

### **Past Prologue: The Origins of Environmental Governance in Contemporary China**

For several weeks in January 2013 a Dickensian smog enveloped the city of Beijing, obscuring skyscrapers a few blocks away and leaving a thick film of gray soot even on indoor surfaces. Levels of the pollutant PM 2.5 rose beyond the five hundred point scale of the Air Quality Index to reach an estimated 755, a reading characterized in the past as ‘crazy bad’ by the American Embassy twitter feed.<sup>1</sup> In response, Wang Anshun, the new mayor of Beijing, temporarily reduced the number of vehicles on the road by one-third and ordered more than one hundred factories to shut down.<sup>2</sup> In time the AQI fell to the ‘unhealthy’ range typical of most days in the city, but such short-term palliatives leave China's deeper ecological problems unresolved. Most commentators have criticised the state's ineffective efforts to control pollution in the current reform era (1978-present), but few recognise that successive political regimes have replicated the worst features of environmental management in China since at least 1850.<sup>3</sup>

This article argues for fundamental continuity in the patterns of environmental governance in China from the late Qing era (1850-1911) to the present and reaches pessimistic

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<sup>1</sup>*New York Times*, 13 Jan. 2013, 16.

<sup>2</sup>*New York Times*, 31 Jan. 2013, 4.

<sup>3</sup>The following important works link state structures to ecological decline in China but focus almost exclusively on the present. Judith Shapiro, *China's Environmental Challenges* (Malden, MA: Polity Press, 2012); Elizabeth C. Economy, *The River Runs Black: The Environmental Challenge to China's Future*, 2nd ed. (Ithaca: Cornell University Press), 2010; Abigail R. Jahiel (1998), ‘The organization of environmental protection in China’, *The China Quarterly*, 156: 757-87; Arthur P.J. Mol and Neil T Carter, ‘China's environmental governance in transition’, *Environmental Politics*, 15/02 (2006): 149-70; Xiaoying Ma and Leonard Ortolano, *Environmental Regulation in China: Institutions, Enforcement, and Compliance* (Oxford: Rowan and Littlefield Publishers, 2000); Chen Gang, *Politics of China's Environmental Protection: Problems and Progress* (Singapore: World Scientific Publishing, 2009). In contrast, several excellent studies describe the impact of the Chinese state on the natural world in the past but primarily engage with an audience of professional historians. See, for example, the pioneering work by Mark Elvin, *The Retreat of the Elephants: An Environmental History of China* (New Haven: Yale University Press, 2004); Mark Elvin (1998), ‘The environmental legacy of imperial China’, *The China Quarterly*, 156: 733-56; Mark Elvin and Liu Ts'ui-jung (eds), *Sediments of Time: Environment and Society in Chinese History* (Cambridge: Cambridge University Press, 1998); Robert B. Marks, *China: Its Environment and History* (New York: Rowan and Littlefield Publishers, 2012). Kenneth Pomeranz sees important continuities in the Chinese state's management of the environment but concentrates less on institutional structures than policies. See Kenneth Pomeranz, ‘The transformation of China's environment, 1500-2000’, in Edmund Burke III and Kenneth Pomeranz (eds), *The Environment and World History*, pp. 118-64 (Berkeley: University of California Press, 2009). In Chinese, see Li Bingyan, Zhu Hong, and Yang Jianjun (eds), *Zhongguo Gudai Huanjiang Baohu* (Kaifeng: Hunan Daxue Chubanshe, 2000); Wang Lihua (ed.), *Zhongguo Lishishang de Huanjing yu Shehui* (Beijing: Shenghuo Dushu Xinzhi Sanlian Shudian, 2007); Zhao Anqi and Hu Guizhi (eds), *Zhongguo Gudai Huanjing Wenhua Gailun* (Beijing: Zhongguo Huanjing Kexue Chubanshe, 2008).

conclusions about the possibility of rapid reforms in the early twenty-first century.<sup>4</sup> In methodological terms, this finding demonstrates the relevance of history to policy, while at an interpretive level it emphasises a long-term linkage between China's ecological crisis and the state's administrative structures. In particular, this essay will develop the following four analytical claims. First, with the partial exception of the Maoist era (1949-76), the state has adopted a decentralized approach to the environmental governance, devolving regulatory authority to the local level. During the late Qing and Republican periods (1911-49), the central government delegated control over natural resources in most instances to county magistrates or circuit intendants despite their inadequate resources, limited jurisdiction, and relatively low bureaucratic rank. In the same way, local Environmental Protection Bureaus (EPBs) rather than the Ministry of Environmental Protection (MEP) or its regional affiliates (SCEPs) enforce environmental standards in China today, monitoring air quality and wastewater discharges, evaluating the impact of economic development plans, and imposing penalties on polluting industrial enterprises.<sup>5</sup> Second, this method of environmental management has promoted flexibility and innovation in certain circumstances, but it has also enabled local interests to coopt the state's regulatory apparatus for their own ends. Over the past century and half, decentralization has magnified the intrinsic regional differences in China's ecological practices and complicated efforts to implement national policies on a consistent basis. Third, successive governments have relied on the support of informal social actors to achieve their environmental objectives, reducing expenditures and mobilizing private opinion-makers behind shared goals. Prior to the communist revolution, gentry associations provided the county magistrate with an important source of information about local conditions, supplied much of the funding for water control and afforestation projects, and organised the human labour required for these undertakings. Non-governmental organizations (NGOs), community groups, and to a certain extent the mass media have assumed a comparable role in contemporary China by promoting environmental education, urban recycling programmes, wildlife preservation, and the use of clean energy. On the one hand, voluntary associations may reshape the government's agenda through persistent engagement, but their cooperation also legitimates the power of the state and provides a convenient scapegoat if a given set of

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<sup>4</sup>The term 'environmental governance' denotes human management of the natural world by the state, or by the state in combination with society, and encompasses both policy and structure. This article will focus on continuities in structure since 1850, but specific policies such as massive human relocations and land reclamation have persisted in China throughout that period as well. I use 'environmental governance' as an analytical category and *do not* mean to imply that historical actors thought in those terms at the time. Officials in the late imperial era conceived their role as 'ordering the world,' primarily in its political incarnation but also in its natural form. Unlike the United Nations definition, my usage of the term environmental governance does not assume that the objective of environmental governance was always sustainable development. It also included the exploitation of natural resources.  
See:

[http://www.unep.org/training/programmes/Instructor%20Version/Part\\_2/Activities/Interest\\_Groups/Decision-Making/Core/Def\\_Enviro\\_Governance\\_rev2.pdf](http://www.unep.org/training/programmes/Instructor%20Version/Part_2/Activities/Interest_Groups/Decision-Making/Core/Def_Enviro_Governance_rev2.pdf).

<sup>5</sup>SCEP stands for Supervision Center for Environmental Protection. See Huan Qingzhi, 'Regional supervision centers for environmental protection in China: functions and limitations', *Journal of Current Chinese Affairs*, 40/3 (2011): 139-62.

policies fail. Finally, fragmented authority and jurisdictional overlap at the regional and national levels have undermined the efficiency of environmental governance in China since the late imperial period. As early as the nineteenth century, statesmen like Wei Yuan criticized the division of the unified Grand Canal-Yellow River system into four separate administrative jurisdictions and lamented the graft and incompetence of a profligate bureaucracy. A centralized Ministry of Environmental Protection emerged in China only in the reform era (1978-present), but it lacks the power to issue orders to provincial governments and often has to share administrative responsibility with agencies such as the Ministry of Water Resources.

Despite the partial eclipse of these administrative patterns in the Maoist era, their durability over the long term casts doubt on the likelihood of rapid change in the twenty-first century.<sup>6</sup> Important reforms might include strengthening the embryonic system of environmental courts in China, enhancing the degree of vertical integration within the environmental protection bureaucracy, increasing the MEP's human and material resources, and reviving efforts to evaluate officials for promotion using the concept of green GDP. These measures may yield grudging, piecemeal, and incomplete results, and existing interests will likely try to block their implementation. Yet understanding the nature and impact of China's entrenched structures of environmental governance constitutes a tentative first step toward a less polluted future.

#### **A Local Affair: The Decentralization of Environmental Governance in China**

With the partial exception of the Maoist period, governments in China have delegated most forms of regulatory authority over the environment to the local level since at least the 1800s. This pattern of administrative decentralization not only transcends chronological period and geographic region but has persisted in spite of ideological differences between successive regimes. Unfortunately, this framework has often placed crucial responsibilities in the hands of bureaucratic units with inadequate funding and personnel, a low rank, and limited territorial jurisdiction. In practice, China has had dozens or even hundreds of uncoordinated environmental policies rather than a unified approach overseen by a powerful bureaucratic agency at the centre.

During the late imperial and Republican eras, local officials supervised resource extraction as well as environmental protection, while the EPBs of the contemporary era have a narrower mandate. In reality, however, their range of activities overlapped to a considerable extent, including attempts to prevent soil erosion, sedimentation, and flooding, encourage afforestation, and promote sustainable agricultural practices. Like the subsequent Republican state, the Qing dynasty relied on county magistrates to undertake most of these tasks related to environmental governance. For example, as timber became increasingly scarce in the late imperial era, the court issued regulations enjoining magistrates to protect remaining stands of trees in mountainous areas.<sup>7</sup> Yet the Bureau of Forestry and Crafts under the Board of Works received no instructions to coordinate a broader campaign across territorial jurisdictions

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<sup>6</sup>The more centralized approach of the Maoist period represents a partial exception to established patterns when viewed from a structural perspective, not an enlightened interlude in terms of environmental policy. Quite the opposite. See Judith Shapiro, *Mao's War Against Nature: Politics and the Environment in Revolutionary China* (New York: Cambridge University Press, 2001).

<sup>7</sup>Zhao and Hu, *Huanjing Wenhua Gailun*, p. 181.

despite its responsibility for ‘overseeing mountains, marshlands, fisheries, and the production of ceramic vessels.’<sup>8</sup> In addition, members of the bureaucracy above the rank of circuit intendant appear to have played little part in efforts to preserve China's woodlands, and these mid-level officials frequently had to shoulder general administrative responsibilities as well as specialized tasks related to natural resource management.<sup>9</sup> For example, the circuit intendant at Gu'an in Zhili province focused exclusively on flood control for the Yongding River, while one of his counterparts in Xinjiang ‘concurrently supervised water conservancy, state farms, pacifying and controlling the Mongol tribes, and inspecting Mongolian border posts.’<sup>10</sup>

In practice, water conservancy absorbed far more of a local official's time, attention, and funds than the management of natural resources such as wood or minerals. Outside the capital region of Zhili and the Grand Canal-Yellow River system, responsibility for flood control and irrigation works rested with the county magistrate in normal circumstances. For example, the late Qing gazetteer from Jiangnan's Huating County records the completion of 46 dredging and diking projects between 1652 and 1876.<sup>11</sup> The magistrate acted under explicit instructions from a higher official in only eight cases, typically the prefect or circuit intendant. In nearby Shanghai County, the initiative for construction and repair work on local waterways came from the magistrate or members of the gentry elite 31 of 72 times between 1648 and 1870.<sup>12</sup> On a majority of occasions (41) he responded to an order from a bureaucratic superior, but less than half of these came from an individual above the rank of circuit intendant. Given the interconnected character of waterways in this region of China, the absence of the

**Figure 1 Shanghai County Water Conservancy Projects during the Qing Dynasty**

1648 G	1679 W	1715 O, C	1732 H	1750 W	1783 O	1817 W	1844 G	1862 H
1650 H	1680 W	1720 O, C	1735 H	1753 O	1790 O, C	1818 O, C	1851 G	1863 O, C
1668 H	1681 H	1721 O	1736 W	1761 W	1797 O	1823 O, C	1852 W	1864a H
1671 O	1684 W	1723 O	1737 W	1763 H	1801 O	1827 O, C	1855 O, C	1864b C
1672 W	1690 W	1724 H	1740 W	1775 O	1803 O	1828 W	1856 O, C	1866 G
1673 W	1693 W	1725 O, C	1746 O	1776 W	1808 O	1835 G	1858 O	1868 W

<sup>8</sup>Zhao Erxun, ed., *Qingshi Gao*, vol. 1 (Hong Kong: Xianggang Wenxue Yanjiu She, 1960), p. 409.

<sup>9</sup>On the role of circuit intendants in water control, see Gu Hao, ed., *Zhongguo Zhishui Zhijian* (Beijing: Zhongguo Shuili Shuidian Chubanshe, 1997), p. 80; Jane Kate Leonard, *Controlling From Afar: The Daoguang Emperor's Management of the Grand Canal Crisis, 1824-1826* (Ann Arbor: Center for Chinese Studies, University of Michigan, 1996), p. 100; Randall Dodgen, *Controlling the Dragon: Confucian Engineers and the Yellow River in Late Imperial China* (Honolulu: University of Hawaii, 2001), p. 22.

<sup>10</sup>Zhao, *Qingshi Gao*, vol. 1, p. 417.

<sup>11</sup>Yang Kaidi, ed., *Guangxu Chongxiu Huating Xianzhi* (Taibei: Chengwen Chubanshe, 1970), pp. 401-44.

<sup>12</sup>Yue Yu, ed., *Shanghai Xianzhi* (Taibei: Chengwen Chubanshe, 1975), pp. 321-360.

1677 G	1708 W	1726 W	1747 W	1777 W	1811 O	1836 O	1859 W	1869 G
1678 W	1709 W	1727 O, C	1748 O	1782 G	1816 W	1843 N	1861 W	1870 W

O=Carrying out orders of higher ranking official

H=Higher ranking official carries out project

N=No data

C=Acting in coordination with other officials of higher or equal rank

W=Acting without orders from higher ranking official

G=Gentry/local headmen take action without official involvement

Source: Yue, *Shanghai Xianzhi*, pp. 321-360.

Bureau of Irrigation and Transportation from these documents remains conspicuous, and even the Liangjiang Governor-general and Jiangsu provincial governor make only infrequent appearances.

Magistrates in places like southeastern China performed these administrative responsibilities with limited human and material resources because the imperial court feared the emergence of an autonomous power base beyond its control. As a result, it offered these officials only a nominal salary, refused to provide a formal staff, and transferred them to a new post every eighteen to thirty-six months. In addition, county magistrates exercised jurisdiction over a thousand square miles of territory at most and constituted the lowest ranking members of the regular field administration in China. As we shall see in a later section, they remained wholly dependent on the assistance of the literati class to govern local society, including their management of the natural world. The size of county governments grew in the Republican period, but development remained uneven and rural areas lagged behind coastal cities in the extraction of tax revenues and the provision of public services. Prior to 1949, then, the central government tended to devolve responsibility for the supervision of natural resources to one of the weakest components of the state bureaucracy.

Patterns of environmental governance in China during the Maoist era fluctuated between relative decentralization and an insistence on ‘dogmatic uniformity’ that ignored regional variations in topography, climate, and ecology.<sup>13</sup> During periods such as the Great Leap Forward, Beijing promoted an overarching set of political and economic aims but permitted local leaders to experiment with specific methods of production and organization. Party cadres claimed that this approach would emancipate the energies of the Chinese masses and allow commune, brigade, and team leaders to discover more efficient means of meeting agricultural and manufacturing quotas. In the end, this failed campaign resulted in mass starvation, financial losses, and the further destruction of the country's woodlands to feed millions of backyard steel furnaces. During the Great Leap, Maoist rhetoric about conducting a ‘war against nature’ took on a savage new reality, but in structural terms it represented more of a continuation than a break with past practices.<sup>14</sup>

In contrast, the Grain First campaigns of the Cultural Revolution (1966-76) constituted a sharp departure from the decentralized approach to environmental management that first emerged in the late imperial era. At this time, a belief in universalizing models supplanted local knowledge and practices, and the central government proclaimed with confidence that

<sup>13</sup>Shapiro, *War Against Nature*, p. 4.

<sup>14</sup>Marks, *Environment and History*, p. 271; Wang, *Huanjing yu Shehui*, pp. 146-7.

‘one knife cuts all.’<sup>15</sup> Party cadres exhorted their listeners to ‘learn from Dazhai,’ a commune in Shanxi province that had not only refused famine relief but boosted cereal production through the creation of terraced fields. Slavish imitation of this example followed throughout China, often displacing more sustainable practices among minority ethnic groups in places such as Yunnan province.<sup>16</sup> Zealous officials in Henan province even built artificial hills on the region's flat plains in order to practice terracing as instructed by Beijing.<sup>17</sup> Farce gave way to tragedy in other parts of China, as reliance on the Dazhai paradigm led to deforestation, soil erosion, sedimentation, and changes in microclimate in many places during Mao's last decade in power. At the time of the chairman's death in 1976, local actors had little influence on the management of the natural world, but the legacy of the past soon reasserted itself.

During the current reform era, the central government has in practice placed local Environmental Protection Bureaus (EPBs) rather than the Ministry of Environmental Protection (MEP) or its regional affiliates (SCEPs) in charge of the natural world.<sup>18</sup> Their regulatory duties include monitoring levels of air, water, and soil pollution, enforcing the growing corpus of environmental laws, and imposing penalties on industrial enterprises that violate the law. Local EPBs also serve a consultative function, ‘supervis[ing] the exploitation and utilization activities of natural resources’ within their jurisdictions.<sup>19</sup> In practice, this means that they review, modify, and approve development plans and construction projects in conjunction with other municipal- or county-level administrative organs. Like their predecessors in the imperial era, for example, officials with the Shanghai Municipal Environmental Protection Bureau have participated in recent efforts to dredge the main channel of the Yangzi River estuary.<sup>20</sup> They worked not only with other agencies of the city government but relevant private enterprises such as the Shanghai Darun Port Construction Company. Finally, EPBs engage in educational outreach, organise recycling programmes, and promote the use of renewable energy, often in cooperation with non-governmental organizations (NGOs), community groups, and the mass media. Yet this sweeping mandate belies their weak structural position within the official bureaucracy, a handicap that has ensured that they continue to fail to meet their potential.

Before examining that place in detail, a brief comment on the character of administration in contemporary China is necessary. Scholars describe the Chinese state as a system of ‘fragmented authoritarianism,’ arguing that power flows along both vertical and

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<sup>15</sup>Shapiro, *War Against Nature*, p. 4.

<sup>16</sup>Wang, *Huanjing yu Shehui*, pp. 146-7.

<sup>17</sup>Shapiro, *War Against Nature*, p. 101.

<sup>18</sup>Shapiro, *China's Environmental Challenges*, p. 69; Economy, *River Runs Black*, pp. 113-5, 122; Ma and Ortolano, *Environmental Regulation*, p. 69; Jahiel, ‘Organization of environmental protection’: 757; Marks, *Environment and History*, p. 323; Chen, *Politics of Environmental Protection*, pp. 22-4; Mol and Carter, ‘Environmental governance in transition’: 155; Li, *Gudai Huanjing Baohu*, p. 183.

<sup>19</sup><http://www.shanghai.gov.cn/shanghai/node17256/node17679/node17704/userobject22a112745.html>.

<sup>20</sup>See, for example, [http://www.shdarun.com/WebPage\\_set/Page-ShowText.asp?id=2807&Language=en](http://www.shdarun.com/WebPage_set/Page-ShowText.asp?id=2807&Language=en).

horizontal axes within the bureaucracy.<sup>21</sup> Line relationships (*tiao-tiao*) mark an ascending hierarchy of authority from local to provincial to central, tying a specific agency to its functional equivalent at higher administrative levels. In contrast, area connections (*kuai-kuai*) define the linkages between government organs with different responsibilities but comparable rank within a given geographic or territorial jurisdiction. This dispersion of power complicates the tasks of environmental governance in China because it leads to confusion, fosters factionalism, and promotes the pursuit of particularistic political and economic interests.

The MEP and its regional affiliates (SCEPs) cannot issue direct instructions to local EPBs but in practice play only a general supervisory function. In addition, the ministry's limited budget ensures that it cannot provide financial assistance, personnel, equipment, or cars to bureaus at the county, municipal, or district level. However, the weak vertical integration of the environmental bureaucracy in China has resulted less in the genuine autonomy of local EPBs than their dependence on alternative sources of human and material resources. Embedded within the structures of local government, they turn to mayors, magistrates, or district chiefs for the support necessary to discharge their duties. These officials make hiring and promotion decisions, control annual budgets, and determine the amount of office space, scientific instruments, employee housing, and vehicles that EPBs receive.<sup>22</sup> Moreover, EPBs cannot impose binding orders on many state-owned enterprises (SOEs) because they hold a higher or comparable bureaucratic rank. For the same reason, they must attempt to persuade their counterparts in the local bureaus of Housing and Urban-Rural Development, Water Resources, Agriculture, or Land and Resources of the merits of environmental concerns. To date, however, municipal and county governments in China have established a dismal record of horizontal cooperation among their constituent agencies, and even regular communication has proven more the exception than the rule.<sup>23</sup> The task of protecting China's waterways, forests, air, and land in a time of 'crazy bad' conditions has fallen to underfunded EPBs at the bottom of the bureaucratic ladder. Although this decentralization of environmental governance in contemporary China arises in part from political reforms since the late 1970s, it also adheres to structural patterns that emerged during the late imperial and Republican eras.

### **The Tyranny of the Local: Flexibility and Cooption in China's Environmental Governance**

Vesting primary authority over the environment in local governments has at times encouraged flexibility, innovation, and experimentation in China during the past century and half. These institutional arrangements have given activist officials wide latitude to pursue a progressive agenda and permit them to tailor programmes to the specific ecological, economic, and cultural circumstances of their jurisdictions. Unfortunately devolution has far more often allowed local interests to capture the state's regulatory apparatus and undermine crucial efforts to protect the environment. In short, obstruction at the county and municipal levels has prevented the consistent implementation of national (or imperial) policies even when Beijing has lent its political support.

In late imperial and Republican China, officials adapted their financial, organizational, and technical approaches to the problem of water control to reflect the contours of the local

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<sup>21</sup>Kenneth Lieberthal, 'China's governing system and its impact on environmental policy implementation', 1997. [www.adb.org/Vehicle-Emissions/PRC/docs/ces1a.pdf](http://www.adb.org/Vehicle-Emissions/PRC/docs/ces1a.pdf).

<sup>22</sup>Jahiel, 'Organization of environmental protection': 757.

<sup>23</sup>Ibid.

social and economic landscape. The literati class remained relatively weak in many parts of the north China plain, and in consequence the state often played an important part in the creation of flood control and irrigation works in that area. In contrast, the government tended to rely on gentry elites to maintain hydraulic infrastructure in the prosperous regions of eastern, southern, and central China even if formal administrative authority rested with the county magistrate. Primary and secondary materials describe these projects as managed by the state (官政官修 *guanzheng guanxiu*), the people (民政民修 *minzheng minxiu*), or both (官政民修 *guanzheng minxiu*), but this categorization implies a rigid typology absent in practice.<sup>24</sup> For example, local residents constructed, funded, and managed the giant polders of Guangdong province without government interference, but repeated flooding in the 1880s prompted official intervention.<sup>25</sup> The reformer Zhang Zhidong remarked that

[Since the people] lack sufficient strength to repair the polders, according to fixed precedent they will borrow funds provided by officials for repairs and then pay them back over a period of years... Proposing to raise a large sum [to conduct repairs] is a *policy of joint management by officials and people*... When considering the amount of official funds to disburse [to each county], each [official] should look at the different degree [of importance] of strategic routes, whether property owners are poor or wealthy, and whether construction projects are large or small. [After] considering this information, perhaps officials [will pay] one-third and the people two-thirds [of the costs], or officials and people will each [pay] half, or official funds will be more [than the people's contribution], reaching 70-80 per cent of the total.<sup>26</sup>

As governor-general, Zhang left it to individual county magistrates to determine the appropriate financial arrangements based on the particular circumstances of their administrative jurisdiction. His actions not only demonstrate the plasticity of environmental management techniques in China prior to 1949 but also his sensitivity to local differences in wealth, social structure, and geography.

This same set of factors continues to have an important impact on the quality of environmental governance in contemporary China. Decentralization has enabled regions with a rich resource base, activist officials, or strong international ties to protect the natural world with greater effectiveness than the country's impoverished hinterlands. Material prosperity has not only permitted municipal governments in places like Shanghai to invest in pollution prevention, recycling programmes, and energy efficient technologies but has conferred growing political clout on China's middle class. For example, in 2007 urbanites in Xiamen

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<sup>24</sup>Zhang Jiayang, 'Water calamities and dike management in the Jianghai plain in the Qing and the Republic,' *Late Imperial China*, 27/1 (2006): 74. See also Pierre-Etienne Will, 'State intervention in the administration of a hydraulic infrastructure: the example of Hubei province in late imperial times', in Stuart R. Schram (ed.), *The Scope of State Power in China*, pp. 295-347 (London: School of Oriental and African Studies, 1985).

<sup>25</sup>Peter C. Perdue, *Exhausting the Earth: State and Peasant in Hunan, 1500-1850* (Cambridge: Harvard University Press, 1987), pp. 70-1.

<sup>26</sup>Zhang Zhidong, 'Daxiu guangzhao liangshu weiti gongjun zhe,' in Yuan Shuyi, Sun Huafeng, Li Bingxin (eds), *Zhang Zhidong Quanj* (Shijiazhuang Shi: Hebei Renmin Chubanshe, 1998), p. 443; Zhang, 'Xiugong huzhoufu shu ge tigongjun pian,' in *ibid.*, p. 445.

organised a successful campaign opposing the construction of a paraxylene chemical plant within the city limits, a phenomenon described by commentators as NIMBYism ('not in my backyard').<sup>27</sup> A number of cities in coastal areas have improved environmental conditions in recent years, but money alone has not resulted in these significant successes. Local political leaders have made an essential contribution to the development of a green agenda in these regions, prompting subordinate agencies to pursue their stated objectives with diligence and care. For instance, the mayors of Shanghai, Dalian, and Zhongshan have identified environmental protection as a major priority and provided financial resources, qualified personnel, and political support to their EPBs during bureaucratic disputes.<sup>28</sup> Their programmes have won international accolades and on occasion attracted funding and technical assistance from foreign governments, multinational corporations, and global NGOs. In the case of Dalian, the Environmental Protection Bureau has established a multifaceted exchange programme with the country of Japan, and Tokyo also aids the city with urban planning, pollution control, and conservation initiatives.<sup>29</sup> Many affluent regions in southern and eastern China have begun to take the first steps toward sustainable development, but decentralization has accelerated ecological decline in rural areas and throughout much of the country's vast interior.

This institutional framework has held environmental governance in China hostage to the values, energy, and skill of individual officials since the late imperial and Republican eras, empowering local actors to coopt the execution of policy on a regular basis. Water control again provides a useful illustration of the problems of local administration, which often ensnared county magistrates in conflicts of interest between the political centre and the literati class. In the late 1860s, the Ziya River in Zhili province changed course because of increased sedimentation along its old bed, causing severe flooding and drainage problems for downstream communities.<sup>30</sup> Residents of Xian County took advantage of these altered conditions by transforming rich alluvial soils into irrigated farmland, but successive magistrates made no efforts to add these new fields to the land registers.<sup>31</sup> Property owners welcomed the tax-free status of these holdings, and local officials ignored elite opinion at their own peril. In contrast, Governor-General Zeng Guofan desired to reopen Xian County's rivers to permit the transport of salt but acknowledged that 'the ordinary people are unwilling to open the waterways and [begin] dredging... It would not be suitable [to move forward with this plan].'<sup>32</sup> At the same time, he confronted a far more serious problem on another stretch of the Ziya, where the inhabitants of Wen'an and Xiong counties struggled for control of the western

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<sup>27</sup>Shapiro, *China's Environmental Challenges*, pp. 124-5, 140.

<sup>28</sup>Economy, *River Runs Black*, p. 124.

<sup>29</sup>Ibid.

<sup>30</sup>Zeng Guofan, 'Hutuo he gaidao beiliu ji ying shefa xiuzhi shu', in Shen Yunlong (ed.), *Huangchao Jingshi Wenbian Xubian*, vol. 849 (Taipei: Wenhai Chubanshe, 1972), p. 5663. Hereafter cited as *HJWX*.

<sup>31</sup>This was a common phenomenon in many regions, including in the Taihu, Xiang, and Dongting lake areas. Zhao Gang, *Zhongguo Lishishang Shengtai Huanjing zhi Bianqian* (Beijing: Zhongguo Huanjing Kexue Chubanshe, 1996), pp. 93-8; Perdue, *Exhausting the Earth*, p. 77; Shapiro, *War Against Nature*, p. 115; R. Keith Schoppa, *Song Full of Tears: Nine Centuries of Chinese Life at Xiang Lake* (Boulder, CO: Westview Press, 2002).

<sup>32</sup>Zeng, *HJWX*, vol. 849, p. 5663.

levee canal. Zeng reported that

[The people] of Wen'an gathered together to build a dam to block the flow of water from upstream. [The people] of Xiong county then gathered together to dig it open in order to drain the water along the border. In the end, [they] used guns and cannon, damaging Wen'an's protective dikes and killing their laborers. On the ninth day of the seventh month, fighting repeatedly broke out. Both sides created tumult, together sustaining it without interruption. An official has now gone to suppress [the violence] and persuade [the people to stop fighting], and the armed conflict has temporarily ceased. But the flooding problems have not been eliminated. If the cause of the dispute is not finally laid to rest, it is probable that a number of counties will [become] involved in the conflict, provoking a large incident.<sup>33</sup>

The scale of the fighting points to careful organization by local elites, while the use of artillery suggests that the two county magistrates either gave their tacit approval to the violence or, more likely, took an active part in the conflict. In short, placing primary responsibility for environmental management on the shoulders of county magistrates facilitated harmful practices like converting rivers, lakes, and reservoirs into cultivated lands. On occasion, it also led to members of the gentry class interfering with revenue collection and the preservation of civil order, two of the most vital functions of government administration.

Local protectionism has also flourished in the current reform era, resulting in the uneven execution of policies formulated by the MEP and agencies such as Ministry of Water Resources (MWR) and the Bureau of Forestry. A Chinese aphorism warns of 'national policies, local countermeasures,' and citizens and officials alike have demonstrated remarkable ingenuity in evading directives that fail to serve their interests.<sup>34</sup> Prior to the 2008 Olympics, for example, the central government attempted to improve air quality in the capital by limiting emissions from the growing number of automobiles. Authorities implemented a temporary 'rationing' policy, permitting cars with license plates ending in odd numbers on the roads one day and even numbers the next. In response, many drivers purchased a second vehicle, removed their plates, or bought an additional set of tags on the black market or from employees of the DMV.<sup>35</sup>

Authorities at the county and municipal levels have privileged development over environmental protection for the past several decades for reasons of political economy as well as personal advantage. Business enterprises not only provide local governments with their most important source of tax revenues but offer bureaucrats a wide range of lucrative investment opportunities. At the same time, the party has continued to link career advancement to economic growth, and attempts to use 'green GDP' to assess an official's performance have met with fierce resistance from entrenched interests.<sup>36</sup>

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<sup>33</sup>Ibid., pp. 5664-5.

<sup>34</sup>Economy, *River Runs Black*, p. 106.

<sup>35</sup>Shomik Mehndiratta, Zhi Liu, and Ke Fang, 'Sustainable low carbon development in China', World Bank Study, 307.

[http://siteresources.worldbank.org/EXTNEWSCHINESE/Resources/3196537-1202098669693/4635541-1335945747603/en\\_lowcarbon\\_12.pdf](http://siteresources.worldbank.org/EXTNEWSCHINESE/Resources/3196537-1202098669693/4635541-1335945747603/en_lowcarbon_12.pdf).

<sup>36</sup>Chen, *Politics of Environmental Protection*, p. 23.

This set of financial and professional incentives has often prompted local political leaders to favor development-oriented agencies under their control and to ignore, obstruct, or prohibit the activities of EPBs.<sup>37</sup> SOEs threatened with sanctions can appeal for support to the local bureau of commerce, housing and urban-rural development, or industry and information technology or disregard the instructions of an EPB altogether if they hold comparable bureaucratic rank. Environmental officials hold greater leverage over private businesses that violate China's pollution laws, but they too can use their influence to gain a sympathetic hearing from mayors, magistrates, or district chiefs. They may offer officials or their families a financial stake in the company, provide expensive gifts such as automobiles, travel, or school tuition, or resort to simple bribery. During the reform era, corruption has become a pervasive problem in China and results in the approval of substandard building projects and ineffective pollution control measures on a regular basis. Since mayors, magistrates, and district chiefs direct the flow of information to higher levels of the bureaucracy, they can also falsify reports, assessments, and statistics to cast a favorable light on these undertakings and downplay their environmental risks.

In most instances, EPBs will attempt to negotiate a solution with environmental offenders, but the local leadership can foreclose even this course of action. Bureaus that challenge the 'pollute first mitigate later' ethos can face punitive responses from higher officials, including the threat of budget cuts or the demotion, transfer, or dismissal of personnel from their jobs.<sup>38</sup> In certain instances, the fear of reprisals has led staff at EPBs to report cases of industrial pollution to provincial or central authorities using an anonymous telephone hotline.<sup>39</sup> As a last resort, EPBs can initiate legal action within the local courts, but the municipal or county leadership controls their budget as well and can prescribe the verdict in any given case.<sup>40</sup> Finally, since local environmental agencies derive a significant percentage of their revenues from the collection of fines, fees, and penalties, they too have a strong reason to avoid resolving problems such as polluted wastewater discharge.<sup>41</sup>

During the late 1990s, efforts to improve water quality in southwestern China's Liangtan River basin failed because of these types of perverse incentives.<sup>42</sup> District and township governments in the area established a number of profitable poultry farms, which released untreated chemical pollutants into the water. The Chongqing Environmental Protection Bureau at first called for the relocation of these enterprises but adopted a different strategy after entrenched bureaucratic interests ignored its recommendations. EPB officials instead began to appeal to the central government for financial assistance, increasing their demands for funds as conditions in the river deteriorated. Multiple bureaucracies enriched themselves at the expense

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<sup>37</sup>Ibid., p. 22; Mol and Carter, 'Environmental governance in transition': 155.

<sup>38</sup>Shapiro, *China's Environmental Challenges*, p. 59.

<sup>39</sup>Economy, *River Runs Black*, p. 113.

<sup>40</sup>On legal aspects, see Benjamin van Rooij, *Regulating Land and Pollution in China: Lawmaking, Compliance, and Enforcement: Theory and Cases* (Leiden: Leiden University Press, 2006).

<sup>41</sup>Chen, *Politics of Environmental Protection*, p. 24.

<sup>42</sup>See Min Rui, 'China's fragmented political structure and the effect on environmental policy enforcement--on the water pollution control in the tributaries in the Three Gorges reservoir area' (MA thesis, University of Southern California, East Asian Area Studies, 2007), 42-50.

of the public good, exploiting institutional weaknesses with a long historical genealogy in China. In short, the case of the Liangtan River suggests that the decentralization of environmental governance since the late imperial era has all too often resulted in a tyranny of selfish and destructive local interests.

### **Consultation or Cooption?: State, Society, and the Environment in China**

This administrative approach complements the state's reliance on informal social actors to help manage the natural world, a pattern that has persisted with minimal interruption since the late imperial era. This pattern of burden sharing has reduced the pressures on official funds, facilitated the circulation of knowledge about local environmental conditions and practices, and enabled successive regimes to mobilize China's educated elite behind common goals. On-going dialogue has also allowed opinion-makers to reshape the government's agenda in subtle ways but at the cost of limiting their autonomy and legitimating the exercise of state power. Throughout the modern period, voluntary associations in China have had to walk a fine line between consultation and cooption, a challenge that environmental NGOs continue to confront on a daily basis.

In the late imperial era, members of the literati class played a seminal role in informal governance at the local level, including the management of natural resources such as soil, timber, and minerals.<sup>43</sup> At times they formed chartered organizations to assist with tasks such as water control, and during the Republic gentry, merchant, and student groups participated in the development of a nascent civil society in China.<sup>44</sup> Ideas such as public and private appeared in contemporary political and philosophical discourse, and in the years after the May Fourth Movement of 1919 Chinese thinkers also began to adopt the Western concept of the 'natural environment.'<sup>45</sup> They also developed a new vocabulary inspired by scientific discourse, replacing older terms like *tian* (天 nature) with *daziran* (大自然).

Yet these changes in the early twentieth century grew from a long-standing paradigm of state-society cooperation, a model that imperial officials applied to the problems of environmental governance with great regularity. The following example focuses on water control, but literati and notables also played a significant part in efforts to conserve timber, soil, minerals, and even biodiversity. In 1870 the magistrate of Shanghai County asked the local elite to help organise an important dredging project on Chaojia Creek because he lacked

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<sup>43</sup>See Philip A. Kuhn, 'Local self-government under the Republic: problems of control, autonomy, and mobilization', in Frederic Wakeman, Jr. and Carolyn Grant (eds), *Conflict and Control in Late Imperial China*, pp. 257-98 (Berkeley: University of California Press, 1975); Mary Rankin, *Elite Activism and Political Transformation in China: Zhejiang Province, 1865-1911* (Stanford: Stanford University Press, 1986); Elizabeth J. Perry, 'Trends in the study of Chinese politics: state-society relations', *China Quarterly*, 139 (1994): 704-13.

<sup>44</sup>For a discussion of a gentry association devoted to water control issues, see Schoppa, *Song of Tears*, p. 139. On the development of civil society in late imperial and Republican China, see, for example, William T. Rowe, 'The public sphere in modern China', *Modern China*, 16/3 (1990): 309-29.

<sup>45</sup>Robert P. Weller and Peter K. Bol, 'From heaven-and-earth to nature: Chinese concepts of the environment and their influence on policy implementation,' in Mary Evelyn Tucker and John Berthrong (eds), *Confucianism and Ecology: The Interrelations of Heaven, Earth, and Humans*, p. 325 (Cambridge: Cambridge University Press, 1998).

the necessary resources and labor.<sup>46</sup> Mud and silt had begun to clog this waterway, preventing commercial vessels from ‘passing through [the area] outside the [city's] western gate to the Daipu Bridge’ except during periods of ‘unusually high water.’<sup>47</sup> He

Invited the gentry directors and local headmen from the city and the countryside to assemble. After holding a discussion... [they concluded that] in recent years the situation of both officials and the people was one of insufficient [funds], but after the tax cuts [in the late 1860s] the people's resources became abundant. In a year of bumper harvests, [they needed to] ask for an assessment of [tax] contributions on land acreage. This was based on the example of Huating County's levy [to repair its] seawalls. Officials advised and the people managed [the dredging of the creek].<sup>48</sup>

The assistant county magistrate resided at the work site to superintend construction but decided to ‘send gentry directors from the charitable society to manage the disbursement of funds.’<sup>49</sup> Members of the literati class not only lent the project their financial support and organizational capacity but offered vital information about the area's economic, social, and ecological circumstances. Given that bureaucrats could not serve in their native province, they typically lacked detailed knowledge about conditions in their administrative jurisdiction. In late imperial and Republican China, then, the gentry engaged with officialdom to influence the direction of policy but in the process bolstered the authority of the regime's local representatives.

At first glance, the Maoist period seems to mark a radical departure from existing patterns of environmental governance because of the attempt to eradicate autonomous social organizations in China. Viewed from another perspective, however, the mass campaigns between 1949 and 1976 constitute the ultimate effort to place society in the service of the state's developmental goals. Maoist thought emphasised the ability of collective will to overcome structural economic problems, an assumption that undergirded both the Great Leap Forward and the Grain-First initiatives during the Cultural Revolution. Even children and the elderly gathered wood for China's backyard furnaces and later cleared forested areas to construct terraced fields, activities that led to the first two of the country's ‘three great cuttings.’<sup>50</sup> An administrative hierarchy of work teams, brigades, and communes expanded state power to an unprecedented extent in the countryside and also provided the basic framework for organizing rural labor. These structures promoted universal mobilization behind policies such as land reclamation and the elimination of the so-called ‘four pests,’ while party propaganda rhapsodized about the militarization of all forms of production in China.

Yet a far greater degree of coercion marked state-society relations in the Maoist era, and genuine dialogue between the two came to an end as the government stifled dissent and dismantled the student groups, labor unions, and merchant guilds that had thrived before 1949.

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<sup>46</sup>Yue, *Shanghai Xianzhi*, pp. 358-9. Mark Elvin also draws attention to this source in Elvin, *Retreat of the Elephants*, p. 117.

<sup>47</sup>Ibid.

<sup>48</sup>Ibid.

<sup>49</sup>Ibid.

<sup>50</sup>The third occurred in the early reform period after changes in the rules of land tenure. Shapiro, *War Against Nature*, p. 69.

Officials welcomed the people's contributions of free labor and resources but suppressed local knowledge and prevented former elites from exercising their leadership skills and organizational capacities.<sup>51</sup> 'Society' in the form of the masses could participate in these projects only in ways specified by the government, and efforts to voice any form of independent opinion met with severe repression.

During the current reform era, the party has invited voluntary associations to participate in environmental governance but has also maintained close control of their activities through a series of legal, administrative, and financial constraints. In 1996 State Councillor Song Jian called for the 'healthy development' of such groups, and since that time the Chinese have founded hundreds of organizations dedicated to protecting the natural world.<sup>52</sup> These have taken a wide variety of forms, including registered NGOs, non-profit corporations, university research centres, students clubs, web-based networks, and GONGOs (government-organised non-governmental organizations). They have drawn a disproportionate percentage of their membership from the prosperous professional classes in China's major cities, attracting large numbers of professors, journalists, scientists, lawyers, and students. As a result, environmental associations have often developed excellent political connections, possess considerable legal and technical expertise, and have demonstrated a considerable talent for public relations through the use of the internet and major media outlets.

The work of NGOs and community groups has helped to compensate for the fiscal, bureaucratic, and political limitations of the MEP, and even the state-run media has begun to promote a green agenda over the past two decades. Organizations like the Friends of Nature have focused on the preservation of biodiversity in China, inaugurating well-publicized campaigns to save the endangered Tibetan antelope and Yunnan snub-nosed monkey from extinction.<sup>53</sup> In contrast, Global Village Beijing partnered with the municipal government to institute urban recycling programmes and has played a significant role in the reconstruction of villages damaged in the 2008 Sichuan earthquake.<sup>54</sup> Other NGOs have promoted the use of renewable energy, sponsored local clean-up drives, engaged in educational outreach through the use of film and the web, and filed law suits on behalf of pollution victims.<sup>55</sup> They even persuaded Beijing to suspend plans to build a series of hydroelectric dams on the Nu River in Yunnan province, though in 2013 the government appeared to reverse its earlier decision. The MEP views most forms of environmental activism by these groups as a cost efficient means of fulfilling its own mandate and encourages or at least tolerates most conservation efforts.

At times, NGOs have used official rhetoric about the environment to criticize the government and exert pressure for change, particularly at the local level. On the whole, however, they have eschewed confrontation with the state and have instead sought to influence the

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<sup>51</sup>Wang, *Huanjing yu Shehui*, pp. 146-7.

<sup>52</sup>Yang Guobin, 'Environmental NGOs and institutional dynamics in China', *China Quarterly*, 181 (2005): 54.

<sup>53</sup>Economy, *River Runs Black*, p. 157; Yang, 'Environmental NGOs': 46; Chen, *Politics of Environmental Protection*, p. 41; Shapiro, *China's Environmental Challenges*, pp. 112-4.

<sup>54</sup>Economy, *River Runs Black*, p. 168; Shapiro, *China's Environmental Challenges*, p. 115; Yang, 'Environmental NGOs': 60.

<sup>55</sup>The Center for Legal Assistance to Pollution Victims (CLAPV) in Beijing has brought a number of successful cases against polluters in China's courts. Mol and Carter, 'Environmental governance in transition': 157.

direction of environmental policy in China through dialogue and cooperation. By building ties to party leaders, they hope to insulate their organizations from politics and ensure that consultation will in time become an integral component of the policy-making process. They have also established a symbiotic relationship with the mass media because both parties benefit from public attention to news stories on the environment. In 2001-02, for example, journalists in Beijing collaborated with the group Green Web to expose plans to build an entertainment complex in a wetlands area, and local authorities abandoned the project after hundreds signed a protest petition.<sup>56</sup> In certain instances, the central government may even welcome their joint efforts to compel municipal- and county-level cadres to adhere to national environmental standards and policies.

Yet Beijing maintains a watchful eye on the activities of voluntary associations because it fears that their 'green' exterior may mask a democratic political agenda. The party also resents the efforts of NGOs to block engineering projects with significant environmental risks, viewing any form of organised protest movement as a challenge to its monopoly on power. As a result, the government has placed constraints on their freedom of action through legal, administrative, and financial restrictions. Statutory law mandates that NGOs persuade a government agency to serve as their sponsor, or 'mother-in-law,' and register with the Ministry of Civil Affairs if they wish to avoid high taxes.<sup>57</sup> In addition, it prohibits them from opening branch offices in other cities or soliciting donations in print, and they can accept substantial support from international sources only at the risk of raising official suspicions. Regulations also limit the number of NGOs that can promote similar causes within a given area, and in many instances GONGOs have already filled the official quota. Authorities can also revoke the tax privileges of organizations that adopt an adversarial stance, subject them to official harassment, or in extreme cases disband their operations through administrative fiat.<sup>58</sup> The participation of NGOs in a wide range of public projects can also provide the government with a convenient scapegoat if given policies fail or become a political liability in the future. More importantly, this form of 'consultative authoritarianism' encourages activists to engage in self-censorship and also serves to legitimate the use of state power.<sup>59</sup> In the future, environmental NGOs may attempt to test the limits of the existing political system in China, but for the moment each side remains convinced that it can coopt the agenda of its erstwhile partner.

### **Who's in Charge Here? Fragmented Authority and Jurisdictional Overlap in China's Environmental Governance**

For the past two centuries, fragmented authority and jurisdictional overlap have impaired the practice of environmental governance in China, particularly at the regional and national levels. These institutional arrangements have resulted in a lack of accountability and held the formulation of policy hostage to negotiation among agencies of comparable rank. The need for consensus has more often offered an excuse for inaction than prompted bureaucratic actors to coordinate their policies. These administrative structures have also triggered a competition for scarce resources between different government organs and have resulted in speculation, graft, and corruption among petty functionaries. Despite its national mandate and

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<sup>56</sup>Yang, 'Environmental NGOs': 63-4.

<sup>57</sup>Shapiro, *China's Environmental Challenges*, p. 106.

<sup>58</sup>Ibid., p. 121.

<sup>59</sup>Jessica Teets, 'Let many civil societies bloom: the rise of consultative authoritarianism in China', *The China Quarterly*, 213 (2013): 19-38.

putative authority, even the creation of a Ministry of Environmental Protection in the current reform era has failed to resolve these structural problems.

During the late imperial period, the court entrusted the Board of Works with the management of China's waterways, forests, farmlands, and minerals, but in practice it proved incapable of establishing centralized control over natural resources.<sup>60</sup> For example, the supervision of the Grand Canal-Yellow River system required a comprehensive approach, but Beijing divided responsibility for the network between specialist officials and members of the regular field administration.<sup>61</sup> This matrix of waterways, dikes, embankments, sluice gates, and drainage basins prevented flooding throughout the north China plain and provided crucial transportation linkages between the capital region and the country's economic heartlands in the southeast.<sup>62</sup> Its strategic significance prompted the Qing dynasty to create the positions of director-general of river conservancy for its northern, eastern, and southern sections and to appoint a fourth official of equivalent status to direct the shipment of grain on the Grand Canal.<sup>63</sup> They needed to work together to coordinate construction and repairs on up- and downstream portions of the river, but their interests did not necessarily coincide. Organizing major engineering projects became even more difficult when the court lowered their bureaucratic rank and began to give territorial administrators such as governors and governor-generals a more active role in the region's water control.<sup>64</sup> The personal intervention of the emperor could ameliorate these problems, but the ruler faced stringent demands on his time and had to attend to a wide range of pressing obligations.

Conscientious officials proposed administrative reforms on a number of occasions, for instance calling for bureaucratic appointees to manage both the upper and lower reaches of the Yellow River. After the governors of Henan and Shandong usurped the duties of the eastern director-general in the nineteenth century, members of the censorate objected to the division of further responsibility for the watershed. They argued that water conservancy in those two provinces 'had been managed recklessly' and 'requested that the director-general for river conservancy have complete control over the entire river. [Shandong and Henan] ought not to be treated differently.'<sup>65</sup> Their scheme made little headway because of opposition from

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<sup>60</sup>Zhao, *Qingshi Gao*, vol. 1, p. 409.

<sup>61</sup>See Leonard, *Controlling from Afar*, and Dodgen, *Controlling the Dragon*.

<sup>62</sup>On the technical aspects of water control strategies for the Grand Canal-Yellow River system, see Guo Shu, 'Hongze hu liangbai niande shuiwei', *Kexue Yanjiu Lunwenji*, 12 (Beijing: Shuili Dianli Chubanshe, 1982): 47-60; Jia Zhenwen and Yao Hanyuan, 'Qing Dai qianqi Yongding Hede zhili fanglue', *Kexue Yanjiu Lunwenji*, 25 (Beijing: Shuili Dianli Chubanshe, 1986): 197-207.

<sup>63</sup>Wei Yuan, 'Jifu hequ yi', *HJWX* vol. 849, p. 5575; Zhao, *Qingshi Gao*, vol. 1, p. 315. See also Antonia Finnane, 'Bureaucracy and responsibility: a reassessment of the river administration under the Qing', *Papers on Far Eastern History*, The Australian National University, Department of Far Eastern History, Vol. 30 (1984): 162-3; Hu Ch'ang-Tu, 'The Yellow River administration in the Ch'ing dynasty', *The Far Eastern Quarterly*, 14/4 (1955): 505-13; Lillian M. Li, *Fighting Famine in North China: State, Market, and Environmental Decline, 1690s-1990s* (Stanford: Stanford University Press, 2007), pp. 48-9.

<sup>64</sup>Leonard, *Controlling from Afar*, p. 86.

<sup>65</sup>Ren Daorong, 'Fuchen ticha yudong hegong qingxing shu', *HJWX*, vol. 848, pp. 5201-2. See also Zhao, *Qingshi Gao*, p. 466.

existing interests, which insisted that a single individual could not exercise effective jurisdiction over such a large area.<sup>66</sup> Ecological factors eventually caused the system to suffer catastrophic collapse by the 1820s, but institutional structures complicated efforts to formulate, implement, and if necessary revise a holistic strategy for the Grand Canal and the Yellow River.

In the 1840s the reformist official Wei Yuan not only complained about this administrative fragmentation but insisted that it had fostered the development of a profligate bureaucracy. He praised the frugality of earlier dynasties, noting that

Down to the Eastern Han, the salaries of minor river conservancy personnel did not exceed one thousand piculs [of grain]. [They were] subordinate to prefectural [jurisdiction] and equal in rank to an official's aide. Today with two directors-general, eight circuit intendants, and several dozen petty officials, [the situation] is absolutely different. It should be known that their annual repair projects [come to] nothing whatsoever... More personnel lead to more unnecessary expenses, and [the condition] of the rivers will certainly worsen. With fewer personnel, expenditures can be controlled, and the rivers will necessarily become deeper [through effective dredging projects].<sup>67</sup>

As the size of the administration grew and expenditures rose to unprecedented levels in the decades after 1800, the quality of official oversight of the Grand Canal and the Yellow River declined. The absence of accountability inspired a host of low-level functionaries to enrich themselves at public expense, and trustworthy officials guarded their resources against greedy rivals and subordinates with care. Wei Yuan's plan to streamline the bureaucracy would not have saved the Grand Canal-Yellow River system from the cumulative effects of deforestation, soil erosion, and sedimentation, but it might have ensured a more humane response to the social consequences of ecological decay.

During the first decade of the twentieth century, the court abandoned the Six Boards for a series of centralized cabinet ministries based on European and Japanese models, and the Nationalist party continued to refine and develop these structures in the Republican period.<sup>68</sup> Despite profound differences in ideology, the communist regime modified rather than rejected this framework, assigning the tasks of environmental governance to a number of different administrative organs after 1949. Prior to its absorption by the State Planning Commission in the mid-1970s, a Ministry of Geology supervised the exploration and extraction of the country's mineral deposits, including metals, coal, oil, natural gas, and underground water.<sup>69</sup> The competing ministries of forestry and timber merged in 1958 before a second reorganization in 1970 placed the control of China's remaining woodlands under the Ministry of Agriculture. This latter agency managed the PRC's land and soil resources, setting grain

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<sup>66</sup>Ibid.

<sup>67</sup>Wei Yuan, 'Chou he pian xia', *HJWX*, vol. 848, p. 4934; see also Wei Yuan, 'Junchu pian (er)', *HJWX*, vol. 848, pp. 4941, 4944-5.

<sup>68</sup>For an example of national water control efforts during the Republican period, see David A. Pietz, *Engineering the State: The Huai River and Reconstruction in Nationalist China, 1927-37* (New York: Routledge, 2002).

<sup>69</sup>*China: Evolution of Its Ministries and Commissions, 1949-1992: A Reference Aid* (Washington, DC: Directorate of Intelligence, 1992), 22-3.

production quotas, implementing reclamation programmes, and introducing new seeds, fertilizers, and forms of farming technology. In addition, a Ministry of Water Conservancy oversaw the country's rivers, lakes, canals, and reservoirs, planned irrigation and flood control works, and after 1959 also directed the construction and operation of hydroelectric power stations.<sup>70</sup> This brief outline suggests that the Maoist period witnessed frequent administrative flux at the national level, and in fact only five of China's dozens of ministries and commissions remained in continuous operation between 1949 and 1992.<sup>71</sup>

Fragmented authority compounded the difficulties of repeated bureaucratic restructuring, and the familiar problems of cooperation, accountability, and resource control reappeared under Mao. Although it appeared that the party had divided responsibility for the natural world among different ministries in a rational fashion, in practice their jurisdiction overlapped in ways that hindered efficient governance. For example, plans to divert a river course to the site of a mining operation could have involved most of the agencies described above as well as representatives of several territorial governments at the provincial and local levels. Yet these actors of comparable rank could not issue orders to one another, and in the Maoist period horizontal communication within the bureaucracy occurred with no greater frequency than in the twenty-first century. Effective coordination required either assertive leadership by the State Council or the personal intervention of a cadre from the highest levels of the party organization.

Despite the establishment of a Ministry of Environmental Protection in the decades after Mao's death, similar administrative issues bedevil the management of China's water, soil, timber, and mineral resources today. The communist regime first expressed a clear interest in the preservation of the natural world in 1972, when it sent delegates to a United Nations conference in Stockholm on the human environment.<sup>72</sup> In the late 1970s China created an Office of Environmental Protection under the Ministry of Construction, but as the country's political priorities changed, authorities elevated its status first to agency, then administration, and finally to ministry in 2008.<sup>73</sup> In theory, the MEP possesses a broad mandate to formulate national environmental protection laws and regulations, implement pollution standards, supervise wildlife conservation, inspect nature reserves and parks, and conduct impact assessments of important development projects.<sup>74</sup>

In practice it lacks the authority to issue orders to provincial governments or other cabinet-level ministries even on matters related to its core mission of environmental protection. This means that the MEP often has to share administrative responsibility with an array of different agencies, building consensus behind a specific set of policy objectives through negotiation. Many of these other bureaucratic organs have a longer history, command more resources, or play a more significant role in the country's economic development. As a result, they wield greater informal clout than the MEP at the national level, and these political conditions can make the successful coordination of policy objectives almost impossible. For example, a major case of industrial pollution on the Yangzi would fall not only within the MEP's jurisdiction but involve the relevant river commission under the Ministry of Water

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<sup>70</sup>Ibid., pp. 46-7.

<sup>71</sup>Ibid., p. iii.

<sup>72</sup>Jahiel, 'Organization of environmental protection': 67.

<sup>73</sup>Economy, *River Runs Black*, p. 111.

<sup>74</sup>[http://english.mep.gov.cn/About\\_SEPA/Mission/200707/t20070704\\_106099.html](http://english.mep.gov.cn/About_SEPA/Mission/200707/t20070704_106099.html).

Resources, the Ministry of Housing and Urban-Rural Development, the Bureau of Fisheries under the Ministry of Agriculture, and provincial officials within the affected areas.

An effective response to such an incident would require a perception of shared interests, but mutual recrimination of the sort that followed the Yangzi floods in 1998 seems a more likely outcome. At that time, up- and downstream communities exchanged accusations of official malfeasance, charges affirmed by Premier Zhu Rongji's complaint that the region's dikes remained 'as flimsy as tofu dregs.'<sup>75</sup> Local officials had misappropriated a significant portion of construction funds or invested them in projects that served their immediate needs rather than the welfare of the river basin as a whole. The Huai River disaster of 1994 triggered a similar blame game among provincial governments, and more recently members of the Pan Pearl River Delta have criticized one another for failing to curb water pollution problems in southern China.<sup>76</sup> In the latter instance, issues of coordination have become even more severe because an important development programme called the Closer Economic Partnership Arrangement also includes Hong Kong, a special administrative region that enjoys considerable political autonomy. In short, each of these cases underscores the fact that fragmented authority not only encourages local protectionism but classic forms of 'free rider' behaviour as well.

Given that environmental spending accounted for a scant 1.6 per cent of China's GDP in 2010, government agencies like the MEP and MWR have a strong incentive to engage in a zero-sum competition for scarce resources.<sup>77</sup> Bureaucratic actors tend to invest in projects that enhance their own prestige rather than channel funds to broader initiatives that fulfil only some of their goals. In addition, the MEP remains dependent on the Ministry of Finance for its revenue stream, and its limited budget permits the employment of only several hundred personnel at the national level.<sup>78</sup> Like Chinese NGOs, it can attempt to partner with international organizations, foreign governments, or multinational corporations, but sensitivity to questions of sovereignty places constraints on such a strategy. Under these circumstances, the MEP expends considerable time and energy defending its bureaucratic turf and attempting to fill its coffers rather than protecting China's environment. Since everyone has been in charge of environmental governance in China over the past two centuries, in effect no one has been in charge.

### **W(h)ither the Future of Environmental Governance in China?**

This article has argued for long-term continuities in the structure of environmental governance in China, identifying four specific patterns that have persisted over the past century and a half. Successive political regimes have tended to adopt a decentralized approach to the management of the natural world despite differences in their composition, ideological orientation, and relative strength. Real regulatory authority over China's water, soil, mineral,

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<sup>75</sup>Eve Cary, 'China's dangerous tofu projects', *The Diplomat Blogs*, 10 Feb. 2012. <http://thediplomat.com/china-power/china%E2%80%99s-dangerous-tofu-projects/>.

<sup>76</sup>Jahiel, 'Organization of environmental protection': 781; Reut Barak, 'Fighting pollution on the Pearl River', *China Dialogue*, 28 Sept. 2009. <https://www.chinadialogue.net/article/show/single/en/3266-Fighting-pollution-on-the-Pearl-River->.

<sup>77</sup><http://www.worldwatch.org/node/4705>.

<sup>78</sup>Chen, *Politics of Environmental Protection*, p. 21.

and timber resources has rested with local officials even after the central government made an important rhetorical, financial, and organizational commitment to environmental protection during the reform era. In certain circumstances, these institutional arrangements have empowered activist officials to pursue a progressive agenda, engage in creative experimentation, and mobilize resources within prosperous regions with considerable success. Yet more often they have resulted in a tyranny of local interests and prevented the consistent implementation of national policies even when they command strong support in Beijing. In addition, the state has attempted to share the burdens of environmental management with voluntary associations in the form of gentry organizations, merchant guilds, student groups, and, more recently, NGOs and web-based networks. This partnership has allowed informal social actors to influence official decision-making but has also placed constraints on their freedom of action and served to legitimate state power. Finally, fragmented authority and jurisdictional overlap have impeded the effective supervision of China's natural resources for much of the past hundred and fifty years, particularly at the regional and national levels. This lack of centralized direction has not only led to a loss of accountability but complicated administrative coordination and encouraged a competition for scarce resources within the bureaucracy. Together these findings suggest that the character of state structures over the long term has exacerbated the problems of ecological decline in China, including the 'crazy bad' conditions that affect parts of the country today.

At a methodological level, this article argues for the relevance of history to policy, contending that knowledge of these past deficiencies can point the way toward future reforms. For instance, political leaders should strengthen the degree of vertical integration within the environmental protection bureaucracy, transforming SCEPs from affiliated agencies into regulatory bodies with control over county and municipal EPBs.<sup>79</sup> These changes would facilitate the flow of authority within the line relationships that stretch from centre to region to locale and weaken the grip of local interests on the state's administrative infrastructure. Beijing might also elevate a new series of Regional Environmental Protection Administrations to a relatively high bureaucratic rank, empowering them to issue direct orders to county, municipal, and district governments on matters related to their core environmental mission.

Second, the party should increase the level of material support for the MEP and over time raise environmental spending from 1.7 per cent of GDP to the 2.5-3.0 per cent typical of Western European countries and the United States.<sup>80</sup> Greater resources would allow the ministry to expand its workforce beyond several hundred employees, deploy more sophisticated scientific and technical equipment, and invest in a broader range of conservation and educational programmes. Coupled with the previous suggestion, it would also permit the MEP to channel funds to lower levels of the bureaucracy, helping to wean EPBs from their financial dependence on both local governments and pollution and discharge fees. At the same time, authorities should raise the fines for violating the country's environmental laws to the point that they deter illegal behaviour by industrial enterprises.

Third, Beijing should revive earlier efforts to evaluate officials for promotion not only using economic criteria but their environmental performance as well.<sup>81</sup> This move would

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<sup>79</sup>See Huan, 'Regional supervision centers'.

<sup>80</sup><http://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS>.

<sup>81</sup>On environmental cadre evaluation, see Alex Wang, 'The search for sustainable legitimacy: environmental law and bureaucracy in China', *Harvard Environmental Law Review*,

require considerable political will on the part of the central government because vested interests would again resist the implementation of this policy. The State Council should also articulate a clearer understanding of 'green GDP' and 'sustainable development,' perhaps modifying definitions provided by the United Nations Environment Programme for this purpose. Given the enormous regional variations in environmental quality in China, leaders would also need to judge subordinate officials on the basis of demonstrable improvements within their jurisdiction in addition to using these universal standards.

Finally, the party should strengthen the existing system of environmental courts in China and expand their jurisdiction beyond water quality to include disputes about timber, air, soil, noise, and wildlife. In contrast to much of the country's judiciary, they have the right to hear a wide range of administrative, civil, and criminal cases, and at least in theory possess the power to enforce the judgments they issue.<sup>82</sup> These arrangements tend to shield magistrates from the influence of local actors, ensure a certain measure of judicial autonomy, and embolden pollution victims to press their claims in a public forum. A national mandate could transform these courts into vocal advocates of environmental protection and also enable the MEP to impose more stringent penalties for violating the country's pollution laws.

Beijing has begun to move in these directions under the Eleventh and Twelfth Five-Year Plans, but skeptics might question whether it can summon the necessary political will to implement these initiatives. The basic patterns of environmental governance in China have endured since the late imperial period, and this persistence cautions against a belief in the possibility of rapid reform in the early twenty-first century. At best the proposals outlined above will yield tentative, inconsistent, and piecemeal results. During the past two decades, the current regime has demonstrated a new sensitivity to the importance of environmental protection, but change has not occurred at a fast enough pace to halt widespread ecological decay. The past carries a certain momentum, and in many cases altering the trajectory of long-term processes can prove an impossible challenge despite good intentions. Unless state and society can find a way to overcome the inertia of history, however, China faces a brown rather than a green future.

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37 (2013): 365-440. See also Genia Kostka, 'Environmental protection bureau leadership at the provincial level in China: examining diverging career backgrounds and appointment patterns', *Journal of Environmental Policy and Planning*, 15/1 (2013): 41-63.

<sup>82</sup>Economy, *River Runs Black*, p. 118.