

Introduction

AS THE NEARLY 3,000 DELEGATES TO THE NATIONAL PEOPLE'S Congress (NPC), China's legislature, arrived in Beijing in March 2013, they found the annual political fanfare overshadowed by appalling air pollution in the country's capital. Only days before the meeting, a measure of air quality that tracks health-threatening fine particles had reached a hazardous level more than ten times the level ever recorded in Los Angeles, long considered one of the most smog-prone cities in the United States.

Dubbed the “airpocalypse,” the dark cloud over China's legislature was not a momentary lapse or a problem confined to Beijing. In December 2014, when the high-speed train I took barreled into the city of Baoding in Hebei Province, I felt as though I had arrived in a ghost town, as everything outside the window was shrouded by an oppressive and toxic smog. The haze did not fade even after the sun came out. Forty-five minutes later, the train pulled into Shijiazhuang, the provincial capital – another ghost town.

Baoding and Shijiazhuang are by no means outliers when it comes to air pollution in China. Beginning in mid-December 2016 and through the New Year holiday, a wave of dangerous and dirty smog extended from northeast China to the south. The toxic smog blanketed a third of China's cities and in some places was so bad it went off the standard scale. The choking smog surrounding the city of Kaifeng, in Henan province, was so heavy that there were reports of birds fainting from hunger after low visibility made it impossible for them to catch their prey.¹ The smog forced Beijing and many more provinces and cities to issue their first red alert of the year, the highest alert in a four-tiered

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pollution warning system. Schools were shut down, flights and factories were suspended, and cars were barred from the roads. Sensing huge demand for fresh air, a Canadian company did a brisk business selling air bottled in the Rocky Mountains town of Banff for \$14 to \$20 per canister.²

Polluted skies are not the only environmental catastrophe in China. Water and soil pollution are now part of the grim new normal in China as well. A bulletin issued by the Ministry of Environmental Protection (MEP) in 2015 suggested that more than one-third of China's surface water and two-thirds of its underground water supplies were polluted.³ About one-fifth of Chinese people do not have access to safe drinking water.⁴ While the issue of water pollution has been rife for many years,⁵ soil contamination became a major concern only recently. The public got a glimpse of the scale of the problem when a 2014 government report admitted that as much as one-fifth of China's farmland soil is severely polluted with toxic chemicals.

Such environmental problems pose a serious and sustained threat to the health and well-being of the Chinese people. Here environmental health problems are defined by Phil Brown as "health effects caused by toxic substances in people's immediate or proximate surroundings."⁶ This definition focuses on the direct pathological effects of air pollution, water pollution, and soil contamination. It avoids addressing in detail hygiene-related or vector-borne disease threats (e.g., chronic diarrhea, schistosomiasis), social determinants of health (e.g., housing, urban development, and land use), or environmental hazards that do not have a direct impact on health, such as desertification, deforestation, and acid rain.

China is certainly not the only country that is adversely affected by environmental health challenges. The health effects of environmental degradation in advanced industrialized countries, including Japan, the United States, and Great Britain, are well documented.⁷ But the scope of China's environmental health crisis has reached another dimension, raising critical questions about the ability of the Chinese state to cope with its complex domestic and international challenges.

Not only do air, water, and soil pollution plague China with a wider range of diseases and public health problems than previously thought,

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but they are also taking a heavy toll on China's society, economy, and polity. The health and non-health consequences of pollution, as well as the complexities involved in addressing the problem, have generated an environmental crisis that will test the Chinese state in unprecedented ways. China's evolving response to environmental health challenges suggests that government leaders are learning and responding; indeed they have demonstrated the ability to introduce new policy tools and transmit pressures down to the lowest level of the hierarchy to get things done. Nevertheless, the state commitment to pollution control is undercut by the gaps and deficiencies in policymaking as well as the perverse bureaucratic incentives created in the implementation stage.

An analysis of both qualitative and quantitative data challenges the widely held belief that China is winning the environmental health battle, showing that the stricter and more centralized policy enforcement measures introduced by Xi Jinping, China's maximum leader since 2012, have not produced truly significant and substantial gains against pollution. As a result, the regime confronts a profound quandary between the need to sustain rapid economic growth and the costs of environmental cleanup that will challenge its ability to maintain political legitimacy. An examination of China's environmental health governance highlights an authoritarian system that is remarkably resilient but fundamentally flawed, which has profound implications for the viability of the so-called China model.

Furthermore, the analysis highlights the linkage between China's environmental health problem and its international ascendancy. In September 2002, in recognition of the lack of understanding in Washington of China's internal challenges, a think tank hosted a conference entitled "China in Transition: A Look Behind the Scenes." Bates Gill, a leading China expert, set the stage: "The China we will face in five to ten years' time will be fundamentally shaped by the outcomes of the dramatic political, economic, and social transformations unfolding in that country today. The better we understand these transitions today, the better off we will be in engaging China tomorrow."⁸

Since then, a voluminous literature has addressed China's internal challenges – economic, political, social, and environmental.⁹ Scholars and pundits alike agree that such domestic problems may constrain

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China's international rise, but few studies thus far have sought to provide a cogent and coherent analysis of the linkage between the two. In fact, most studies on China's rising power tend to highlight China's economic prowess and military buildup, as well as its ability to project its international influence, but fail to pay adequate attention to another important dimension of state power: the state capacity to extract and mobilize resources, to provide public goods and services, to have its claim to rule willingly accepted, and to enforce rules and regulations across its entire territory. How a major internal challenge is translating into stumbling blocks in China's rise can be shown by examining the foreign policy implications of China's environmental health crisis and the state's capacity to effectively respond to the crisis.

OBSTACLE TO GLOBAL LEADERSHIP

Many of China's environmental health problems today harken back to the pre-reform era, when Mao Zedong's development strategy had tragic consequences for human beings and the environment.¹⁰ The current crisis, however, is unfolding in a new socioeconomic and political context. The leaders of post-Mao China have been remarkably effective in laying the foundation for stunning gains in the economic well-being of hundreds of millions of people. But the conflict between economic development and environmental protection is exacerbated because the performance-based political legitimacy on which the Chinese Communist Party (CCP) relies has led to a single-minded pursuit of economic growth to the detriment of the environment and the health of the people.¹¹ Moreover, after four decades of rapid industrialization and modernization, the sheer size of China's economy and population coupled with its growing integration into the world economy multiplies the challenges to the country's health, environment, and society.¹²

The changing nature and magnitude of the crisis has tremendous economic, sociopolitical, and foreign policy implications for China's re-emergence on the world stage. For most of the last two millennia, China was one of the dominant cultural, economic, and political actors in the world.¹³ It came to be seen as a feeble power only after its humiliating defeat in a succession of wars with foreign powers in the nineteenth

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century. Emboldened by four decades of robust economic growth, Chinese leaders have been promoting the “China Dream,” which is about realizing a prosperous and strong nation, rejuvenating its greatness in the world. As President Donald Trump has abdicated the United States’ vital leadership role and decided to retreat into what he calls an “America First” policy,¹⁴ China has moved to fill the void left in global governance, defined as the rules, structures, and processes that guide and regulate the international system and life among people of different countries. China’s emerging global leadership has been welcomed by a number of world leaders. UN Secretary-General António Guterres told Xi that it was “very reassuring to see China assuming such a clear leadership in multilateralism in today’s world.”¹⁵ “The world needs a leading force like China,” International Monetary Fund Managing Director Christine Lagarde said in April 2018.¹⁶

Yet China’s international ascendance is neither linear nor inexorable. It faces several “stressor variables,” such as entrenched corruption, a widening wealth gap, and a deteriorating environment. Pollution alone may take a heavy toll on China’s economy, society, and even national security. For example, Wu Shuangzhan, former commander of the Chinese People’s Armed Police, said that years of pollution in a rural town of a southern Chinese province were so severe that none of the individuals who sought to enlist in the military over the past nineteen years met the basic physical requirements.¹⁷ Wu’s concern about pollution’s effect on national security recalled Murray Feshbach and Alfred Friendly Jr.’s documentation of “ecocide” and environmental degradation in the former Soviet Union.¹⁸ It is hard to imagine that China can regain its greatness in the world if the Chinese people do not have clean air to breathe, safe water to drink, or uncontaminated soil on which to live and farm.

Environmental health problems involve a deeply moral question in terms of the relationship between pollution and affected populations. Here the focus is not as much about environmental soundness as it is about the health consequences of pollution, which carry with them the prospects of deep grief among individuals and communities and convey a sense of gravity against a looming threat. As the health and social costs of environmental degradation go up, public discontent over environmental

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health issues are also on the rise, putting the country's sociopolitical stability at stake. Some leading Chinese experts have noted that if the government fails to address the crisis effectively, the expanding gap between economic and social development – combined with growing social frustration over a worsening environment – could devolve into a much bigger crisis of legitimacy.¹⁹ Their forecasts echo what Jared Diamond described in *Collapse: How Societies Choose to Fall or Succeed*, in which environmental damage is found to be a major factor contributing to the collapse of societies, from Easter Island to the Maya of Central America.²⁰

Environmental health challenges also add directly to the legitimacy problems for China's global leadership. Under the Belt and Road Initiative, a grand vision to deepen physical infrastructure, financial, political, and security connections in Eurasia, China is lending billions of dollars to participating countries for coal-fired power-generation projects while giving short shrift to renewable and green energy. Many see this move as an attempt to shift China's pollution problem to its neighbors.²¹

ENVIRONMENTAL HEALTH CHALLENGES

Societies suffering from environmental damage are not doomed to failure. Very often, a crisis response leads government leaders to undertake extraordinary steps to push for the introduction of a new and broad policy agenda, to develop new institutions for structuring the often clashing interests and interactions between the multitudes of policy actors involved, and to make sure society and the bureaucracy are mobilized effectively and efficiently. For China, the environmental crisis is likely to require profound political changes beyond routine policymaking and implementation. As Elizabeth Economy has noted: "Turning the environmental situation in China around will require something far more difficult than setting targets and spending money; it will require revolutionary bottom-up political and economic reforms."²²

Compared to other crises, environmental health problems have some unique features that warrant special attention. First, the environment-health nexus can be notoriously complex. Given the wide range of

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hazards individuals may be exposed to, establishing a cause–effect relationship between specific environmental risks (e.g., polluted water from a factory) and health problems (e.g., cancer deaths in a nearby village) is extremely difficult.²³ This complex causality provokes tensions and conflicts over responsibility, not just between victims and polluters, but also between jurisdictions and regions, calling for a multifaceted government response.²⁴ Second, unlike many traditional sociopolitical problems, pollution puts everyone’s health at risk. Even though the effects are not felt equally in different communities, or even by each person within a community, they affect rich and poor, privileged and destitute, powerful and powerless alike. The indiscriminate nature of the health concerns can be used to facilitate consensus-building and broaden the constituency calling for change.²⁵ The scale and seriousness of the challenges, though, can narrow the state’s options in containing social protests, especially when the protests involve whole communities with a common grievance.

Third, pollution’s health effects differ, depending on what pollutants are involved and where and when they emerge as threats to health. “Risks to health from food vary widely from product to product and present very different kinds and levels of threat to human health from sources including heavy metal contamination, pesticides, and veterinary drugs,” Jennifer Holdaway and Wang Wuyi have noted. “The same is true of different types of air and water pollution, which have different composition, sources, and impacts, from short term acute exposure to long term cumulative effects through climate change and the degradation of ecosystems.”²⁶ Because of regional diversity and uneven economic development, different localities are under the sway of different mixes of environmental health problems. For example, coal burning is a more serious threat to health in Beijing than in Shanghai, where there is no wintertime coal-fired central heating.²⁷ In contrast to Beijing, haze is not a major concern in Guangzhou, where emissions from the petrochemical industry is the primary environmental health problem.²⁸ Smog composition varies from city to city even in the same province.²⁹ All this requires the state to adopt targeted but comprehensive policy interventions.

Finally, environmental health issues do not fall under the institutional responsibilities of a particular government agency. Instead, addressing

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the challenges requires the involvement of a whole range of government agencies: environment, health, land use, urban planning, and so on. With multiple government agencies competing for jurisdiction, tensions are bred among these agencies due to conflicts of interest and contestations over responsibilities.³⁰ This is further complicated by the challenge of coordination among subnational governments. Pollution as a negative externality is often regionally produced; regional transport of pollutants, for example, contributes up to 70 percent of the smog in Beijing.³¹ Regions impacted by smog do not match the boundaries of administrative jurisdictions, making it important that provincial governments cooperate in order to address pollution effectively. Here provincial government leaders face a typical “collective action” problem in smog control: they would be better off collaborating, but none of them wants to be the single one taking actions (and thus bear all the costs of smog control) with no guarantee of cleaner air.

RESPONSE FROM SOCIETY

If environmental health problems have been exacerbated by the post-Mao reform, the social response to the crisis is embedded in a political milieu dramatically different from the Mao era. Modern reforms resulted in the “individualization” of Chinese society, as characterized by the untying of the farmers from the collective, of the economy from central planning, and of the individual from her indigenous community.³² This process, coupled with fiscal and bureaucratic decentralization, led to the emergence of a more complex plurality of interests that span across rural, urban, and virtual spheres. In the field of environmental health, not only are there different types of hazards (air, soil, and water pollution) that occupy different temporalities (anticipated pollution, “outbreak” events, and “slow disasters”), but the types of social action also vary from isolated and ad hoc to more organized and confrontational collective action.³³

This has transpired at a time when post-Mao reform has ushered in new opportunities for society to protect itself against the intrusive reach of the state. Widespread Internet use, for example, has enabled Chinese citizens to engage in practices ranging from diffuse dissent to radical protests.³⁴ Post-Mao state-rebuilding has also promised to increase the

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space where non-governmental and civil society organizations operate.³⁵ Their participation in policymaking can potentially be facilitated by various state-led institutional arrangements that serve to channel social demands into the state policymaking regime.³⁶ For example, the Environmental Impact Assessment Law, unveiled in 2002, requires public hearings for major development projects. While the law is rarely enforced, people now have numerous methods through which to address issues that affect their health and livelihoods, including petitioning the local environmental protection bureaus, alerting provincial media about the infractions of local factories, and piggybacking on other grievances such as land rights abuse.³⁷ As a result, environmental health concerns have become one of the primary reasons behind social complaints and confrontational collective actions. By 2016, according to a Pew report, 70 percent of the public viewed air pollution as a “very big” or “moderately big problem,” up 7 percentage points from 2008.³⁸

The waxing power of society, however, does not necessarily mean that the power of the state is waning in the policy process. Compared to liberal democracies, an authoritarian state boasts more policy arenas that are not subject to institutionalized negotiations between state and society; this autonomy bestows the state the advantage in policymaking and enforcement. Such “despotic power”³⁹ can be magnified when state elites are managing perceived crises.⁴⁰ A large literature suggests that central and local state actors in China developed new sources of power vis-à-vis society by reconstituting the levers of central control⁴¹ and, for local state actors, by actively promoting industries in their localities.⁴² Research by Lora-Wainwright also shows that despite the increasing resources and capabilities at their disposal, Chinese citizens’ strategies and actions, as well as the very way they conceptualize environmental health risks, are shaped by their fear of state repression, state-defined opportunity structures, and dependence on polluting industries.⁴³ Indeed, while farmers worry about the health risks from polluting local factories, many industrial workers in the same community downplay the risks because of their financial dependence on the same factories.⁴⁴ Similarly, in the absence of trust in the government’s ability to ensure food safety, people may reduce exposure to toxic elements in food by simply shopping more carefully rather than publicly demanding the state tighten food safety regulation.

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Since the economically disadvantaged's choices over what they can purchase and consume are limited, economic disparities have led to uneven access to safe food.⁴⁵ In this sense, the impact of pollution on health may illuminate people's "deep ambivalence about development and modernization and some of the new fault lines of inequality and social conflict that they generate."⁴⁶ Furthermore, such individualization of risk reduces the likelihood of collective action, fragmenting popular protests against pollution in China into more sporadic and localized actions.

THE STATE RESPONSE

Until the late 1990s, the government pushed aside environmental considerations in pursuit of short-term breakneck growth, leading to catastrophic environmental damage.⁴⁷ In the beginning of this century, the environment–health nexus began to draw attention from top officials with the publication of a policy report by two Chinese think tanks.⁴⁸ Since then, the issue has taken on increasing urgency, highlighted by a series of reports from the government, international organizations, and think tanks.⁴⁹ Still, until fairly recently, there were almost no systematic data on the health effects of environmental degradation. It was not until 2010, for example, that the now widely used measures of PM_{2.5} – fine particles in the air that are smaller than 2.5 micrometers in diameter and capable of causing serious heart and lung problems at high concentrations – became part of the official lexicon. In the absence of reliable and systematic indicators, shocking and sudden "focusing events" became the only catalyst to have problems recognized, redefined, and addressed formally. Yet until 2012, events focusing attention on environmental health were rare, not only because there was a lack of awareness, but also because environmental health crises are essentially "slow disasters" that do not generate as immediate or dramatic impact as "outbreak events" such as severe acute respiratory syndrome (SARS).

With the opening of China to the global society, international actors have played a significant role in changing the priorities of policymakers, moving latent public health issues on to the government agenda and affecting the timing of government action and content of policy design.⁵⁰