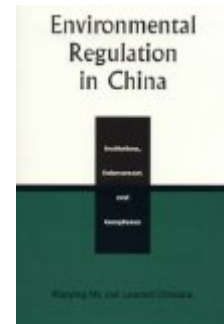


H-Net Reviews

in the Humanities & Social Sciences

Xiaoying Ma, Leonard Ortolano. *Environmental Regulation in China: Institutions, Enforcement, and Compliance*. Lanham, Maryland and Oxford, England: Rowman & Littlefield Publishers, 2000. xviii + 209 pp. \$27.95 (paper), ISBN 978-0-8476-9399-3; \$95.00 (cloth), ISBN 978-0-8476-9398-6.

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Published on H-Environment (August, 2000)



Regulating Water Pollution in China

Despite the breadth implied in the title of this work (*Environmental Regulation in China*), Ma and Ortolano have written a book narrowly focused on the bureaucracy (and bureaucratic politics) of regulating industrial wastewater releases in China, and within that universe, mostly on Chinese enterprise compliance with a particular regulation, the “discharge permit system” (p. 173). Of course, a narrowly focused research project has advantages: an in-depth study can shed light on issues of broader significance, in this case, on Chinese efforts to stem environmental pollution and degradation. And what a huge issue that is, not just for China, but for the world, because of China’s immense environmental pollution and degradation problems.

It is not as though the Chinese government is unaware of the country’s environmental problems, having identified seven as “priority:” water pollution; urban air pollution; hazardous and toxic solid waste; water shortages; soil erosion; loss of forests and grasslands; loss of species and habitats” (p. 2). The issue thus is not whether or not the Chinese recognize they have a serious environmental problem, but what they are doing about it. To analyze that is the purpose of this book.

But rather than take on the whole issue of China’s environmental problems and the government’s response to them, Ma and Ortolano chose to examine the specific case dealing with industrial wastewater discharge in six cities spread from north to south China. Their findings are not

encouraging, as is suggested by the following question that they pose: “Why has China’s environment continued to degrade even though the country has a sophisticated set of regulatory programs?” (p. 8). The answers they come up with, at least so far as wastewater are concerned, are instructive, and disturbing.

China has its National Environmental Protection Agency (now renamed the State Environmental Protection Agency and given ministerial rank), which is responsible for developing and promulgating (in concert with the National People’s Congress, the State Council, and the Chinese Communist Party) environmental regulations and programs, but environmental protection enforcement is vested in local organs called Environmental Protection Bureaus (EPBs). This is part of the problem, as will be explained shortly. The other part of the problem arose from initial wastewater pollution standards which regulated only the concentration of pollutants, not the total outflow, leading to the likelihood, given rapid economic development, that water quality could continue to degrade even if regulated enterprises met the initial concentration standards (ch. 6). When that became apparent, the State EPA issued new standards regulating the total amount of industrial wastes discharged into China’s fresh water, and methods for calculating and apportioning the allowable waste water among enterprises dumping into a body of water. The analysis that Ma and Ortolano offer revolves around the local Environmental Protection Bureaus trying, and for the most part failing,

to implement these two standards.

In the first place, the local EPBs are structurally positioned to be greatly influenced by local politics and interests, especially those pushing for faster “economic development.” Post-1978 reforms made mayors responsible for carrying out national mandates, and gave them considerable power to do so. In this instance, mayors are responsible for carrying out China’s economic development program, and for implementing the environmental protection laws. However, should conflicts arise between those goals, and those pursuing them, the mayor’s office has the power to adjudicate the conflict. However, in nearly all cases, the mayor’s office “favors industrial growth over pollution abatement...because local officials [have] strong financial incentives to expand their economies” (p. 63).

Given their weak structural position, it is small wonder the local EPBs seldom bring cases to the mayor’s office for decisions, but try as best they can on their own. Here other problems arise that limit their enforcement abilities. The authors note that Chinese culture favors consensus building rather than conflict, so EPB officers tend to develop good working relations with enterprise managers (known in Chinese as developing *guanxi*), enabling everyone involved in sticky situations to “save face.” Although the environmental protection laws do allow for court suits, local EPBs seldom is ever take such recourse, both because of the desire to avoid conflict, and because China’s legal system is still developing (pp. 92-93). Moreover, the authors show that the local EPB staff, even if they had wanted to, did not have the mathematical or technical abilities to implement the new standards regarding total effluent flow rates.

And if this weren’t enough, funding for the local EPBs’ annual operating budgets came from wastewater discharge fees they collected from the enterprises they were charged with regulating: between 70 and 100 percent of the annual operating expenditures for various EPB functions came from fees (pp. 122-23). For a set of complex reasons the authors explore, the EPB reliance on fees for their annual operating budget “impede[d] progress in meeting the original goal of the fee system: providing enterprises with incentives to curb pollution” (p. 124).

If this weren’t depressing enough, local EPBs often let the worst offenders off the hook almost completely, collecting neither fees nor fines for the waste they dumped into the water. The reason is not corruption, but the EPBs sensitivity to the profitability of the enterprises, es-

pecially the state-owned enterprises. These enterprises, the remnants of China’s socialist economy, not only employ large numbers of workers, but also provide housing and social services from birth control and nurseries to funerals and burials, the costs of which are born by the enterprise. Most of these enterprises are large and in heavy industry, and continue to rely on “loans” from state banks to stay open. They also heavily pollute. Because many are unprofitable, they claim they unable to pay the wastewater fees. But when the EPBs are unable to collect the fees, or the additional fines for excessive discharges, the local EPBs do not shut them down because to do so would mean putting unemployed workers out onto the street and risking social disorder (ch. 8).[1]

Given all of this – their impossible structural position, the overwhelming political mandate for economic development, etc. – local EPBs have adopted as their implicit goal not improving water quality, but just keeping it from getting any worse (p. 159).

But even that modest goal probably is not being met, despite figures to the contrary issued by the state and summarized by the authors on page 3. These figures appear to show the “total discharge of industrial wastewater” decreasing from 23.6 billion tons in 1991 to 18.8 in 1997; wastewater treated rising from 63.5 percent in 1991 to 84.7 percent in 1997; and percent of industrial wastewater meeting standards rising from 50.1 in 1991 to 61.8 in 1997. The reason these figures are deceiving is because of the sources of water pollution omitted. First, as the authors note, excluded is the wastewater from township and village enterprises (smallish quasi-collective enterprises) that often are among the absolutely worst polluters in China (pp. 29-30).

But also omitted are discharges from China’s rapidly expanding private enterprises, both those owned solely by Chinese investors and joint ventures with Hong Kong, Taiwanese, Japanese, and U.S. companies. How much waste these firms pour into China’s waterways is unknown. Add to that is China’s municipal wastewater, only seven percent of which is treated (p. 156) and much of which contains industrial waste, and the wastewater coming not just from military bases, but from military-owned and operated enterprises. With all of these additional sources of water pollution, my best guess is that water quality in China is getting worse, not better.

I have to say “best guess” because Ma and Ortolando appear to be interested not in assessing or explaining changes in China’s environment, questions that environmental historians are interested in exploring, but in the

social science exercise of examining the effectiveness of institutions responsible for environmental regulation in China. That is only mildly surprising, since both hold Ph.D.s in civil engineering specializing in environmental issues. Perhaps they are more concerned with measuring inputs than in assessing outcomes, but environmental historians would have been happier had they paid some attention to the story of what actually happened to China's environment in recent decades, and what the prognosis for the future is. But if Ma and Ortolano's findings about wastewater regulation have general applicability to the overall effectiveness of China's environmental protection agencies, then I'm afraid that China is in store for mounting – perhaps catastrophic – environmental problems.

This of course begs the question – which the authors do not address – of the historic genesis of China's environmental problems. Their starting point is China's 1978 economic reforms which unleashed market forces (both international and domestic) and extended private property rights, resulting in "spectacular economic growth...lift[ing] millions out of poverty. But this soaring economic expansion has taken an extraordinary toll on the environment" (p. 1). Fair enough. But pushing the quest for origins further back, what about the environmental horrors of China's socialist/Maoist period, chronicled by Vaclav Smil? [2] Or searching even deeper, what of the legacy left by two millennia of imperial rule and the massive population increase which began about 1700? A recent book suggests some very interesting answers to this question.[3]

My point in raising these questions is not to criticize the authors for writing the book that they did, but to suggest that the question of China's contemporary environmental predicament is exceptionally complex, and any

one trying to puzzle their way through it needs a much broader historical context than the one provided in this book. The broader context is supplied by a final chapter comparing China and the United States.

Who should read (or buy) this book? Someone who wants (or needs) to know about the institutional framework for wastewater pollution control in contemporary China and is willing to read through dense social science prose. This book is not a history and thus lacks a storyline, proceeding instead through analysis of case studies. Those who want a more general overview of environmental issues facing China today are best directed elsewhere. [4]

Notes

[1]. The Chinese government has vowed to sell off or close down all unprofitable state-owned enterprises by 2001, and to pull the plug on the "loans" they get from state banks that keep them operating. Whether that actually happens or not remains to be seen, but if it does, some of China's worst industrial polluters will be shut down.

[2]. Vaclav Smil, *The Bad Earth* (Armonk, New York: M. E. Sharpe, 1984).

[3]. Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000).

[4]. The best single source on Vaclav Smil, *China's Environmental Crisis: An Inquiry into the Limits of National Development* (Armonk, New York: M. E. Sharpe, 1993).

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Citation: Robert B. Marks. Review of Ma, Xiaoying; Ortolano, Leonard, *Environmental Regulation in China: Institutions, Enforcement, and Compliance*. H-Environment, H-Net Reviews. August, 2000.

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