interviews GZ21, GZ22.

74 Interview GZ20.

75 See *China News* 2009.

76 People Online 2009.

77 Interview GZ20; interview GZ22 with anti-incinerator campaigner, Guangzhou, 26 August 2011; interview GZ46. In some cases, materials such as coal are added to maintain high enough temperatures. Interviewees suggested that incinerator companies would be unwilling to do this in order to save money.

the words of one campaigner, “government supervision departments were not performing supervision.”⁷⁸ A petition letter written by Panyu residents declared, “one example is already enough, I don’t want to have a second or third Likeng.”⁷⁹ In another petition letter, they wrote:

Developed countries can adopt waste incineration because they have mature legislative oversight, public opinion oversight, and public participation. We must admit, because China’s systemic reforms are still underway, checks and balances of power and public participation still have relatively more defects. In the short term [China] lacks the ability to carry out effective oversight of waste incineration.⁸⁰

Asuwei and Liulitun campaigners made similar arguments that China’s “national conditions” (*guoqing* 国情) undermined effective supervision of incinerators. In these two cases, the trust deficit was exacerbated by the collective memory of previous broken promises regarding the Liulitun and Asuwei landfills which began operating in the 1990s. Locals had complained for years about the stench from the landfills that had continued despite government promises to resolve the issue.⁸¹ The extent of the foul smell had greatly exceeded earlier government predictions intended to reassure concerned local residents. It was also claimed that local cancer rates were abnormally high owing to landfill leaching.⁸²

By questioning officials’ ability to monitor waste incinerators effectively, campaigners attempted to reverse the burden of proof and place the onus back onto the government to convince them that incinerators were harmless. One Panyu resident said, “I saw partially burnt shoes and plastic bags in the incinerator ash [at Likeng]. If you say you are meeting standards, you should bring out your evidence.”⁸³ Another stated that, “I think this [incinerator project] is harmful to me, if you think it’s harmless you should give me an explanation.”⁸⁴ In the face of what they saw as an arbitrary siting decision, Liulitun residents repeatedly implored the government to dispel their concerns properly with sound evidence. Aobei resident Huang Xiaoshan 黄小山 even claimed that, as long as the government could satisfy his safety concerns, he would happily live next to an incinerator, even if it was the only one in the city.

Citizens as Participants: Promoting Waste Policy Solutions

Having redefined their opposition as being directed at “unsafe” incineration rather than incineration per se, some residents moved beyond criticism of government policies by proposing their own policy solutions and becoming involved in

78 Interview GZ47.

79 Copy on file with author.

80 Panyu residents’ petition letter, 28 February 2011, copy on file with author.

81 Interview BJ15 with environmental expert, Beijing, 7 June 2011; interview BJ31 with anti-incinerator campaigner, 27 June 2012.

82 Interview BJ15. See also Liu, Jianqiang. 2007. “Small but brave.” <http://www.chinadialogue.net/article/show/single/en/1117-Small-yet-brave>. Accessed 23 August 2009.

83 Interview GZ47.

84 Interview GZ46.

waste sorting projects. Policy suggestions were based on the premise that safer and more environmentally sustainable alternatives to waste incineration existed. By behaving like participants in the policy process – albeit as “outsiders” – campaigners further portrayed themselves as promoting the public good instead of hindering it through selfish NIMBY opposition. This position was expressed by one Liulitun resident who said, “we wanted to help the government solve the [waste] problem, we didn’t want to be unruly people (*diaomin* 刁民) and create trouble.”⁸⁵ Similarly, one Aobei resident stated:

We have doubted [the government], felt anger, resisted, demonstrated, protested, and carried out *shangfang* 上访. However... we very quickly realized that we should establish dialogue channels with relevant departments to let the government clearly see that the public is a force for resolving the waste problem and is not merely an obstacle.⁸⁶

Aobei residents compiled a 64-page report entitled “Life and death decision for Chinese cities’ environment.”⁸⁷ The report demonstrated an impressive understanding of technical information and overseas waste management experience, which formed the basis for a number of policy suggestions. One resident had extensive professional knowledge of the waste industry, which helped in drafting the report. For example, the report claimed that goods trains travelling from Beijing to Inner Mongolia were usually empty after depositing their cargo in the capital. These trains could be used to transport waste to Inner Mongolia where it could be buried in the desert. Campaigners sent the report to local and central government officials to inform waste policy decisions.

Liulitun and Panyu campaigners also offered policy suggestions. According to one Liulitun campaigner, “[through writing to the government] we let them see the technical problems [of waste incineration]; because these reports were written by ordinary citizens it was easier for them to understand.”⁸⁸ Between 2006 and 2009, they produced four open letters that, whilst maintaining opposition to the Liulitun site selection, increasingly highlighted alternatives to incineration such as anaerobic digestion.⁸⁹ They also held informal discussions with officials in Beijing, “to help [them] understand the things that I know.”⁹⁰ Panyu residents provided written policy suggestions to the Municipal Government during its drafting of the “Guangzhou Municipality temporary regulations concerning municipal waste sorting.” One such suggestion was that the government should force individuals who did not sort their waste to undergo education sessions.⁹¹

As well as proposing policy suggestion, residents also promoted waste reduction and sorting in their own communities. This formed the basis for

85 Interview BJ10.

86 The Beijing News. 2010. “Zhengfu yao Asuwei jumin fu Ri kaocha” (Government invites Asuwei resident to go to Japan for investigation), 21 February, <http://blog.bjnews.com.cn/space.php?uid=21668&do=blog&id=45320>. Accessed 14 October 2011.

87 Available at http://www.lingfeiqi.cn/uploads/soft/201103/6_14152037.pdf.

88 Ibid.

89 Interview BJ11 with anti-incinerator campaigner, Beijing, 6 June 2011.

90 Ibid.

91 Interview GZ20.

cooperation between residents and several ENGOs. Chinese ENGOs have been paying attention to waste issues for many years,⁹² and in recent years several organizations have become more engaged in policy advocacy. Several green groups have formed a “zero waste alliance” (*ling feiqi lianmeng* 零废弃联盟), which promotes the reduction, sorting and recycling of waste with the aim of reducing the need for incinerators.⁹³ Participating ENGOs have argued that the government’s waste policy approach is short-sighted and dominated by technical end-of-pipe solutions. They have strongly advocated involving local communities in waste management initiatives.⁹⁴

Several Beijing-based ENGOs have helped residents discover alternatives to waste incineration. For example, the ENGO Green Beagle (*Da'erwen qiuzhishe* 达尔问求知社) is involved in organizing community waste separation and recycling initiatives. It also convenes regular seminars and arranges visits to waste treatment facilities.⁹⁵ Several anti-incinerator campaigners participated in these events. Yet, ENGOs have sometimes proceeded cautiously. For example, in 2007, campaigners from Liulitun sought support from the green group, Friends of Nature (FON), which declined to become involved owing to the sensitivity of the issue. However, by 2009 FON had established a dedicated department for promoting sustainable waste management practices. Sensing an opportunity to promote its goal of boosting community involvement in waste matters, FON cooperated with Liulitun residents in setting up small-scale waste reduction and sorting projects in two residential communities. Several dozen households participated in these projects. One FON staff member summarized the organization’s standpoint as follows:

- FON respects Liulitun residents’ opinions, and will not oppose them. Public protest is their right, but FON will not take part in this;
- FON hopes that Liulitun people will change their attitude and their starting point by recognizing that the waste issue is a Beijing problem, not just a Liulitun problem;
- FON is concerned about environmental protection: the issue is not just about house prices;
- NIMBY is not a basis for cooperation between FON and local communities;
- FON wants Liulitun residents to carry out rubbish sorting, hence making an example of how this can be done in Beijing.⁹⁶

FON subsequently became involved in community waste sorting projects in Panyu. It supported an initiative by local residents called the “green family” (*lüse jiating* 绿色家庭) project, whereby every Sunday volunteers would collect and separate waste from their neighbourhood. As part of this initiative, several

92 Lu 2007.

93 See <http://www.lingfeiqi.cn>.

94 Interview BJ30 with ENGO representative, Beijing, 27 June 2012.

95 Interview BJ16 with ENGO representative, 8 June 2011.

96 Interview BJ01 with ENGO representative, 29 July 2009.

local households also attempted to reduce their own waste production. According to one participant, the 20 households involved managed to reduce their waste by five and a half tonnes in one year.⁹⁷

Aobei residents took a more entrepreneurial approach. Huang Xiaoshan invested 140,000 yuan of his own money in establishing a “green house” (*lǜ fangzi* 绿房子) project. This involved setting up a small shed in his locality where residents could separate waste into wet and dry before it was sorted further by volunteers, some of whom were organized by FON. One Asuwei campaigner believed that if this initiative were successful, citizens would be vindicated and that the government would be “unable to say anything” (*meiyou hua shuo* 没有话说).⁹⁸

These initiatives suggest that mutual ground exists between ENGOs – which are committed to promoting more sustainable approaches to waste management – and communities mobilizing against incinerators. Admittedly, participation in waste reduction and sorting schemes was limited to a small percentage of local residents, and one Panyu campaigner complained that some participants dropped out when it became apparent that the incinerator would not be built.⁹⁹ Yet, some residents were transformed by their campaigning experience. In 2012, one prominent Panyu activist established the ENGO Eco Canton (*Yiju Guangzhou* 宜居广州), which aims to promote more sustainable waste management practices in the city. Eco Canton has participated in zero waste alliance activities with other ENGO representatives. The participation of citizen activists in ENGO initiatives may provide an important stimulus for established organizations, such as FON, as they seek to become more relevant in a rapidly changing society.¹⁰⁰

Conclusion

This article has examined how urban middle-class opposition to unwanted waste incinerators evolved from a location-specific NIMBY approach into a broader critique of the government’s waste policy. This shift from localized “NIMBY” activism, towards a “policy advocacy” approach that was predicated upon general concern environmentalism, was primarily a strategic tool used by campaigners to sustain claims-making in a depoliticized “rational” manner after the issue entered the public sphere. It also exploited weaknesses in the government’s policy, most notably the lack of attention paid to upstream waste reduction and sorting.

By obtaining ownership of the waste issue, campaigners were able to redefine the problem on their own terms. Local residents drew on ample resources in order to facilitate this strategy. Not only did residents have easy access to the internet,

97 Interview GZ 46.

98 Interview BJ06.

99 Interview GZ46.

100 Interview BJ01.

some also possessed foreign language skills that enabled them to introduce knowledge from overseas.¹⁰¹ To borrow a phrase used by Guobin Yang, they had “transnational competence.”¹⁰² In addition, their urban location ensured that residents from Beijing and Guangzhou enjoyed relatively easy access to experts, ENGO activists and media attention. This meant that instead of merely opposing an unwanted health hazard through protest and rightful resistance, campaigners advanced an alternative narrative of waste incineration based on authoritative sources from outside China that were effectively beyond governmental control.

Campaigners used their expertise to distinguish between different types of incineration (“safe” and “unsafe”). In doing so, campaigners made specific criticisms related to what they saw as deficiencies in waste incineration supervision and upstream waste reduction and waste sorting initiatives. Rather than sustain a polarized debate between pro- and anti-incineration actors, this created a zone of compromise whereby local residents nominally approved waste incineration if their concerns could be satisfied. This desire to compromise and work with the government, for example by offering policy suggestions, is consistent with Yongshun Cai’s assessment of the middle class as an essentially “moderate” group that favours maintaining the political status quo.¹⁰³ Yet it was also a strategic attempt to legitimize opposition whilst holding the government to standards that they would likely struggle to meet in the short or long term.

The findings of this article suggest that the difference in economic gain from pollution is a key factor in determining campaign strategies used by those impacted. Studies have shown how pollution victims in rural areas can be “bought” by compensation and employment opportunities.¹⁰⁴ This is also evident in how some pollution victims actively seek financial redress rather than framing their grievances in health or environmental terms.¹⁰⁵ Such factors have the effect of crystallizing and legitimizing pollution activities, as villagers may become economically reliant on pollution even though they remain acutely aware of the negative health impacts.¹⁰⁶ This did not occur in the cases examined in this article, where middle-class urbanites had nothing to gain and everything to lose from the looming incinerator projects. Rather than pursue financial gain, anti-incinerator campaigners focused on battling against the pollution hazard in question. They argued against the siting decisions, drew attention to poor incinerator operation practice, and advocated alternative solutions that might improve incinerator operations and reduce waste at source. Differences in how citizens of varying financial means respond to pollution were in evidence in the

101 For a discussion on the “digital divide” between urban and rural dwellers regarding internet usage, see Harwit 2004.

102 Yang, Guobin 2010b.

103 Ibid.

104 Tilt 2010.

105 Lora-Wainwright 2013; Deng and Yang 2013; Tilt 2013.

106 Lora-Wainwright 2009.

Asuwei case. According to one media report, whilst wealthy Aobei residents opposed the planned incinerator, local villagers carried out home improvements in order to maximize any compensation arising from forced relocation.¹⁰⁷ This divide between how the urban middle classes and poorer citizens frame and mobilize against projects with potentially negative public health impacts is poorly understood and is therefore deserving of further study.

Campaigns that focus on the health and environmental risks associated with pollution may be more likely to result in better environmental outcomes. By raising detailed concerns with elites in a “rational” and constructive manner – and by bringing these concerns into the public sphere – urban anti-incinerator activists could potentially play an important role in reducing the health risks of incinerators. Yet, at the same time, although some campaigners have begun to network with ENGOs, scope for mounting a higher profile campaign against incineration is extremely limited. Anti-incinerator campaigns remain highly localized affairs, and activists are acutely aware that they must rely first and foremost on their own efforts. Therefore, opposition may result – as was the case with the Liulitun and Panyu examples – in incinerators being relocated to sites where local residents have fewer resources to contest these projects. Opposition may affect *where* incinerators are built, but it is unlikely to alter how waste is ultimately disposed of.

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