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Environmental Governance in China

State, Society, and Market

Jesse Turiel, Iza Ding, and John Chung-En Liu

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This article provides an analytical overview of major works on the topic of environmental governance in China, with a particular emphasis on studies examining policies during the reform era (post-1978). We begin by exploring the rise of China's "environmental state" and the various institutional and political factors that shape state behavior. Next, we describe the complex relationship between the Chinese state and society, analyzing studies related to environmental public opinion, citizen action, nongovernmental organizations (NGOs), green civil society, the role of the media, and China's judiciary. Finally, we conclude by reviewing research on market-based mechanisms of environmental governance in China, including emissions trading schemes, environmental transparency, corporate information disclosure, and green finance.

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Environmental Governance in China: State, Society, and Market

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Abstract

This article provides an analytical overview of major works on the topic of environmental governance in China, with a particular emphasis on studies examining policies during the reform era (post-1978). We begin by exploring the rise of China's "environmental state" and the various institutional and political factors that shape state behavior. Next, we describe the complex relationship between the Chinese state and society, analyzing studies related to environmental public opinion, citizen action, nongovernmental organizations (NGOs), green civil society, the role of the media, and China's judiciary. Finally, we conclude by reviewing research on market-based mechanisms of environmental governance in China, including emissions trading schemes, environmental transparency, corporate information disclosure, and green finance.

Keywords

China – civil society – environment – governance – market – policy

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1 Introduction

Since the beginning of the reform era (post-1978), the People's Republic of China (PRC) has enjoyed four decades of nearly uninterrupted economic growth, transforming a backward and isolated country into an emerging superpower with the world's second-largest economy. Although China has lifted hundreds of millions out of poverty, such an extended period of breakneck economic development has not come without a price. Rapid urbanization, industrialization, and growth in the gross domestic product (GDP) have ravaged China's natural environment and generated serious public health concerns. In 2014 alone, air pollution contributed to the death of 1.6 million Chinese citizens, accounting for nearly 30 percent of air pollution-related deaths worldwide (Brauer 2016; Rohde and Muller 2015). Of China's 560 million urban dwellers, less than 1 percent breathe air considered safe by European Union standards, while in the countryside, more than 300 million lack access to clean drinking water (Piovani 2015). Along China's frontier, the pace of deforestation and desertification continues to accelerate, and even the country's most pristine regions are showing signs of habitat destruction and biodiversity loss (Elvin 2008). On the global stage, China is now the world's largest emitter of greenhouse gases, releasing more carbon dioxide (CO_2) into the atmosphere than the United States, Russia, and India combined (Emissions Database for Global Atmospheric Research 2016).

The human cost of these environmental challenges is staggering. In numerous cities, towns, and villages across China, stories abound of rising rates of lung cancer, leukemia, asthma, and chronic respiratory infections (Zhao et al. 2010; Millman, Tang, and Perera 2008). In terms of economic damage, the costs of China's environmental degradation are less precise, though even conservative estimates peg the number between 3.5 percent and 8 percent of annual GDP (World Bank 2007). With each new "cancer village" or "airpocalypse" event covered by major domestic and international news agencies, the topic of environmental pollution in China has gained increasing traction among academics, government officials, business leaders, and the general public. Its significance as a source of public unrest and dissatisfaction is evinced by the growing number of environmental protests over the past decade (Hoffman and Sullivan 2015), as well as by the large majority of citizens who say that they would choose pollution control over economic development should the two priorities come into conflict (Ding 2016).

With so much attention now focused on the state of China's environment, the country's leaders must grapple with the Herculean task of responding to the social, economic, and political challenges caused by pollution. In order

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to better understand these challenges, we analyze China's system of environmental governance through the lens of state, society, and market. The overarching goal of this article is to identify the key debates, paradigms, and emerging research directions in the study of environmental governance in China. Given the breadth of the topic and our page limit, we do not seek to offer an exhaustive review of the literature, and, to our regret, several important works are necessarily left out. The article is divided into three main sections.

The first section analyzes state environmental protection behaviors. It begins with a brief overview of imperial and Maoist environmental legacies and then delves into research focused on the development of China's environmental state during the reform era. The second section provides a synopsis of nongovernmental environmental actors in China and the ways in which they interact with the Party-state. In examining the nature of environmental state-society relations, this section analyzes existing literature concerning the role of public opinion, environmental protests, environmental nongovernmental organizations (ENGOs), the media, and China's legal system. The third section offers a look at the business and market forces at play in shaping China's response to environmental challenges. It reviews the literature on market-based policies, such as cap and trade, green financing, and payment for ecosystem services. It also examines the vital role of information in determining environmental outcomes and details how both private and state-owned corporations respond to regulatory pressure from the government and social pressure from the general public. Finally, the concluding section provides a brief synopsis of the current state of China's environmental reforms and identifies some key areas for future environmental research.

2 China's Environmental State

Imperial and Maoist Legacies

Although this article focuses primarily on environmental governance during the reform era, it is nevertheless important to set the stage by dispelling some popular myths about environmental change and governance in China. One myth is that environmental degradation is strictly a reform-era phenomenon. This notion could not be further from the truth (Edmonds 1994; Elvin 1998, 2008; Marks 2011; Qu and Li 1994; Smil 1984). Elvin (1998) notes that, in imperial China, population expansion, agricultural development, and infrastructure projects made the Chinese environment "one of the most transformed in the pre-modern world" (p. 742). The political consequences of environmental change are also well documented. For example, Wakeman (1985) connects the

brutal toppling of the Ming dynasty (1368–1644) by Manchus to pressure on the northern tribesmen to locate new food sources during the Little Ice Age: a period between the sixteenth and nineteenth century when average global temperatures cooled substantially.[1] In addition, scholars at Beijing Normal University found a statistical correlation among low temperature, subsequent famine, and peasant rebellions throughout imperial China (Fang et al. 2015). By late-imperial times, the depletion of natural resources as a result of population expansion and agricultural development had evoked widespread concern among the literati (Elvin 1998). By then China had lost substantial swaths of its forests, and natural disasters were frequent (Elvin 1998).

In the search for explanations of the human causes of environmental degradation, cultural explanations (East and West) have borne the blame. Carolyn Merchant (1980) argues that the scientific revolution and market-oriented culture of the West marked the "death of nature" through the objectification, dissection, and domination of the natural environment. Similarly, scholars of China's environment have expressed the view that traditional Chinese culture, as exemplified by Confucianism, pits men against nature (Economy 2004; Shapiro 2001). This notion is articulated by the popular idiom stating that "man must triumph over nature" (*ren ding sheng tian* 人定胜天). However, as Economy (2004) notes, evidence of environmental governance can be traced back to at least the Western Zhou dynasty (1050 BCE–771 BCE), and the *Book of Rites* (*Zhou li* 周礼) documents that local officials were responsible for protecting their local rivers, mountains, forests, and animals (p. 29). Confucian teachings also call for the reverence of nature, while other Chinese spiritual traditions, such as Buddhism and Daoism, advocate a harmonious relationship between people and nature (pp. 33–36).

In the Maoist era (1949–1976), environmental problems were overshadowed by immense human suffering, yet studies by Qu (1994) and Shapiro (2001) vividly demonstrate the grievous injuries inflicted on nature during this period. During the Great Leap Forward (1958–1962), massive forests were felled to fuel backyard steel furnaces in a blind attempt to surpass Great Britain in steel production. During the 1958 "Exterminate the Four Pests" campaign, Mao, who knew little about wildlife or ecology, called for the extermination of sparrows in the belief that, because sparrows eat crops, crop yields would naturally improve as a result of their extermination. However, the systematic extermination of hundreds of millions of sparrows led to the proliferation of locusts—an insect eaten by sparrows—and a significant drop in crop yields, exacerbating the

1 Although the Little Ice Age was not a manmade event, its worldwide political impact was tremendous.

Great Leap Famine (1959–1961). During the 1964 "On Agriculture, Learn from Dazhai" campaign, localities blindly conformed their natural environments to resemble that of Dazhai—a hilly, self-sufficient agricultural community in rural Shanxi Province. Writing about the campaign, Qu (1994) observes that "regardless of topography, grain production became an all-important priority.... Large forested areas were either destroyed to produce grain or neglected, aggravating hydrological cycles and soil erosion" (p. 61).

Maoist policies have left three major marks on the current state of environmental governance in China. First, the development-first mind-set remains highly influential, among both government officials and the general public, in shaping attitudes about environmental protection. Only recently has environmental protection moved to the forefront of China's policy agenda. Second, policy decentralization and the *nomenklatura* system continues to encourage fierce competition among local officials (Kung and Chen 2011), which has contributed to rapid economic growth (Zhou 2007). Third, Maoist campaign-style governance is still prevalent in today's environmental management practices (Liu et al. 2014; van Rooij 2006). These massive, ad-hoc government efforts—ranging from annual tree-planting campaigns to crisis management responses—are reminiscent of Maoist campaigns and are sometimes wasteful and ineffective (Economy 2014).

The Ideological Genesis of Environmental Governance

China's modern environmental state was born in the 1970s. In 1972, the United Nations Conference on the Human Environment convened in Stockholm, with China attending as a new UN member. The meeting's report urged China to pay more attention to its domestic environmental problems, and in August 1973, China's State Council (the Cabinet) convened the country's first national conference on environmental protection and passed "Some Decisions on the Protection and Improvement of the Environment"—the first policy document to regulate environmental protection in the People's Republic of China.[2] The Decision established several of China's key environmental governance principles, including "balancing economic development and environmental protection," "preventing pollution first; combining prevention and management," and "whoever generates pollution manages it." It also set the stage for the passage in 1979 of China's first Environmental Protection Law.

2 "Huanjing baohu zhuangkuang 环境保护状况 [Situation of Environmental Protection]," Government of the PRC, July 27, 2005, accessed June 30, 2016, http://www.gov.cn/test/2005-07/27/content_17757.htm.

Backlash against environmental protection was strong from the outset, especially among managers of state-owned enterprises who were under pressure to fulfill production targets. Meanwhile, public awareness about environmental protection remained low because the notion of environmental protection was novel to citizens of the PRC.[3] To raise awareness, state media gradually increased their use of the phrase "environmental protection" (*huanjing baohu* 环境保护).[4] At the same time, new environmental policies were promoted through a series of "patriotic hygiene campaigns," publicizing the link between pollution and public health. Furthermore, the state framed pollution control as a demand by the public (Ding 2016, pp. 35–36). After the first national conference on the environment, the *People's Daily* made a point of publishing a letter from two teachers in Hubei Province that criticized the neglect of the "three wastes" (wastewater, waste air, and solid waste) by factories and called for the government to "value the principle of being responsible to the people and attach high importance to pollution control" (Tao and Ai 1973).

As early as the 1970s, the central government recognized the pitfalls of the developmental trajectory followed by countries that had previously industrialized. The 1973 Decision's emphasis on ex ante pollution prevention, rather than ex post abatement represented a sea change in China's approach to environmental governance and demonstrated the central leadership's awareness of the problems associated with the "pollute first, control later" (*xian wuran, hou zhili* 先污染, 后治理) model.

Development of China's Environmental State

During the first decade of economic reform, China's modern environmental state emerged, albeit with some growing pains (Ross 1992, p. 631). In the same year as the official initiation of reform and opening up policies (1978–1979), the State Council enshrined environmental protection in the Chinese

3 During the first two decades of the PRC, criticizing environmental pollution was tantamount to smearing socialism—a system that could do no wrong. After the most radical stage of the Cultural Revolution, discussing the negative externalities of development was no longer taboo.

4 "Environmental protection" first appeared in *People's Daily* in 1972; see "Wo guo daibiaotuan tuanzhang Tang Ke zai lianheguo renlei huanjing huiyishang fayan chanshu wo guo dui weihu he gaishan renlei huanjing wenti de zhuzhang 我国代表团团长唐克在联合国人类环境会议上发言阐述我国对维护和改善人类环境问题的主张 [Tang Ke Spoke on Behalf of Chinese Delegate about Our Country's Stance on the Protection and Improvement of Human Environment at the United Nations Conference on the Environment]," *People's Daily*, June 11, 1972; and Xin Fang, "Jingji fazhan he huanjing baohu 经济发展和环境保护 [Economic Development and Environmental Protection]," *People's Daily*, June 16, 1973.

constitution, subsuming it under the Four Modernizations and declaring once again that China would not walk down the "pollute first, clean up later" path (State Council Leading Group on Environmental Protection 1978).

Two main features marked the development of China's environmental state. The first was the rapid promulgation of laws, policies, and regulations concerning environmental protection; and the second was the expansion of China's bureaucracy charged with environmental protection. As mentioned earlier, China's first national environmental protection law, formally titled the Environmental Protection Law of the People's Republic of China (Trial Implementation), was passed by the National People's Congress (NPC) in 1979.[5] Among its many provisions, the law allows local governments to pass their own laws, policies, and regulations on environmental protection. Subsequently, dozens of national laws and hundreds of local regulations were adopted over the following decades. As of 2016, China has 20 national environmental laws passed by the NPC, nearly 200 national environmental regulations issued by the State Council, and more than 1,000 local environmental regulations adopted by local people's congresses.

Coupled with this proliferation of laws and regulations is the impressive growth in the size, capacity, and status of China's environmental bureaucracy (Jahiel 1998, p. 768). Before the 1970s, the Ministry of Public Health was in charge of environmental policy. However, in May 1974, the State Council established the Environmental Protection Leading Group to coordinate environmental policy-making, ushering in a nascent environmental bureaucracy. The Leading Group consisted of officials from bureaucracies responsible for economic planning, industrial policy, agricultural policy, public health, traffic control, and water resource management. Many provinces followed suit by establishing their own environmental leading groups, often called the Office for the Control and Management of the Three Wastes.

The first environmental administrative bureaucracy—the Environmental Protection Bureau (EPB)—was established in 1982 and housed within the Ministry of Urban and Rural Construction (MURC). Two years later, the bureau was renamed the National Environmental Protection Agency (NEPA); then, in 1988, NEPA was separated from the MURC, and its bureaucratic rank was raised to a half-notch below ministerial level (Jahiel 1998, p. 769; Sinkule and Ortolano 1995).

The development of China's environmental state experienced a temporary setback in 1992 (Jahiel 1998). During a tour of southern China, Deng Xiaoping called for localities to speed up the pace of economic development. Thereafter

5 The Environmental Protection Law (EPL) was officially adopted in 1989 and revised in 2014.

followed a surge in the growth of township and village enterprises (TVEs), whose pollution practices were largely unsupervised. Pollution control was sidelined in 1993 and 1994, and many local EPBs were demoted or abolished (Jahiel 1998, p. 773). However, this institutional setback did not last long. In 1998, NEPA was restyled as the State Environmental Protection Agency (SEPA) and promoted to the ministerial level, providing it with significantly enhanced bureaucratic authority. A decade later, SEPA was elevated to cabinet-level status and renamed the Ministry of Environmental Protection (MEP).

Between 1995 and 2004, employment in China's environmental bureaucracy nearly doubled (from 88,000 to more than 160,000), while state investment in environmental protection increased from 0.6 percent of GDP in 1989 to 1.4 percent in 2004 (Mol and Carter 2006). Accordingly, the policy jurisdiction of EPBs expanded from the management of the "three wastes" in the 1970s to their current plethora of responsibilities, including issues as wide-ranging as biodiversity, energy efficiency, and nuclear safety.

In order to carry out environmental policies and control local pollution, EPBs rely on three main procedural levers (also known as the "three magic weapons") (Sinkule and Ortolano 1995). These three levers, which are implemented at different points of the pollution process, include the "Three Simultaneities" (*santongshi* 三同时) mandate, the environmental impact assessment (EIA) system, and pollution discharge fees (Sinkule and Ortolano 1995). The Three Simultaneities mandate, first introduced in the 1973 Decision, specifies that the design, construction, and operation of pollution control mechanisms must occur concomitantly with the design, construction, and operation of the parent industrial project. New major construction projects and enterprise operations must be filtered through the EIA system, allowing the environmental impacts of development projects to be assessed. Individual enterprises must then use EIA reports to seek approval for new construction from their local EPBs. If approved, the EPB gives the enterprise a pollution permit, specifying the quantity of each type of pollutant that the enterprise can legally discharge. Finally, the enterprise must agree to pay a fee for the emission of pollutants into the environment, and discharging more than the allotted amount can result in fines, sanctions, or even forced closures.

Environmental Policy-Making in the Reform Era

Since the 1980s, a rich academic literature on environmental governance in China has emerged alongside increasing general concern about environmental degradation. State actors, due to their dominance in the political system, were the first to attract scholarly interest. Some of the central questions in this literature include: What factors shape the environmental policy-making process at

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