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Implementation and Participation in China's Local Environmental Politics: Challenges and Innovations

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ABSTRACT *With its recently published 12th Five-Year Plan (2011-2015) China's leaders have set ambitious national environmental targets and goals for developing a more sustainable economy and society. Past records, however, show that ambitious goals and regulations too often fail due to shortcomings in local implementation and civil society participation. At the sub-national level, economic, political, and social interests continue to dictate the political agenda and the participation of non-state actors remains limited. This paper analyses these implementation and participation gaps and reviews recent innovations and experiments to address these gaps in local environmental politics in China. Although many ongoing experiments and new institutional arrangements can be identified, these projects and initiatives remain limited in scope and geographical spread. Further advances in policy enforcement and in opening up policy design to citizens and other non-state actors at the local level are needed in order to turn the paper ambitions of the 12th Five-Year Plan into reality.*

KEY WORDS: Environmental Politics, Chinese Politics, Environmental Governance, Innovation, Policy Implementation, Participation

Introduction

China's 12th Five-Year Plan (FYP), passed by the National People's Congress in 2011, constitutes the main economic, social and environmental blueprint for the period 2011 to 2015 and has been described as the "greenest" so far (Fulton, 2011). The 12th FYP includes specific national targets for 2015 for carbon intensity, energy intensity, water consumption, emissions of pollutants, forest coverage rate, and non-fossil fuel energy production and use (see Box 1). With this new FYP, China has demonstrated its commitment to sustainable development and formed an answer to the challenges of growing domestic resource scarcity and constraints, and related resource-dependent conflicts. The clear message in the 12th FYP is that the leaders recognize that environmental constraints and energy issues are endangering both future economic growth and social harmony in China. Moreover, China's increasing integration in the world economy and its ambition to play a larger role in world politics further motivates and drives the domestic sustainability agenda.

Categories	Targets
Economic targets	<ul style="list-style-type: none"> • Average annual GDP growth 7% (expected); • More than 45 million jobs to be created in urban areas (expected); • Urban registered unemployment below 5%; • Prices to be kept generally stable.
Economic restructuring	<ul style="list-style-type: none"> • Rise in domestic consumption; • Breakthrough in emerging strategic industries, which should account for more than 8% of GDP; • Increase of service sector value-added output by 4%, accounting for 47% of GDP (expected); • Urbanization rate to increase by 4% points, to reach 51.5% (expected).
Innovation	<ul style="list-style-type: none"> • R&D expenditure to account for 2.2% of GDP (expected); • 3.3 patents to be registered per 10,000 people (expected).
Environment & clean energy	<ul style="list-style-type: none"> • Non-fossil fuel to account for 11.4% of primary energy consumption (binding); • Water consumption per unit of value-added industrial output to be reduced by 30% (binding); • Energy consumption per unit of GDP to be reduced by 16% (binding); • CO² emissions per unit of GDP to be reduced by 17% (binding); • Forest coverage rate to rise to 21.66% and forest stock to increase by 600 million m³ (binding); • Major pollutants COD and SO² to be reduced by 8% and reduction of ammonia nitrogen and nitrous oxides by 10% (binding).
Agriculture	<ul style="list-style-type: none"> • Annual grain production capacity to be no less than 540 million tonnes; • Farmland reserves to be no less than 1.818 billion mu (121.2 million ha) (binding).
Livelihood	<ul style="list-style-type: none"> • Population size less than 1.39 billion (binding); • Increase urban per capita net income and rural per capita income by 7% compared to 2010 (expected); • Life expectancy increased by one year to 74.5 years (expected); • Pension schemes to cover all rural residents and 357 million urban residents (binding); • Construction and renovation of 36 million apartments for low-income families; • Minimum wage standard to increase annually by no less than 13% on average; • Increase rate of 9-year compulsory school enrolment to 93% (restricted) and increase rate of high school enrolment to 87% (expected).

Social management	<ul style="list-style-type: none"> • Improved public services for both urban and rural residents; • Improved democracy and legal system; • Better social management system for greater social harmony; • More than 10% of all residents will be registered as community volunteers.
Reform	<ul style="list-style-type: none"> • Encourage qualified enterprises to get listed in stock markets; • In-depth reform in monopoly industries for easier market entry and more competition; • Improved government efficiency and credibility

Note: Targets are set at the national level and then passed down to provincial governments. Provincial governments, in turn, include targets in the provincial-level planning documents and allocate targets across departments, municipalities and enterprises. Some targets are “binding” or restricted (*yueshuxing*) targets and others are “expected” (*yuqixing*) targets. Fulfilling binding targets is nominally required for a cadre to gain promotion and receive bonus payments.

Box 1: Key targets of the 12th Five Year Plan 2011-2015

These developments are also reflected in international studies and reports on China's commitment to environmental protection, resource conservation and sustainability. Earlier analyses that simply criticise China for its one-dimensional focus on economic growth and neglect of environmental protection have been replaced by more balanced studies. China's record over the past decade with respect to sustainability can be summarized as follows: (i) China has rapidly increased its investments in and commitment to environmental sustainability; (ii) it has accelerated the construction of environmental institutions, laws, policies and organizations; (iii) resource efficiencies and pollution levels per GDP output have improved considerably; but (iv) absolute resource consumption and pollutions levels did often increase and only incidentally decrease; and (v) in addition to strong incentives placed on local officials for achieving economic growth, poor local implementation and participation of non-state actors are among the most important factors that explain shortcomings in sustainability improvements. This again is reflected in the ambitions of the 12th FYP. Achieving the detailed and rather specific environmental and clean energy targets of the Plan will have to come through sectoral plans and later regulations and guidance. In launching the FYP at the National People Congress in March 2011 Premier Wen (2011) stated that China would put in place “well-equipped statistical and monitoring systems for greenhouse gas emissions, energy conservation and emissions reductions” to ensure these policies are tracked and properly implemented. But neither the Plan nor premier Wen’s Work Report paid much attention to the implementation and participation gap.

This article focuses on the shortcomings in policy implementation and participation that play such an important role in determining China’s ability to translate the stated national green goals in the 12th FYP into actual outcomes at the local level. Besides highlighting the challenges of implementation and participation in China’s local environmental politics, the paper identifies, analyses and assesses recent policy experiments and innovations at the local level. In building up its institutional framework for environmental regulation and governance over the last decade, China has engaged in innovation and experimentation (Carter and Mol, 2006; Mol, 2009a). Many of these innovations address two main challenges. The first challenge relates to local state capacity to successfully formulate and implement

environmental policy – referred to hereafter as the “policy implementation gap” (section 2). The second challenge refers to the participation of local non-state actors to improve environmental management, which we call the “participation gap” (section 3). With respect to addressing both “gaps” we see a multitude of initiatives and experiments within China at the provincial level and below. Hence, the central aim of this paper is to identify the diversity of these experiments and innovations in local environmental politics, and to assess to what extent they contribute to closing the implementation and participation gaps. As such this paper forms the introduction for the other papers in this special issue, which each reveal specific aspects of these implementation and participation gaps and the advances that China has made to close these gaps.

Challenging the implementation gap

The idea of an implementation gap is not restricted to local environmental policies in China, but is rather common throughout the international literature on environmental politics and policy. Divergence between the central government’s national environmental policies and the actual outcomes at the local levels makes up the environmental “policy implementation gap”. Such gaps can – and have been – identified in many national environmental policy systems (e.g. Jänicke, 1986; Knill and Lenschow, 2000; Scheberle, 2004). Yet, the causes and characteristics of such environmental policy implementation gaps often vary across different political systems and governance styles.

The existing literature has uncovered a variety of factors that contribute to the green implementation gap in China. First, while national ministries set the overall direction and long-term goals, these aspirations are often diluted as they pass through China’s fragmented vertical and horizontal governance structure (Lieberthal & Oksenberg, 1988). A second view explains the gap between national policies and local practices with reference to China’s decentralized governing structure, which allows local officials to be choosy about which national policies to faithfully implement and which ones to ignore (O’Brien & Li, 1999; Economy, 2004). Others reject the decentralization premise and argue that the center still wields substantial power; here formal constraints imposed by the central government are blamed for shortcomings in environmental policy implementation (Ran, 2013).

Another branch of literature points to the frequent divergence of national and local interests, as local leaders tend to place greater emphasis on economic development than on environmental concerns (Van Rooij, 2006; Mol and Carter, 2006; Kostka and Hobbs, 2012; Kostka and Hobbs, 2013). A conflict between the central policies and local interests exists because national policymakers at times fail to take into account policies’ potential negative impacts on businesses, employment, and taxation revenues. National policies without sufficient local support and legitimacy are only implemented strictly when there is direct and constant attention from the center. In order to bridge the gap between national priorities and local interests, local government officials often create informal incentives to fulfill environmental objectives by “bundling” different interests and policies to build support for environmental policies that are sometimes unpopular with local enterprises and the public

(Kostka and Hobbs, 2012). Policy implementation outcomes therefore directly or indirectly relate to the different priorities shaping national and local level incentives.

These four approaches focus on how governance practices and decision-making structures shape implementation outcomes, and offer different accounts of why the central government's environmental regulations and policy mandates are often implemented selectively at the local level. On the whole, the literature suggests that when designing implementation strategies to fulfil national environmental mandates, local government officials will tailor their implementation approach to balance and align these actions with other competing local interests and policy mandates. It is thus vital to understand environmental protection as one of a number of competing local priorities, some of which may be in line with environmental protection and some of which may be in conflict. National environmental targets that imply a potentially negative impact on local economic growth or labour markets will not be prioritized. For instance, although the 12th FYP targets an annual average GDP growth of 7%, only five of the 31 provinces have set growth rate targets below 10% in provincial FYPs (China Daily, 2011), indicating that provinces continue to place most emphasis on growth-focused development. Many provinces in western and central China still want to catch up with more advanced coastal provinces and only prioritize national environmental targets if these are in line with their provincial economic growth aspirations. In Inner Mongolia, for instance, the combination of low levels of economic development and new inflows of resource-focused investments has meant that provincial leaders only half-heartedly implemented energy saving policies during the 11th FYP.

Yet, over the last decade, we see many new policy efforts at the national and local levels to strengthen the channels for environmental enforcement in China. At the national level, the central government has very noticeably deployed more and more administrative measures and tools to enhance compliance with national environmental rules. The most important of these are mandatory “binding” (*yueshuxing*) environmental targets for government departments and enterprises that include the energy efficiency and carbon emission targets in the 12th FYP. These binding environmental targets are written into local cadres' annual responsibility contracts and are crucial criteria in cadre promotion decisions, thereby incentivizing officials at each layer of government administration to fulfil upper level governments' environmental mandates. The introduction of specific binding targets not only indicates that environmental protection is a national priority but also serves as an important signal to local governments in how they should prioritize competing interests and priorities at the local level. As such, targets in the cadre responsibility contracts have an important steering function within China's decentralized economy and are increasingly used by national leaders to ensure local leaders' commitment to environmental protection, resource conservation, and sustainability.

Moreover, the central government is continuously improving the design and usage of administrative tools and measures. The setting of environmental targets for particular sectors and regions has become increasingly sophisticated. Improvements include expansion of binding targets from energy efficiency to many other environmental areas, use of tailored target setting methods rather than a “one-size-fits-all” approach, increased emphasis on annual targets over aggregated five-year targets, and increased guidance on target measurement and verification standards to local implementing agencies. Beijing has also

incorporated more bottom-up feedback elements in the planning process in order to set more realistic goals and secure provincial leaders' support. For instance, provincial Development and Reform Commissions and the Economic Commissions were asked to comment on the new national energy target in the 12th FYP before targets were officially announced in 2011 (Ohshita & Price, 2011). In addition, China secured international support to help meet its environmental, energy- and carbon-intensity targets. In 2012, for instance, China signed a €25 million finance agreement with the European Commission to obtain technical assistance, training and know-how in areas like water, waste and heavy metal pollution, emission trading systems, and sustainable urbanisation (European Commission, 2012). Moreover, local environmental protection bureaus increasingly rely on environmental courts to meet their environmental pollution targets and fulfil national standards. Despite numerous shortcomings in the current environmental litigation system (Stern, 2011), environmental courts are growing fast across China and by 2012 nearly 100 environmental courts had been opened in 16 provinces (Zhang, 2012). While such improvements in administrative tools and environmental compliance do not guarantee better local policy implementation, they suggest a shift in government officials' mindsets and they lay the institutional foundation for a more robust environmental protection regime.

China is also experimenting with a variety of market-based instruments to supplement existing administrative tools. In 2009, Beijing, Shanghai, and Tianjin created the first voluntary carbon cap-and-trade schemes, and by 2010, a total of 12 voluntary climate change exchanges had come into being (Fulton, 2011). Currently, these voluntary exchanges serve as platforms for small- or medium-scale transactions but many grey areas persist with regards to monitoring, reporting and verification of emissions data. China is also taking its first steps towards a market-based electricity pricing system that more accurately reflects the actual costs of power generation. For industrial users, electricity prices were repeatedly raised over the last years, with the most recent price raise in June 2011 for 15 provinces. For residential users, a three-tiered new electricity pricing system was rolled out in July 2012, in the hope that the price increases for the higher two tiers would encourage consumers to save electricity (China Daily, 2012). Market-based instruments are also increasingly mixed with command and control mechanisms to improve water, air, and soil management in China. For instance, economic instruments have already been widely introduced in the water and wastewater sector, with notable results (Zhong and Mol, 2010). Moreover, payment for environmental services (PES) are soaring in China, but are often a mixture of government-directed PES schemes with some market elements (Liang and Mol, 2013).

In addition to using a variety of administrative and market-based tools, the creation of new decision-making structures has also improved local implementation of environmental issues. It is not uncommon to have more than ten different government bureaus and agencies involved in the implementation of a single policy. To overcome implementation problems resulting from this fragmented bureaucratic structure, local governments are increasingly using inter-departmental ad-hoc coordination committees, known as leading small groups (LSG) (*lingdao xiaozu*). Previously, such ad-hoc coordination mechanisms were (and are) used at the national level to build consensus across government agencies (Zhu, 2010). For instance, well-known environmental working groups at the national level include the National

Coordination Committee on Climate Change and the State Council Coordination Committee for Energy Conservation and Emission Reduction. Over the last few years provincial, municipal, and county governments have also set up their own coordination committees to develop environmental protection strategies across departments and bureaus. Such local inter-departmental working groups are usually headed by a local mayor or vice mayor, and in the event of disagreement between different departments it falls to the leader of a working group to decide the matter.

Environmental implementation also improves as provinces and cities increasingly take on a leading role in transitioning to a greener growth path. Many local governments are developing their own strategies for environmental protection and an implicit competition has emerged between cities and provinces claiming to be at the forefront of environmental innovation. Some local governments have even introduced local environmental regulations that are more stringent than those of the center, such as Kunming's water pollution policy (Van Rooij, 2006). The typical Chinese policy of working with "model" cities or companies and awarding prizes has contributed to such competition.¹ Previously, examples included "State Environmental Protection Model Cities" such as Dalian and Xiamen. Increasingly, traditionally pro-growth cities such as Guangzhou, Wuhan, and Chengdu are becoming more environmentally friendly (Lo, Fryxell, and Wong 2006). But even small municipal-level cities are entering this implicit competition between local governments. For example, Dezhou in Shandong has become China's self-styled "solar valley" by integrating solar power into its street lighting, heating and transport systems.

Challenging the participation gap

In many countries around the world implementation failures in environmental policies have resulted in increasing initiatives to enlarge the participation of non-state actors in both policy formulation and policy implementation. It is believed that participation can help overcome some of the implementation shortcomings of conventional state-led and hierarchical policy models. Among others, participation brings in more information and knowledge on activities to be regulated, builds commitment at an early stage among those confronted with policies and measures that aim to restrict or condition behaviour, and reduces transaction costs later on in the policy process. Regardless of the many claims regarding the environmental gains of more participatory policy models and measures, empirical evidence indicating that more participation provides better environmental outcomes is still rather thin (e.g. Bulkeley and Mol, 2003; Newig and Fritsch, 2009). But participation is considered to have a number of other benefits to environmental policy (Beierle, 1999): it educates the public; it incorporates public values, assumptions, and preferences into decision making; it increases the substantive quality of decisions; it fosters trust in institutions; it reduces conflict; and it makes decisions more cost-effective. Finally, participation in environmental policy making and implementation also has a more normative background, as it is strongly rooted in ideas of democratic governance. Through participatory methods citizens and interest groups have better access to and influence over policy processes, thus enlarging the legitimacy and democratic character of these policies.

China's environmental governance systems and initiatives rely predominantly on administrative measures that are driven, initiated, and executed by the government. Participation in China's environmental policy making has traditionally been structured and institutionalized within the state and party systems, for instance through the China People's Political Consultative Conference at various levels. In these institutions different local, sectoral and thematic interests could participate in a formalized and structured process of representation and consultation. These mechanisms of participation – characterized by participatory possibilities that are rather restricted and with access limited to a few individuals – continue to exert influence over Chinese (environmental) policy making. However, over the last decade and especially in the field of environmental politics we can witness the flourishing of a variety of experiments and new institutional arrangements, which allow for further participation in China's policy making and implementation, at various levels of governance.² Environmental policies seem to have become the leading field of such participatory experiments, enabled by the acknowledgement among Chinese leaders of the need for more counter-veiling environmental participation to check the growing influence of narrow local government preferences or even private economic interests and powers.

The amount of environmental non-governmental organizations (ENGOS) has been increasing rapidly in China, including both officially registered and unregistered groups. While reliable official numbers do not exist, estimates suggest that there are approximately 1,000 registered ENGOS, as well as a similar number of unregistered ENGOS. The majority of these ENGOS are quite small and are not directly engaged in environmental policy making and implementation, but rather focus on awareness raising, education, study and research. A number of those engaged in policy advocacy are closely related to governmental organizations and institutes and are often referred to as GONGOS (government organized NGOs). Through closed networks with policy-makers and their expert knowledge, these GONGOS articulate environmental interests and bring them into state institutions and decision-making processes. In doing so, GONGOS play a role in bridging the gap between NGOs and civil society on the one hand and the state on the other, thus “becoming an important, non-state arena for China’s environmental politics” (Wu, 2002: 48). But increasingly we see also independent ENGOS that participate in environmental policy-making and implementation processes, by bringing in knowledge, writing petitions, using media outlets, discussing alternatives with government officials, providing legal assistance for pollution victims to make them aware of their rights, and higher levels of what Johnson (2010) calls rule-based activism (such as performed by the famous NGO “Center for Legal Assistance to Pollution Victims” (CLAPV)). Several studies have detailed how such ENGOS explore the boundaries of what is allowed in contemporary China in terms of NGO engagement, policy involvement and protest (cf. Xie, 2007; Hildebrandt, 2011; Wu, 2013).

Public hearings form a more institutionalized arrangement for participation in China's environmental policy making. The best-known example concerns public hearings in the Environmental Impact Assessment (EIA) procedure, as formalized in the 2002 EIA law and its implementation measures. Zhao's (2010) study of a public hearing concerning renovations to the Imperial Summer Palace (Yuan Ming Yuan Park) and Johnson's (2013) study on the siting of waste incinerators illustrate that such a legal obligation to organize consultation with

citizens does not mean that it always takes place in a meaningful way. Another example of participation through public hearings takes place in the field of setting tariffs for drinking water and wastewater (Zhong and Mol, 2008). Here, various interest groups as well as citizens participate in a public hearing on plans to increase drinking water tariffs and wastewater fees. Any government proposal needs to have at least two-third majority of the votes in the public hearings in order to be able to be implemented.

By the early 1990s China had already set up systems of complaints (the so-called letters and visits) to assist government monitoring and priority setting systems in the field of environmental pollution. The public participation in these systems, and hence the number of visits and letters addressed to governmental authorities, has grown over the years. More recently, hotlines and digital complaint systems, and experiments with so-called “green bounty hunter” systems³ have further enhanced public participation in environmental enforcement of governmental agencies (Bretell, 2007; Mol, 2010; Zhang, 2011; Wu, 2013). There are clear indications that these complaint systems do have an impact on priority setting and control and enforcement activities of local environmental officials.

Participation is also enhanced through information disclosure, for quite some time a sensitive issue in China. China joined the global trend of environmental information disclosure regulations (cf. Mol 2006) rather late, with the entering into force in 2008 of the Open Governmental Information Regulation (OGIR) and the related Environmental Information Disclosure Decree (EIDD). The main motivations behind OGIR are: to alleviate the information asymmetry between actors; to gain political credits by “improving the transparency of governmental work”; and to improve administrative performance (Wang et al. 2008). The EIDD is in line with a wider system of information disclosure and public access to environmental information (such as in the Cleaner Production Promotion Law and the Green Watch program; Li and Xiong 2005; Mol, 2009b). The Decree requires not only environmental authorities but also industries to disclose environmental information, and specifies how and in what time limits this should be done. In addition, the Decree requires the establishment of monitoring, evaluation and supervision systems. Those organizations violating the rules of information disclosure will be held responsible and accountable by their higher level supervisors; and industries violating the rules will face penalties. Citizens can sue public authorities and industries that violate the Decree. But state secrets, commercial secrets, individual privacy, national security, public security, economic security and social stability are all considered legitimate reasons to withhold disclosure of (environmental) information. Many of the terms in the Decree are also not clearly defined, making it easy for companies and officials to withhold information. Evaluation of the EIDD implementation after two years showed that it did not yet trigger major participation of citizens, which was also due to poor implementation and functioning of the information disclosure systems of provinces and companies (Greenpeace China, 2009; Zhang et al., 2010; IPE&NDRC, 2010; Mol et al., 2011).

It is also interesting to note the degree of participation in local payment for environmental services (PES) programs, for instance in the protection of forests (Liang and Mol, 2013). After the serious flooding in the late 1990s, the Chinese government has enlarged the area of so-called public benefit forest, and installed a considerable number of payment schemes to compensate forest owners for the restrictions in use of these forests. Forest right-holders

(farmers, collective owners such as villages, and governmental forest services) have been involved in the demarcation of the public benefit forest falling under these schemes, the design of forest management contracts, and the examination and enforcement of implementation, but have hardly been involved in the formulation of these PES policies. Such participation did improve legitimacy, acceptance and implementation of these policies for enlarging public benefit forest. But, as Bennett (2009: 72) concludes, “significant potential exists for greater private sector participation in and funding of PES/MES initiatives, and in particular regarding watershed ecosystem services in China’s wealthier regions.”

Regardless of these experiments and new institutional arrangements, the practice of participation of concerned citizens, of farmers and of NGOs in designing projects and policies that are of consequence to the environment remains limited, for several reasons. First, most of these experiments relate to policies of the Ministry of Environmental Protection or its subsidiaries at lower levels. New participatory arrangements hardly touch upon policies and projects of the more influential ministries, such as those of NDRC or of the industrial ministries. Second, most of the participatory experiments relate to implementation practices and are helpful in strengthening the implementation, control and enforcement of existing regulations, plans, policies and projects. New forms of environmental participation at the level of designing policies and practices are much more rare. Research into the law making process of the 2002 Cleaner Production Promotion Law (Liu and Mol, 2005) showed that various governmental bodies had quite some influence in changing the law between its initial draft and the final accepted law, but among them were no environmental NGOs or concerned citizens outside the formal governmental or legal expert circles. Third, with respect to participation in policy implementation, environmentalists are highly dependent on the local conditions. The conclusion emerges that national leaders increasingly value environmental participation as they see it as a necessary countervailing power against the forces of economic market actors, whether purely privatized versions or state-related market interests. However, this is not the case in many localities, especially those outside the more visible and internationally connected ones (such as the main economic centers Beijing, Shanghai, Guangdong). In these “peripheral” localities, local government and business leaders continue making decision behind closed doors and strongly suppress attempts to participate in environmental decision-making and implementation, either by concerned citizens, NGOs or the local media. Here we still see many of the conventional Chinese reflexes towards democratic and participatory sprouts of environmental governance. Fourth, recent research on collective activism in rural China shows that rural communities sometimes fall into a “compensation trap”, where reliance on compensation from factories prevents action against the source of pollution (Van Rooij et al., 2012). This means that farmers end up relying on, and therefore not opposing, pollution. Reliance on compensation becomes then another obstacle to public participation.

In summary, the impact of China’s national commitments to increase environmental protection will largely depend on how effectively environmental laws and regulations are enforced at the local level. While national advancements and ambitious goal-setting are promising, environmental policies are still widely resented at the sub-national level because local interests often diverge from national priorities and central directives are also partially in

conflict with each other. Recent efforts and experiments to close this implementation gap include improvements in environmental administrative tools and planning processes, experiments with market-based instruments, and new governing decision-making structures. And the newly emerging institutional arrangements that allow for further participation in China's environmental policy making, such as increased environmental NGO activism, public hearings, and improved information disclosure, also contribute to enhance local environmental policy implementation, and sometimes even policy-making.

The contributions to this special issue

The above analysis of the implementation and participation gaps in local environmental politics suggests that there is still much to discover about this issue, especially regarding the mechanisms, effects and impacts of ongoing experiments and innovations to close these gaps. Five contributions in this special issue on local environmental politics analyze recent innovations at the local level by drawing on examples from waste management, pollution, and forest management. The papers study environmental policies in eight provinces across China: Beijing, Fujian, Guangdong, Guangxi, Inner Mongolia, Liaoning, Shanxi, and Xinjiang. The first contribution analyzes central-local relations (Ran Ran, 2013); the second and third contributions look at implementation agencies and policies (Kostka, 2013; Liang and Mol, 2013), while the fourth and fifth contributions analyze public participation in local environmental politics (Wu, 2013; Johnson, 2013).

The contribution by Ran (2013) evaluates the origin of the environmental implementation gap. Drawing from fieldwork in the four cities in Fujian, Xinjiang, Liaoning, and Jiangsu, Ran challenges the conventional view in the existing literature that environmental deterioration in China is caused predominantly by local governments who turn a blind eye to environmental pollution and degradation. Instead, she argues that in China the central government provides insufficient incentives to officials in local policy implementation to motivate them to enforce national environmental policies and laws. The paper's analysis of existing political, financial, and moral incentive structures helps to explain why many national environmental policies have often produced outcomes at the local level with little concrete effect. By drawing attention to the "perversely structured incentive system" in China, this paper sheds much light on the reasons behind continuing problems in local environmental politics.

The paper by Kostka (2013) analyzes the career backgrounds and appointment patterns of departmental heads in provincial Environmental Protection Bureaus (EPBs). Using biographical information and drawing on fieldwork in Shanxi and Inner Mongolia, the study shows that more than three quarters of China's provincial EPB directors are promoted from outside the EPB structure, partly as a control mechanism but also in order to strengthen EPBs' links to other bureaus. While their non-environmental background enables EPB leaders to link with other key economic and political actors to gain support for environmental programs, it also implies that decision makers often lack environmental training and experience required to make informed decisions dealing with environmental management. EPB directors' different career backgrounds also shed light on appointment preferences of provincial leaders. While leaders in Shanxi, a province under external pressure to improve air pollution, selected an

EPB director with the skills and credentials to effectively implement environmental mandates, leaders in still-developing Inner Mongolia appointed a candidate who could balance economic growth and environmental protection concern.

Liang and Mol's (2013) paper critically examines forest policy and payment schemes in two counties in Liaoning province. The study analyzes this issue by making use of 54 interviews with farmer household heads on the topic of how the new Payment for Environmental Services (PES) in local forest protection affected farmers' livelihood and participatory opportunities. The main finding of their analysis is that the new schemes made policy implementation more participatory and inclusive. However, although the payment schemes on environmental services increased farmers' participation and compliance, the authors point out that the schemes did not improve farmers' livelihood significantly. These results may have important implications for local payment schemes underway in China and many other parts of the world.

The final two papers further analyze participation of non-state actors. The contribution by Wu (2013) examines ENGO development in Guangdong and Guangxi provinces. Two factors that help to explain diverging ENGO growth at the provincial level are the development of civil society within the province and existing local government support. Wu's findings highlight the importance of understanding the provincial political context and institutional contingencies when examining local environmental activism.

In the final paper of this special issue, Johnson (2013) presents a study of three anti-incinerator campaigns in Beijing. Through documentary analysis and in-depth stakeholder interviews, Johnson vividly illustrates how anti-incineration campaigns have partly undermined the government's top-down, non-consultative approach to waste management. Yet, the three case studies also demonstrate that anti-incinerator campaigns in China are predominantly localised and issue-focused with slim prospects for disparate campaigners to form an alliance strong enough to counterbalance the state's incineration policy.

Conclusion

This special issue provides detailed insights into local environmental politics in China. The papers unpack how Chinese government officials, enterprise managers, farmers and public activists use existing and creating new institutional spaces for furthering engagement in local environmental politics. The papers also analyze how these actors are engaged in and debate environmental policy formulation and enforcement at the local level in China. The papers highlight the high degree of variation in local environmental politics, with respect to both regions and environmental subject areas. The key contribution of this special issue to the existing literature on environmental policy implementation is the better understanding of the behaviour of citizens, NGOs, and local governments in China's changing local environmental politics. In doing so the various contributions go beyond highlighting the shortcomings of local implementation by drawing attention to the innovativeness of these local agents in developing solutions to environmental implementation and participation challenges in China, and in creating new institutional spaces for participation and policy implementation.

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¹ In August 2010, the NDRC selected eight cities (Baoding, Chongqing, Guiyang, Hangzhou, Nanchang, Shenzhen, Tianjin, and Xiamen) and five provinces (Guangdong, Hubei, Liaoning, Shaanxi, and Yunnan) as low carbon pilot provinces and cities. Each of the selected pilot regions will develop comprehensive and locally-tailored plans to reduce greenhouse gas emissions.

² Martens (2006) shows that there are also opportunities for Chinese citizen-consumers to participate in environmental management beyond the political domain (e.g. in nature protection, in sustainable household practices, in constructing green company images). However, these participatory methods go beyond the scope of this paper.

³ These cash-reward informant programs provide a financial reward to citizens that report environmental violations. It was first experimented in Fuyang in 2003, and later adopted by many other cities and provinces, with variation in success rate (see Zhang, 2011).