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## **China's changing environmental governance: Enforcement, compliance and conflict resolution mechanisms for public participation**

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**Abstract:** For more than two decades, under the imperative of 'developing the country at all costs', local governments in China have allowed developers and industrialists to set up polluting industries which have had deleterious effects on citizens' health and the natural environment. However, China appears to have entered a new phase of determined and concerted efforts on the part of both the authorities and the public to tackle environmental problems. The articles in this special issue of China Information examine the main weaknesses and strengths of China's current system of environmental governance. The central questions linking the case studies reported here are concerned with whether and how environmental policies formulated at the central level are implemented at the local level and how different agents and interests, making use of the available legislative means, influence this implementation process. Engaging a range of political, economic, social and cultural perspectives, the five contributions in this collection concentrate on two broad issues: resolution mechanisms for public participation in environmental governance and the actual enforcement of environmental regulations.

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# China's changing environmental governance: Enforcement, compliance and conflict resolution mechanisms for public participation

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## Abstract: (200 words)

For more than two decades, under the imperative of “developing the country at all costs”, local governments in China have allowed developers and industrialists to set up polluting industries, which have had harmful consequences on citizens’ health and on the natural environment. We believe that a new phase has been reached in terms of determination to tackle such problems on part of both the authorities as well as of the greater public.

This introductory article will delve into a detailed explanation of the rationale binding the articles of the special issue together, in order to pinpoint the main weaknesses and strengths of China’s current system of environmental governance. Engaging a range of political, economic, social and cultural perspectives, the five articles in this collection concentrate on two broad issues: resolution mechanisms for public participation in environmental governance and the actual enforcement of environmental regulations.

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Environmental governance, compliance, enforcement, public participation, rules’ based mechanisms for public participation

China is facing a multitude of environmental challenges, ranging from biophysical impacts of climate change, deforestation and water scarcity, to impacts on health and social stability as a result of pollution, soil contamination and overexploitation of natural resources. Rapid industrialization and lax environmental regulations have exacerbated these problems exponentially, pushing the country towards an acute environmental crisis.<sup>1</sup> The effects of almost three decades of unrestrained development are visible on both citizens’ health and on

the natural environment. Cancer villages<sup>2</sup> have gradually become the site of mass protests and collective and individual lawsuits by victims of pollution seeking redress for their suffering.<sup>3</sup> Environmental and air quality degradation have become major sources of discontent and conflict, ranking high among the social concerns of Chinese urbanites.<sup>4</sup>

Recent media reports detailing the deterioration of the Chinese environment have raised concerns worldwide. Residents in the country's main urban centres are engulfed in clouds of toxic smog.<sup>5</sup> The damage caused by China's environmental crisis is testing the Chinese state, and rising social costs of environmental degradation threaten to **obliterate** ~~(instead of: dissolve)~~ the hard-won achievements of more than four decades of rapid economic development.

This special issue on environmental governance in China examines the central question of *whether* and *how* environmental policies formulated at the central level are implemented at the local level and how different agents and interests, making use of the available legislative means, influence this implementation process. A great deal has changed in the past five years in the field of environmental protection and in the commitment of authorities to protect the environment. **With this special issue, we hope to make a timely contribution to the ongoing discussion which has entered a new phase of determined efforts by both Chinese citizens and government authorities.**

Insights from past research inform the studies reported in this special issue. In 1998, at a time when China trained its sights on unrestrained economic growth, a pioneering topical issue of *The China Quarterly* paved the way for studies on the environmental impacts of development. Almost a decade later, in 2007, in a special issue on environmental activism published by *China Information*, guest edited by Peter Ho and Richard Louis Edmonds, scholars addressed significant topics concerning social movements and a nascent green civil society in the 2000s. In this special issue, Ho and Edmonds put forth the concept of 'embedded activism', arguing that civil society can be quite vocal and active in China, as long as it is careful to avoid directly challenging the central government.<sup>6</sup> In 2013 Anna Lora-Wainwright edited a second special issue of *The China Quarterly* dealing with the health impacts of environmental pollution.<sup>7</sup> The collection concentrated specifically on public perceptions of pollution and societal responses to the effects of environmental contamination on human health, in light of growing concerns among Chinese citizens about a variety of issues ranging from industrial pollution to soil degradation and contaminated food. In 2014 Benjamin van Rooij, Rachel Stern and Kathinka Fürst edited a topical number of *Regulation & Governance* which dealt with the increasing pluralization of China's environmental

regulatory landscape, and it paid particular attention to a host of new actors playing a regulatory role in environmental issues. This signalled a break from the not-too-distant past when the regulatory arena was mainly occupied by administrative (state) agencies.<sup>8</sup>

Since then environmental problems have become far more visible and are routinely scrutinized by the watchful eyes of Chinese netizens.<sup>9</sup> At the same time, environmental legislation has also become more advanced with Chinese authorities well aware of the risks **and negative publicity** they face when environmental problems persist.

In January 2013 the central government finally acknowledged that unbridled pollution, caused by long-standing practices of unsustainable development, has created clusters of cancer villages around the country (up till that time the existence of such villages had been officially denied). In April 2014, central authorities released a report which publicly acknowledged that nearly one-fifth of China's arable land is polluted.<sup>10</sup> In 2014 Beijing officially declared war on air pollution and vowed to involve the public in its efforts. **Such positioning on the part of the government, in regard to matters of key importance to maintain social stability, requires a re-evaluation of the authorities' pledge towards the country's ecological crisis and its most recent changes; ~~given that in fact, even though~~ such topics have the potential to destabilize the country the government is willing to bare its deficiencies and to a certain extent increase its transparency by sharing said reports with the greater public, indicating a concrete willingness to solve China's abysmal ecological crisis (unclear; pl. explain and rephrase).**<sup>11</sup> Furthermore, while literature on environmental governance<sup>12</sup> and environmental regulations in China abounds,<sup>13</sup> there is as yet hardly any systematic study of public participation mechanisms. We intend to fill the void with this topical number.

Departing from more traditional aspects of public service provision, scholarly discussion on local governance in the fields of political science and public administration has recently shifted towards themes related to citizen participation in policymaking and urban planning and management.

In this special issue, we gather a group of China specialists to examine interests and agency during environmental policy implementation. Engaging a range of political, economic, social and cultural perspectives, the five articles in this collection concentrate on two broad issues. The first concerns the actual policy consequences of increased public participation in environmental governance in the People's Republic of China by examining some of the tools provided by the state to involve citizens in environmental decision-making processes. The second issue involves the actual enforcement of environmental regulations. The reported case studies are set in both urban and rural areas and deal with different threats

ranging from waste disposal (Lei Xie and Natalie Wong), to soil pollution resulting from unsafe practices of pesticide use (Huiqi Yan, Benjamin van Rooij, and Jeroen van der Heijden), to the destruction of urban green spaces which sparked a tree-huggers' protest (Simona Grano and Yuheng Zhang). To capture the full complexity of environmental management, one article in this collection concentrates on regulated actors' perception and willingness to abide by the law (Yan, van Rooij, and van der Heijden), while another focuses on enforcement officials' commitment towards implementing existing policies (Carlos Lo et al.). Both articles reveal a great deal about China's slow transition from economic growth to sustainable development. In fact, environmental topics can be a useful platform from which to observe several key issues characterizing contemporary China such as state–society relations, attitudes towards development, and citizens' actions, that is, issues which extend well beyond the realm of environmental studies.

The growing scholarly interest in environmental topics reflects an increased awareness of a strong and evident link between careless and unrestrained economic growth and its effects on human health. There is also grave concern for and widespread fears of the repercussions of environmental degradation on both humans and the ecosystem, with societies all over the world demanding effective policies and remedies. Effective local governance requires that authorities be responsive and attentive to citizens' needs and requests. To achieve this, states require legal and institutional channels which facilitate civic participation so that the public has more say over service provision. It goes without saying that in an authoritarian context such as China giving the public space to voice its discontent poses threats to the authority of the government.

However, preoccupied by the surging number of protests from both victims of industrial pollution in the countryside and urban citizens, the Chinese authorities have started experimenting with participatory channels, to involve citizens in siting decisions as well as in the planning phase of controversial facilities<sup>14</sup> and public infrastructure projects. This modus operandi has two objectives. First, to enlist citizens' help in tackling environmental pollution and in filling **the gap between legislative intent and enforcement outcomes (that is, the enforcement gap)**; and second, to 'steer' citizens' activism within 'institutional channels' in a way that does not compromise the Chinese Communist Party's legitimacy. The recent amendments to China's Environmental Protection Law (**中华人民共和国环境保护法** **please provide the Chinese characters for this law**) are testimony to these objectives. Effective in

early 2015, the amendments include a framework authorizing public interest lawsuits by third parties.

### **Public participation in environmental issues**

Public participation in environmental management involves the active participation and involvement of both state and non-state actors to solve environmental conflicts through a consensual management approach. China is gradually moving away from a command-and-control system to a decentralized and more flexible environmental policymaking and implementation system. This entails the creation of legislative channels for civic participation in efforts to clamp down on polluters.

Among the wide array of participatory devices recently established by the Chinese authorities are citizen juries for environmental and urban planning and other such mechanisms to consult and involve the public in policymaking, planning and management. Two of the articles in this special issue, environmental protests and NIMBY activism by Wong and new channels for popular participation in China by Grano and Zhang, deal with such participatory mechanisms in the siting of two waste incineration facilities in Beijing and Guangzhou, and in a public transportation project in Nanjing, respectively.

Wong's article discusses a consultative committee for citizens, the Public Consultative and Supervision Committee for Urban Waste Management, which served as a conflict resolution instrument, mediating between the interests of several actors involved in the anti-incineration policy process.<sup>15</sup> Wong examines how local governments in Guangzhou and Beijing reacted to the protests, identifying the specific conditions that brought forth victory for those who opposed the facilities. Wong's study clearly shows that policy change is not solely determined by the outcomes of a specific protest but that it is also greatly affected by the responses of local authorities and other stakeholders within an advocacy coalition framework. The article maintains that the fragmented authoritarian model often used to define policies as an outcome of negotiations between the conflicting interests of various state agencies<sup>16</sup> should be developed further, ~~taking up from~~ in the same vein as Andrew Mertha in his ~~thought-provoking 2009 article~~.<sup>17</sup> It analyses the interrelated and increasingly complicated dynamics between different stakeholders, in light of pluralized decision-making involving state and non-state actors as well as business interests. By comparing the responses of Beijing and Guangzhou, two local governments with different backgrounds and different degrees of political openness towards civil society, Wong reaches important conclusions concerning the elements that determine policy change. More precisely, sociocultural

structures and political openness are two main external factors that can influence policy change in waste management projects.

The article by Grano and Zhang studies the effectiveness of one specific participatory mechanism set up for the public in the city of Nanjing as local authorities attempted to incorporate citizens' wishes in their plans for urban renewal.<sup>18</sup> The article deals with a fairly novel kind of protest for China, a tree-huggers' campaign, which started after local authorities decided to axe ~~long-standing (instead of: several or maybe "several long-standing"?)~~ trees to make space for new underground stations of a metro line. Grano and Zhang's study analyses a relatively new and less well-known tool for public participation, namely green assessment, which was ~~introduced/implemented~~ in 2011 in Nanjing to solve the controversy between local authorities, green conservationists, social groups and concerned citizens. Through several interviews with activists, students and local citizens, Grano and Zhang discovered that locals held a diverse array of views on why the trees had to be spared, ranging from the cultural symbolic importance of the London plane tree and its ties with a not-too-distant past (the Republican era), to those who believed in the importance of protecting nature in China's polluted urban centres. The theoretical framework reflects the scholarly discussion on the benefits of public forums for environmental governance. In particular, it was ~~thought that greater public involvement in scientific and technological development, and hence decision-making processes, can positively reduce opposition to controversial projects and facilities.~~ However some scholars are sceptical about this. The case study analysed by Grano and Zhang reveals how the green assessment system was merely a decoy participatory channel to defuse public discontent and give citizens the feeling that their concerns were being ~~heard/taken seriously~~. Nevertheless, as the authors conclude, more attention should be given to the role of participatory channels in a more inclusive governance system, in which previously powerless actors play comparatively more prominent roles.

The third article dealing with public participation in environmental management is by Lei Xie, who focuses on two cases of waste management in rural China. The author illustrates how rural villagers participate differently in environmental management; participation can in fact be voluntary, provided that the state provides citizens with enough information on the project at stake, or it can be passive.<sup>19</sup> In the case of Yanhe village, Wushan County, the deliberative practices of the local village committee and its amicable relationship with external actors such as a Beijing-based social group were crucial in changing villagers' attitude: from inaction to active engagement. Xie was able to observe the change by focusing on the villagers' attitude before and after 2003, when changes in deliberative participation

were introduced. Xie concludes that deliberative participation therefore helps improve the provision of social services and public goods and at the same time gradually fosters a sense of political citizenship that seeks empowerment; as such, it has an inherent potential for triggering contestation.

As noted by both Xie and Wong, government attitudes towards public participation are not set but varies according to the issue at stake as well as to the level of openness practised by local authorities. Other scholars have successfully linked inclusive environments – that is, open to public discussions – with a higher predisposition to include frameworks for public participation in pro-environmental policymaking.<sup>20</sup>

### **Enforcement and compliance**

A second set of articles in this collection deals with policy implementation and enforcement at the local level. It is widely acknowledged that Beijing's emphasis on large-scale top-down initiatives has so far failed to consider that effective enforcement of environmental health standards occurs at the most micro level.<sup>21</sup>

Yan, van Rooij and van der Heijden's contribution aims to identify the factors that cause Chinese farmers to comply with or violate rules on the use of pesticides.<sup>22</sup> The key aim here is to find a plausible explanation for what the authors have termed an enforcement–compliance paradox: that law enforcement authorities tend to concentrate their efforts on rules which are least likely to be broken and on regulated actors who are most likely to comply. The unregulated use and disposal of pesticides is a grave problem with dire environmental consequences including soil pollution, destruction of freshwater ecosystems, and surface and ground water contamination. These, in turn, have long-lasting and deadly health effects on people who consume contaminated food or handle pesticides without proper care. Given the vast amount of pesticides used in China in 2012 alone (1,806,000 tons),<sup>23</sup> we can understand how this is a matter of the utmost concern and worthy of greater scholarly attention. Yan, van Rooij and van der Heijden's article sets out to uncover the challenges that China faces when implementing its pesticide regulations, trying to establish why authorities do not always enforce rules and why farmers choose to selectively obey certain regulations but not others. The challenges facing the authorities are not limited to an enforcement problem but can be related to several other factors such as social norms, procedural justice, operational costs and benefits. Regulation, enforcement and compliance literature distinguishes between voluntary and enforced compliance on the part of farmers as one of the



elements influencing the proper enforcement of such regulations. In fact, given that compliance is subjected to social norms, the authors maintain that regulated actors are more likely to comply when others do so as well. A second important element influencing compliance among regulated actors is the sense of duty and obligation towards the law, which is closely tied to their perception of the fairness of relevant legal institutions. Yan, van Rooij and van der Heijden raise the question of whether enforcement in China is concentrating on the wrong actors – those who are already compliant – while doing almost nothing to rein in those hundreds of thousands who show non-compliant behaviour. In fact, one of the most important findings of their empirical study is that larger regulated actors are more likely to comply with the law for fear of repercussions as a result of engaging in illegal behaviour as compared with smaller, more unregulated and less scrutinized actors such as individual farmers. A significant aspect of this study is the finding that compliance does not originate merely out of enforcement. Therefore, law enforcement in China should invest more into learning about the issues that influence compliance, understanding that deterrence is not the only influence; multiple influences, including personal norms, social norms, legal knowledge and cost and benefits, also play a role.

Bearing in mind the widespread international criticism that China is not doing enough to tackle its abysmal ecological crisis, especially the enforcement of existing regulations, Carlos Lo et al. conducted an in-depth study of local authorities' commitment towards environmental protection in the city of Guangzhou. Covering a time span of more than a decade, the study establishes a theoretical link between contextual changes and regulatory enforcement of environmental regulations.<sup>24</sup> The authors discussed 10 principles which would help regulate environmental protection. Such measures include limiting external constraints on regulatory agencies, providing environmental organs with sufficient resources required to step up their efficacy, and taking into consideration enforcement issues at the time of legislation. Lo et al.'s study is of crucial importance for policymakers and politicians alike, because of its focus on empirical research on the one hand and on practical advice for concrete improvement on the other. In the authors' opinion, a decisive factor would be strengthening the legitimacy and authority of environmental agencies so that they are fully responsible for regulatory enforcement, thereby reducing their reliance on local governments which are often thought to be the main cause of patchy enforcement of environmental rules at the local level. Lo et al. advance the hypothesis that enforcement is related to changes in three general sets of institutional factors on three levels of analysis: at the individual level (referring to the personal motivations and values of enforcement authorities, which may

change for the better over time); at the level of environmental protection bureaus, with the easing of several constraints, which have so far posed an obstacle to enforcement; and at the societal level, where an increase in support for enforcement authorities and a mitigation of resentment towards anti-pollution measures would have a positive influence on actual enforcement. Lo et al.'s study shows a growing environmental awareness and an improved eco-friendly positioning and attitude among officials, which has increased the degree of legitimacy of environmental policies and provided further motivation for their enforcement. In short, their study presents solid empirical findings illustrating how institutional conditions in the city of Guangzhou have evolved in a way that has facilitated a more efficacious enforcement of pollution control regulations over a 13-year time span (2000–13).

### **Environmentalism on the rise**

Recent protests against polluting facilities (Xiamen in 2007, Dalian in 2011, Ningbo, Shifang, and Qidong in 2012, Tianjin in 2015, to name but a few) show an emergence of environmentalism ~~of environmentalism~~ in China.<sup>25</sup> **Activists appear to have been most successful in mobilizing support among the middle class (instead of: activists' successful mobilization brings forth an expectation of middle-class activism).** However, as documented by Xiaoling Zhang and Gareth Shaw and others, while these protests are often successful in achieving their goals (immediate termination of a project or relocation of a polluting facility), up till this point in time none of the protests have resulted in policy change.<sup>26</sup> It has been argued that the middle class in China currently lacks incentives to challenge the political system, and that it chooses to contest the government in politically safe arenas (for instance, the environment). Nonetheless, the ecological crisis currently afflicting China continues unabated, and the country's current set of environmental regulations has proven ineffective for solving its abysmal air and water problems.

Environmental issues remain a challenge because such issues **tend to be shrouded in secrecy (instead of: are still surrounded by an aura of secrecy)** for fear of social instability. Moreover, issues that cross disciplinary boundaries are inherently more difficult to research. In fact, environmental pollution-related issues are embedded in the complex interaction between political, social and economic factors, thus presenting multifaceted problems for policymakers and scholars.

One point that becomes strikingly clear after reading the articles in this special issue is that even though environmental laws in China are well developed, the proper implementation of a

modern system of green governance remains hampered by a series of problems. Like its economic system, China's environmental governance system is also rapidly changing with the creation of new environmental institutions and practices. Increasingly, central government authorities rule through laws and regulations while environmental policymaking and implementation are progressively decentralized. At the same time third-sector actors, from private organizations to civic associations, are being given (and are demanding) more responsibilities and tasks in environmental governance. As a consequence, state, market and civil society are having to renegotiate their own spaces and the relations between them, each seeking more efficiency and legitimacy.

As Han Shi and Lei Zhang show, the state played a dominant role in the early phases of China's environmental regime, while industry and civic associations had little or no influence.<sup>27</sup> The state was primarily represented by administrative agencies, which included environmental departments and economic organizations; legislative and judicial institutions and the public participated marginally. In the past few years, citizens have become far more active and skilled in battling the state through those very same channels set up by the authorities to avoid embarrassing street protests, as shown by the many instances of environmental disputes ending up in legal lawsuits.<sup>28</sup>

China is gradually moving away from a command-and-control system and resorting to a decentralized and more flexible environmental policymaking and implementation approach. This entails the creation of legislative channels for public participation to fight polluters,<sup>29</sup> as was the case in the studies by Grano and Zhang and Wong, in which local authorities attempted to accommodate the wishes of citizens during planning evaluations. These new developments deserve further attention.

In this light, the contribution of this special issue lies in the examination of problems and causes hampering the proper implementation of effective environmental protection legislation, such as the difficulty in harmonizing the different legislative bodies and regulations concerning public participation. Some believe that the best way to achieve health, social, environmental, and economic goals is through synergies across sectors. This multi-sectoral approach first and foremost requires better and more effective coordination between different governmental agencies (health and environmental agencies as well as ministries responsible for land use and developmental planning), as well as the participation of non-governmental actors, including business and civil society organizations.<sup>30</sup>

In-depth place-based case studies are the most suitable tools for probing into these interactions and the ensuing outcomes. They should aim at investigating and formulating new

theorizations of environmental dynamics in China through a critical analysis of actors, institutions and processes across spatial dimensions from the local to the national level, taking into account the political, economic and social contexts in which they operate. In fact, with the participation of a plethora of new actors (ranging from civil society groups to interest groups representing business lobbies among others) after the decentralization reforms that started in the 1990s, recent instances of environmental protests and of how local governments dealt with these protests represent new models of environmental governance.

There is however no uniform attitude (Q: approach? Yes) towards the construction of development projects or towards environmental policies but rather a complex interaction of negotiations between the state, local communities, and private contractors. While a methodical evaluation of the actual outcomes of public participation in the planning and policymaking phases is lacking, some studies have shown that public participation in environmental governance can actually lead to negative outcomes.<sup>31</sup>

## Conclusions

Building on these premises, this special issue has examined the implications of an emerging law-based environmental governance process by introducing different case studies that focus on the relationship between the central government, local governments, developers and their plans for growth, and concerned citizens as well as various relationships with rules and regulations for environmental protection and management. One of the articles in this collection, by Grano and Zhang, shows that participatory approaches are often mere smokescreen instruments that serve the purpose of legitimating the government while keeping actual public involvement at a minimal level or involving citizens only after important decisions have been made. However, we also see that the degree of participation is higher and the public can truly be part of the policy-making and decision-making process in places where authorities are historically more open and tolerant of third (Q: third-sector? Not only; I mean parties other than state or civil society, for instance developers or citizens' interests groups) parties and civil society actors, as was the case with the waste incineration facility in Guangzhou discussed by Wong. The articles by Lo et al. and by Yan, van Rooij and van der Heijden demonstrate the importance of setting aside the top-down one-size-fits-all model to focus on localities, where local specificities mould policy implementation and where local officials sometimes lack sufficient knowledge of public participation policies or are hampered by a shortage of resources for enforcing regulations.<sup>32</sup> Finally, as illustrated by

Xie, the public's role (either passive onlookers or proactive contributors to environmental governance) is also important and merits in-depth study.

While this special issue deals with the enforcement of existing regulations as well as with law-based approaches through which the public can participate in environmental governance, underlying such discourses is the far bigger issue of the potential for participatory governance to create more political openness, **given that other outlets for political representation are largely absent/given the lack of other outlets for political representation**. The case studies and empirical findings of the articles in this special issue show that despite improvements in policies and policy implementation, rising awareness of controversial issues, and an increased sense of political engagement, public participation is not yet capable of bringing forth any political change nor of fundamentally altering China's environmental crisis; instead public participation often lends itself to serve the interests of the authorities. The key then is to give local authorities bigger incentives to enforce environmental laws and environmental regulatory organs more status in policy affairs. Credit should also be given to citizens' increasingly active role in identifying violations of anti-pollution laws on the ground.

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## Notes

<sup>1</sup> Elizabeth C. Economy, *The River Runs Black: The Environmental Challenge to China’s Future*, Ithaca, NY: Cornell University Press, 2004; Richard Louis Edmonds, *Patterns of China’s Lost Harmony: A Survey of the Country’s Environmental Degradation and Protection*, London and New York: Routledge, 1994.

<sup>2</sup> These are villages where people who fall ill tend to develop the same type of cancer (most notably, lung cancer is linked to polluted air and liver cancer linked to polluted water). Many of them live near sources of pollution such as factories, mines and chemical or power plants. (Q: rephrase OK? Sure.)

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<sup>6</sup> Peter Ho, Embedded activism and political change in a semiauthoritarian context, *China Information* 21(2), 2007: 187-209.

<sup>7</sup> Lora-Wainwright, Introduction.

<sup>8</sup> Benjamin van Rooij, Rachel E. Stern, and Kathinka Fürst, The authoritarian logic of regulatory pluralism: Understanding China's new environmental actors, *Regulation & Governance* 10(1), 2016: 3–13.

<sup>9</sup> Lisheng Dong, Hanspeter Kriesi, and Daniel Kübler (eds), *Urban Mobilizations and New Media in Contemporary China*, Farnham, UK: Ashgate, 2015.

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<sup>10</sup> Edward Wong, One-fifth of China's farmland is polluted, state study finds, *The New York Times*, 17 April 2014, [http://www.nytimes.com/2014/04/18/world/asia/one-fifth-of-chinas-farmland-is-polluted-state-report-finds.html?\\_r=0](http://www.nytimes.com/2014/04/18/world/asia/one-fifth-of-chinas-farmland-is-polluted-state-report-finds.html?_r=0), accessed 22 April 2016.

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<sup>11</sup> An article in *The Economist* in August 2013 forecasted that China was rapidly approaching a point of no return, as far as its environmental situation was concerned: either the country would promptly address its urban smog and polluted water problems, among others, or it would have to face serious consequences for its citizens' health and the ensuing impact on social order, see The East is grey, *The Economist*, 10 August 2013, <http://www.economist.com/news/briefing/21583245-china-worlds-worst-polluter-largest-investor-green-energy-its-rise-will-have>, accessed 20 October 2015.

<sup>12</sup> Neil T. Carter and Arthur P. J. Mol (eds), *Environmental Governance in China*, London and New York: Routledge, 2007; Carlos Wing-Hung Lo and Shui-Yan Tang, *Institutions, Regulatory Styles, Society and Environmental Governance in China*, London and New York: Routledge, 2014.

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<sup>22</sup> Huiqi Yan, Benjamin van Rooij, and Jeroen van der Heijden, The enforcement-compliance paradox: Implementation of pesticide regulation in China, *China Information* 30(2), 2016: xx-xx.

<sup>23</sup> See Guojia Tongjiju Nongcun Shehui Jingji Diaocha (Rural social economic investigation division of the National Bureau of Statistics), *Zhongguo nongcun tongji nianjian 2013* (China rural statistical yearbook 2013), Beijing: China Statistics Press, 2013, as quoted in Yan, van Rooij, and van der Heijden, The enforcement-compliance paradox.

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