

RESIGNED ACTIVISM

LIVING WITH
POLLUTION
IN RURAL CHINA

Anna Lora-Wainwright

Resigned Activism

Urban and Industrial Environments

Series editor: Robert Gottlieb, Henry R. Luce Professor of Urban and Environmental Policy, Occidental College

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Resigned Activism

Living with Pollution in Rural China

Anna Lora-Wainwright

**The MIT Press
Cambridge, Massachusetts
London, England**

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This book was set in ITC Stone Sans Std and ITC Stone Serif Std by Toppan Best-set Premedia Limited. Printed and bound in the United States of America.

Library of Congress Cataloging-in-Publication Data

Names: Lora-Wainwright, Anna, 1979– author.

Title: Resigned activism : living with pollution in rural China /
Anna Lora-Wainwright.

Description: Cambridge, MA : The MIT Press, 2017. | Series: Urban and industrial environments | Includes bibliographical references and index.

Identifiers: LCCN 2016040529 | ISBN 9780262036320 (hardcover : alk. paper) | ISBN 9780262533850 (pbk. : alk. paper)

Subjects: LCSH: Pollution–Health aspects–China. | Environmental policy–China–Citizen participation. | Rural health–China. | Rural development–Environmental aspects–China. | China–Rural conditions. | China–Environmental conditions.

Classification: LCC TD187.5.C6 L67 2017 | DDC 363.730951/091734–dc23 LC
record available at <https://lcn.loc.gov/2016040529>

10 9 8 7 6 5 4 3 2 1

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Acknowledgments

Pollution appears to be a persistent and pervasive ingredient of many of our lives. In 2016, my native province, Vicenza (Italy), was the subject of intense debate after a study revealed sixty thousand people were “poisoned” by polluted water. London, where I currently live, routinely makes the news for exceeding EU limits on air pollution. News items on pollution in China are almost too frequent to follow. But, of course, pollution does not touch all of us in the same way. Doing research on such a complex and sensitive topic in China required time, patience, and perseverance. There were times when I wondered whether this book would ever materialize. That it did is only thanks to all the support I have received from so many individuals and institutions.

The British Interuniversity China Centre funded a research fellowship at the University of Manchester (2007–2009) during which I first developed the ideas and networks underpinning this book. The Contemporary China Studies Program at the University of Oxford covered the cost of my salary (2009–2011) while I continued to undertake fieldwork and began preliminary data analysis. A grant by the China Environment and Health Initiative (CEHI) at the Social Science Research Council (SSRC) for the project *Citizens’ Perceptions of Rural Industrial Pollution and Its Effects on Health* (RBF/SSRC-CEHI/2008–01–07) supported my fieldwork in Baocun. A British Academy Small Grant for the project *Making Environmental Health Subjects in Contemporary Rural China* (SG091048) funded further fieldwork in Baocun and in Qiancun. The John Fell OUP research fund at Oxford University for the project *Urban Mining, Toxic Payload* funded research in Guiyu during 2012–2013. A Leverhulme Trust Research Fellowship (RF-2012–260, 2012–2013) for the project *Living with Pollution in China: An Ethnographic Perspective* allowed me to take a year of research leave, which was spent in

China combining academic exchange and fieldwork. The Victor and William Fung Foundation supported Luo Yajuan's visit to Oxford in the summer of 2013 during which she capably helped me survey Chinese-language literature on cancer villages. The University of Oxford supported a term of sabbatical in 2013 during which I continued data analysis and writing. Oxford's Contemporary China Studies Program and the *Environmental Cultures Network* (funded by AHRC, ESRC, and HEFCE under the British Interuniversity China Centre phase two) supported two separate events (in 2011 and 2013, respectively), which helped me considerably in advancing my thinking. The Philip Leverhume Prize in Geography, which I was awarded in 2013, funded a further year of research leave that was crucial to my seeing the book to completion. I am grateful to the University of Oxford and to all my colleagues for supporting me during these intense periods of research leave.

The China Environment and Health Initiative provided vital financial support for research in Baocun and Qiancun, but most crucially it also offered the networks instrumental in carrying out fieldwork and data analysis in all three sites. CEHI has worked in close collaboration with Chinese partner institutions through FORHEAD, the Forum on Health, Environment, and Development, which provided an invaluable platform for collaborations in all three case studies, and particularly in Qiancun. Indeed, most of the Chinese colleagues with whom I have worked on pollution and health in rural China were initially contacts made possible by my participation in FORHEAD activities (see the appendix). Jennifer Holdaway, program director of CEHI, deserves a special thank you for skillfully and generously facilitating interdisciplinary collaborations with colleagues in China without which this book would have never been possible. I am grateful for our many stimulating exchanges over the past decade and for her careful and thoughtful reading of my writing over the years. Chen Ajiang, who I met through FORHEAD activities, also deserves a special mention. His diligent in-depth work on pollution in rural China has been a source of inspiration. I am truly grateful to Chen for taking the time to discuss his work on "cancer villages" with me and allowing me to develop my own analysis of case studies originally researched by him and his team, which appear in the second chapter of this book.

During my time in Oxford, I have been fortunate to have the support of many colleagues. Among these are fellow China scholars Karl Gerth,

Elisabeth Hsu, Rana Mitter, Rachel Murphy, Frank Pieke, Vivienne Shue, Tia Thornton, Eileen Walsh, and Xiang Biao, all of whom, in various ways, helped me to refine my thinking. In the school of geography, I am grateful to Andrew Barry, Craig Jeffrey, Linda McDowell, Judy Pallot, and Sarah Whatmore for their stimulating conversations over the years. Peter Wynn Kirby has been a wonderful research companion, providing encouragement and insightful feedback. I benefited greatly from having some excellent graduate students whose projects and thinking intertwined with mine in very productive ways. I am thankful to all members of CHEW (China's Health, Environment, and Welfare research group) for their energy in organizing three conferences so far and creating a forum for debate on these important topics. In particular, I thank Carlo Inverardi Ferri and Loretta Lou who offered incisive feedback on parts of the manuscript.

Beyond Oxford, many colleagues have played instrumental roles at different stages in this project: Deborah Davis, Steve Harrell, Michael Hathaway, Jennifer Holdaway, Sandra Hyde, Arthur Kleinman, Matthew Kohrman, Helen Lambert, Ralph Litzinger, Lu Jixia, Alice Mah, Kevin O'Brien, Bryan Tilt, Benjamin Van Rooij, and Rob Weller all prodded me to develop my ideas further. I am grateful to Fang Jing, Jennifer Holdaway, Lewis Husain, Lu Jixia, and Wang Wuyi for their close reading of chapter 4. I am particularly indebted to Tom Johnson, who patiently, meticulously, and promptly read drafts of various parts of the book. Our ongoing collaborative project on resistance to incineration and rural–urban coalitions has helped to fine-tune my analysis for this book. Joan Martinez-Alier's enthusiasm and interest in my work, and the opportunity to be involved in his project to map global environmental injustice, widened my geographical horizons and helped me understand China's plight in a broader, comparative context (though much of this will have to be saved for another book).

Different incarnations of parts of this book have benefitted from being presented internationally. In the UK and the rest of Europe, I spoke at the Universities of Bristol, Glasgow, Northumbria, Oslo, Oxford, Plymouth, Sussex, Warwick, and Westminster, as well as at SOAS, the Rachel Carson Center for Environment and Society (Munich), the Max Planck Institute (Halle), the Rockefeller Foundation Bellagio Center, and the Ernst Struengmann Forum (Frankfurt). In China, this work was presented at: FORHEAD conferences in 2009 and 2012 (Beijing), Shantou Medical College, and Hohai University (Nanjing). In the US, it was presented at: Yale and Harvard

Universities, the Association of American Geographers Annual Meeting (Seattle 2011) and the Association of Asian Studies Annual Meeting (San Diego 2013). I am grateful to all who attended these events and raised challenging questions.

For research in Baocun, I am immensely grateful to Zhang Yiyun who capably coordinated, arranged, and took part in fieldwork, and to the dynamic Yunnan-based NGO for which she works, YHDRA (Yunnan Health and Development Research Association), which hosted the project. Thank you to Wu Yunmei, who assisted with her admirable fieldwork skills, to Benjamin Van Rooij and Wang Qiliang, for supporting the project at crucial times, and to all other researchers involved in data collection. Benjamin deserves special thanks for initially introducing me to the site, where he had previously carried out his own in-depth fieldwork, and for providing the contacts that made fieldwork there possible.

For work in Qiancun, I am indebted to Jennifer Holdaway at CEHI, and to Wang Wuyi, Yang Linsheng, and Li Yonghua at the Institute of Geographic Sciences and Natural Resources Research (IGSNRR, Chinese Academy of Sciences). They established a unique collaborative relationship with the county government that was instrumental in arranging fieldwork. In Fenghuang, I am grateful to Teng Zhuren and Peng Zhuren—at the county Centre for Disease Control—who were outstanding in their patience and support for our research, and to the Qiancun village doctor for hosting me during my fieldwork. Lu Jingfang was a dream research assistant, and several other students collected helpful additional material and transcribed interviews. Lu Jixia was an ideal research partner, with whom I thoroughly enjoyed trading fieldwork experiences and preliminary analyses.

For research in Guiyu, I am hugely indebted to Li Liping at Shantou Medical College, who made fieldwork possible by mobilizing contacts she had established in the area through her previous research. Professor Li also introduced me to several students who helped with data collection. In particular, I thank Chen Xuanna and her family for their support. Peter Wynn Kirby and Loretta Lou also provided valuable assistance to my fieldwork during 2012.

My deepest gratitude, of course, is to the research participants across the fieldsites, who devoted so much time and energy to share their experiences with me, even when they felt this may be of little help to them. I hope that

my accounts and analysis here do at least some justice to them, even if I cannot give them a voice as such or help to decrease their suffering.

I am grateful to everyone at MIT for their support, particularly to Beth Clevenger and Ginny Crossman for their professional, expeditious, and patient guidance through the editorial process, and to Robert Gottlieb for including the book in his excellent series. Three anonymous reviewers provided extremely useful comments. Ailsa Allen at Oxford offered expert assistance in producing a map.

Last but not least, I owe to my family more than I can put into words. In their own ways, my parents have helped to forge my sense of civic duty, which was a vital ingredient in the inception and completion of this work. My father Roberto worked in a foundry for four decades, witnessing some severe, and yet routine pollution first hand. His keen interest in my project—whether by sharing his experiences or sending me short news articles about environmental injustices in other parts of the world—fueled my sense that this was an important book to write. My staunchly idealistic mother, Liliana, dedicated much of her life to teaching and to the cooperative movement. Through small everyday acts, as well as bolder moves to challenge ignorance, intolerance, and injustice, she has inspired me to take on challenges and persevere when the going gets tough. My sister Elena offered crucial help with finalizing the bibliography and affectionate encouragement throughout. Her dedication to helping vulnerable people through her advocacy work is a strong reminder of what should matter the most in life.

My partner Leon has been a patient, supportive, and inspiring soulmate for almost two decades. He believed I could see this work to the end, even when my own confidence faltered. He was the first to encourage me to travel to China, and indeed it was our trip there together that sealed my lifelong interest in this complex, fascinating country. Thank you Leon for the companionship, the rants, the laughter, the shared dreams. The birth of our son Robin in 2014 has powered me through the final leg of the writing, in an effort to make every hour I spent away from him worthwhile. The arrival of our son Luca just months before the book is published fills me with a renewed motivation to raise questions about injustice, about the uneven burden of pollution, and about the responsibilities governments, businesses, and individuals share in tackling these problems.

Introduction

In the summer of 2010, I was excited to have the first opportunity to carry out fieldwork in Qiancun, a heavily polluted lead and zinc mining village in Western Hunan province (see chapter 4).¹ For three years I had been interested in how residents of heavily polluted areas in rural China made sense of pollution and its effects, and how they responded to them. The previous year, I had done some similar research in Baocun village, Yunnan province (an area affected by phosphorous mining and processing) with support from the first round of the “China Environment and Health Initiative” (CEHI) grants by the Social Science Research Council (SSRC). In that case, the research was a collaboration between social scientists (including myself) and an NGO (the Yunnan Health and Development Research Association), enlisting help from an epidemiologist and public health specialists. We had collected extensive data on how local residents perceived pollution, and on the rise and fall of local activism (see chapter 3). However, due to the sensitive nature of the project and the tentative nature of our local connections, we had decided against collecting scientific evidence of pollution in the area, such as soil and water samples. In many ways, the accounts we gathered and our own immediate reactions during fieldwork—headaches, skin rashes, and nose bleeds—seemed quite evidence enough of the seriousness of pollution. In addition, research at the main village clinic revealed records of illness that the epidemiologist on our team confidently attributed to phosphorous processing. Villagers, however, did not seem to share the epidemiologist’s confidence. The most common attitude toward pollution among locals was a mixture of resentment, resignation—voiced through the ubiquitous expression *mei banfa*, meaning “there is no way” (to end pollution)—and uncertainty over what the effects of pollution actually were. In the absence of data on soil and

water contamination, our project was not in the position to prove the extent of pollution or its effects.

Qiancun was different and potentially unique. For several years, medical geographers from China's Academy of Sciences (CAS) had collected blood and hair samples, as well as soil, water, and crop samples, to examine local people's exposure to heavy metals (see chapter 4). This would, I hoped, emancipate me from the question of "but how bad is pollution, really?"—which I was often asked when presenting the Baocun case—by providing some quantitative data on exposure. CAS scholars had established a remarkably close connection with the county's Center for Disease Control, which, at least for some time, granted access to the fieldsite without the complications I had faced in Baocun. I also expected this would mean that the local population would be more confident and more outspoken as a consequence. To better grasp the social, political, economic, and cultural context surrounding Qiancun's mining activities, the China Environment and Health Initiative supported a collaborative, interdisciplinary project under the aegis of FORHEAD (Forum on Health, Environment, and Development). I joined this team as the anthropologist, with additional support from the British Academy. Social scientists on the research team carried out a week-long pilot visit in July 2010, and I stayed behind to conduct more extensive fieldwork with Dr Lu Jingfang, a rural sociologist who capably helped me negotiate the thick local accent (see chapter 4 and the appendix for a fuller description of the project).²

On the morning of August 5, 2010, the accountant for Qiancun administrative village, a direct and sometimes intimidating woman in her late thirties, came to the village doctor's house in the subvillage of Guancun, where Jingfang and I lived during fieldwork, and offered to take us to the subvillage of Fengcun for some interviews.³ Fengcun is a short walk from Guancun and it is downstream from the main lead and zinc mining area, therefore effects on environment and health are most acute there. We had already begun to do some interviews in Fengcun without the help of village officials over the previous days and found the locals as a whole forthcoming, outspoken, and critical of mining. This occasion would prove rather different. Once we arrived, the village accountant asked a woman who was sitting with others by the roadside to promptly return to her house to be interviewed by us. Fengcun's village head, a tall, thin, and seemingly reserved man in his mid-sixties also joined us. Predictably, we had quite

some trouble getting her to say anything. The answer to most questions was "I'm not sure" (*bu qingchu*).

We soon moved to the next home. Aunt Lin, a friendly but wary woman in her early fifties invited us in. The house had been built five years before with earnings from a mine her husband had opened, and where, we later found out from others, he had died when he had been crushed by falling rock. The furniture was above average for the village, with lacquered wooden sofas and armchairs, a new flat screen TV and a fridge. Her two sons, both in their late twenties, drove a lorry to and from the mines when business was good. But since 2008 the business had come to a virtual standstill. Our attempts to engage Aunt Lin in conversation beyond superficial answers were met with the same stonewalled standard answers. Under pressure from the village officials to do the interview and not waste their time with pleasantries, we raised some basic questions: "Does mining have any impact?" *I'm not sure*. "Does it affect the water?" *I don't remember*. In the hope of engaging our subject more directly, we tried a leading question I am otherwise keen to avoid: "Does mining affect health?" *I'm not sure. I've never thought about it*. Having been told she suffered from rheumatism and having heard many other locals on the previous days suggest a direct link between that ailment and mining, we tried to make the question more specific: "How do you think you've developed rheumatism?" *I have no idea*.

Frustrated as I felt with the stale situation at hand, I brightened up when a familiar face came into the room. The previous day, Haiwei, a man in his early forties, had approached us as we walked along the road to denounce the pollution of the main well in Fengcun, asking us to expose this in the media or raise it with the central government. But on this occasion he too was reluctant to speak. He emphasized that it is difficult to know if mining has had any effect and that there is no scientific evidence of it. He added that mining is good for the area and that it is the only way to make money. After listening to a morning of uncertainty and subdued silence, Jingfang and I thanked the village accountant and subvillage head for their help in finding interlocutors, and they left us to our own devices.

Once the officials left, both interviewees changed their tune radically. Where Aunt Lin had denied even thinking of any health effects from mining, she now offered several examples of illness and death she believed were caused by pollution from mining. She told us that in the past the village

doctor, who died years before, was called upon every day. She also claimed that her rheumatism was due to water pollution, and that so were frequent cases of kidney and gall bladder stones among villagers. Both of them told us that the main well in Fengcun used to be famous in the area for its plentiful fresh water full of tiny shrimp, but that it had been severely polluted and all the shrimp had died. Nevertheless, they argued, all villagers still drink from it. In the half hour we spent by the well, two old men came to collect water and two more came to wash a little further downstream. Interviews with other villagers and participant observation over the course of the following month and during later visits suggested that some of the claims we heard that day were at least partly untrue. For instance, not all villagers drank from this well: many have made efforts to seek other water sources and dug their own wells. Similarly, although these two villagers claimed all the shrimp had died, we could still see some swimming in the well.

The complex nature of these exchanges is telling of the experience of pollution in rural China. Tempting as it might be to regard the exchange in the absence of officials as more valuable or “truer” than responses voiced in their presence, both of them are significant for a social scientific approach. The uncertainty mantra—as I came to call it during fieldwork—is important evidence of how claims about health or environmental damage are politically sensitive, and how such uncertainty is rooted in uneven power relations. Seeming overconfidence and exaggerated claims made in the absence of officials are the reverse of the same coin: attempts by villagers to attract attention and obtain redress while they have largely come to accept that the likelihood of doing so is limited.

This prominent sense of curtailed agency is not the conclusion I expected, much less hoped, to reach in 2007 when I first set out to research how Chinese villagers understand pollution and how they respond to it. One of my key aims was to understand the villagers’ potential role in stopping pollution. My research revealed much more complex dynamics. Villagers’ reactions may range from violent opposition to industry to acquiescence, with strategic reframing of complaints and requests for compensation. This book then outlines the uneven and nonlinear development of villagers’ perceptions and practices related to pollution: how villagers understand pollution and its effects, how they cope with it, how they seek legitimacy for what they consider to be evidence of harm (sometimes

seeking help from NGOs and the media), and how their efforts are often frustrated by local governments, by insufficient scientific evidence, as well as by their own sense of powerlessness. It does so by examining closely three severely polluted villages where I carried out fieldwork and several more “cancer villages” (clusters of high-cancer incidence correlated with pollution) drawing on excellent work by Chen Ajiang and his colleagues (Chen et al. 2013).

Pollution is one of the most pressing issues facing contemporary China and among the most prominent causes for unrest. According to a report by China’s Academy of Social Sciences, pollution triggered half of the “mass incidents” recorded between 2000 and 2013 (cited in Steinhardt and Wu 2015). The Ministry of Environmental Protection’s official recognition of the existence of “cancer villages” in January 2013 (Ministry of Environment 2013a) testifies to the gravity of the problem, not only as an environmental threat, but also as a challenge to social stability, which is a key aim of the Communist Party and one of its core legitimizing principles. The commitment by China’s new leadership to building an “ecological civilization” and to wage a “war on pollution” may be signs of change, yet complex problems may not be solved overnight, nor can the overwhelming focus on economic development be easily reversed.

Indeed, this development strategy continues to have deep effects not only on local political economies but also on the ways in which villagers relate to polluting enterprises. Residents of formerly poor, but rapidly developing and industrializing, areas suffer disproportionately from weak pollution regulation. There, local governments face hard tradeoffs between long-term sustainability and short-term needs to provide employment and support public services. In this context, environmental regulations are largely overlooked because polluting firms provide employment and pay taxes (Tilt 2010). This happens largely with the acquiescence of locals who rely on such firms for employment, raising troubling questions over their potential for aiding environmental protection. As a consequence, in areas where villagers’ role as whistle-blowers is most important, obstacles to community-based regulation are also most acute: these communities are particularly vulnerable to pollution and least able or inclined to oppose it. Two of the case studies in this book—Baocun and Qiancun—are examples of this predicament.

The conditions under which local communities may oppose pollution remain poorly understood. To be sure, existing studies have highlighted a range of factors that serve as preconditions for citizens' action against pollution and contribute in making community-based regulation successful. These include support from the state and civil society organizations, relatively high incomes and education, independence from local industries, and capacity for organization (cf. Munro 2014). Qualitative case studies, however, show that this list of factors is not exhaustive, nor do they influence citizen action in any straightforward way. Villagers have intricate relationships to pollution, and therefore their attitudes and reactions are complex. To understand these complexities, it is necessary to undertake a more anthropological study of how villagers experience and make sense of pollution, what socioeconomic and political relations exist among communities, local officials, and polluting firms, how patterns of action and inaction develop, and how they relate to shifting definitions of health, environment, development, and a good life. This ethnographic lens offers insights into the complex dynamics of popular contention, environmental movements, and how they relate to local and national political economies.

Several statistics about pollution in China are readily available and much reproduced by the media. But what are the human stories behind them? How do those who live with pollution on a daily basis feel about it? What drives (or obliges) them to stay? How might their experiences, concerns, and sense of entitlement to a healthy environment shift over time? Describing a likely widespread scenario across much of industrialized rural China, this book provides a window onto the staggering human costs of development and the deeply uneven distribution of costs and benefits. Overall, it portrays rural environmentalism and its limitations as prisms through which to study key issues surrounding contemporary Chinese culture and society, such as state responsibility, social justice, ambivalence toward development and modernization, and some of the new fault lines of inequality and social conflict they generate.

Living with Pollution and the Changing Parameters for a Good Life

Rural and urban dwellers inhabit hugely diverse positions in relation to pollution and they respond to it in disparate ways (see Lora-Wainwright

2013b). A growing number of media reports have described urban middle-class protests against pollution occurring in, among other places, Xiamen, Shanghai, Dalian, Shifang, Qidong, Ningbo, Kunming, and Maoming. With the exception of protests in “cancer villages,” rural attitudes and responses to pollution have been less visible. This gives the impression that urban China is witnessing the rise of a widespread environmental movement that remains unmatched in rural China. This belief often goes hand in hand with the assumption that villagers are either ignorant of pollution’s effects or that they do not care. Conversely, where rural activism is acknowledged, it is portrayed as a David-versus-Goliath struggle between communities unconditionally opposed to pollution and local governments and industries in cahoots to maintain the status quo, with the latter almost inevitably winning over the former.

This book challenges these assumptions in several ways. First, it shows that, contrary to appearances, villagers’ knowledge of pollution and understanding of its effects is often complex and multi-layered. In other words, a relative lack of action is not a simple consequence of lack of knowledge. Neither do they accept pollution in their vicinity only out of ignorance or out of self-interested economic cost–benefit calculus (though economic considerations are of course important, as the case of Guiyu will show in chapter 5). Their resignation to pollution is due to more complex social, cultural, and political reasons, as well as to the intricate relationships they develop with polluters and with the local state over time (Chen et al. 2013; Tilt 2010; Van Rooji 2006; see also Horowitz 2012). In this context, the underlying (and growing) awareness of pollution’s harm may escalate into violent protests when particular episodes (acid leaks, explosions, or other severe events) bring it to the fore. At the same time, the longer pollution continues, the more villagers come to regard it as inevitable, and learn to adjust their expectations and demands accordingly. It is to the fluid interplay of activism and resignation that this book turns.

Second, and related, this book puts forward a more emic analysis of how villagers themselves evaluate (in nonrational choice terms) the costs and benefits of the development often coupled with pollution. The result is a co-opted environmental health consciousness: an awareness of pollution’s harm on environment and health mixed with disempowerment to oppose it. This is a poignant manifestation of environmental injustice: not only do villagers live with pollution, but they do not feel entitled to demand any

better. It highlights the difficult compromises those who live in the shadow of industry have to make. Yet, if we are to understand their experiences more fully, we need to interrogate how their parameters for a good life may have come into being, rather than emphasize injustice from a normative perspective. Indeed, for those who live with contamination, toxicity is part of their natural environment, what I refer to as “toxic natures.” If pollution is part and parcel of nature, its bodily effects also come to be regarded as normal. Over time, local populations adjust their parameters for a good life to include pollution. With this in mind, their experiences of pollution and their responses need to be understood within the broader context of the many other challenges they face. Against purely economic analyses, this book shows that forms of engagement with pollution are not only economic decisions but also deeply social and moral ones.

Third, the book looks beyond high-profile cases of successful resistance and focuses on the much more common scenarios in which pollution victims suffer in silence, are unsuccessful at ending pollution, are co-opted into seeing it as inevitable, or draw economic benefit from polluting activities. Recent scholarship has rightly highlighted the importance of the media, litigation, and environmental NGOs as tools in citizens’ environmental struggles (see chapter 1). Much of social science research on environment and health in China to date focuses on localities and cases where environmental threats have fairly clear health effects and have led to contention (Holdaway 2013). By contrast, although most environmental suffering takes place far from the purview of journalists, courts, and NGOs, the daily grind of “living with pollution” has received scant attention. As a consequence, with the exception of “cancer villages” (which have succeeded in attracting attention), rural environmentalism is more likely to remain invisible. This book attends to these less visible forms of environmental suffering. This requires a rethinking of existing environmental justice models, to better grasp the origins of resignation and scenarios in which the line between victims and beneficiaries is blurred. In doing so, the book develops a more nuanced perspective on citizens’ agency and revisits concepts drawn from collective contention and comparative environmental justice. The concept of resigned activism may be useful to understand the nuances of their experiences and reject romanticized notions of peasant resistance.

Fourth, focusing on single strategies—whether they be resorting to journalists, scientists, or other “experts,” NGO campaigners, petitions, litigation, or violent protests—only produces a partial view of how communities experience pollution and deal with it. This book by contrast zooms in on three particular communities and examines their attitudes and responses in a longer time frame. At times, villagers may become staunch defenders of polluting businesses and, conversely, at other times, they may display great resilience and creativity in their opposition to pollution. A detailed account of each strategy embraced in the three sites is beyond the scope of this book—indeed, this would require an entire monograph devoted to each site. Instead, the book highlights modes of “living with pollution” that would be less visible if the emphasis remained on collective action. It accounts for how concerns are shaped, how entitlements change, and how those who live with pollution learn to adjust their expectations and their demands. It maps out an uneven terrain in which citizens are concerned with environmental health threats, are diversely positioned to overcome them, and embark upon varied pathways of action to protect themselves individually, as a family, or as a community. In turn, villagers emerge not as stable subjects, but as involved in ongoing processes of negotiation with their families, neighbors, the polluting firms, various levels of the state, and a range of outsiders.

Resigned Activism

The seeming oxymoron at the very center of this book—resigned activism—is perhaps best elucidated by my experience in Baocun village (see chapter 3). Baocun was originally selected as a fieldsite based on previous excellent in-depth research in the field of political and legal studies that suggested there had been limited instances of environmental activism in the area (Van Rooij 2006). The premise of our fieldwork there was to understand why a community living with severe contamination did not oppose it. The research team and I were predictably surprised, therefore, when we discovered that Baocun had actually experienced decades of activism (albeit localized in nature), starting soon after the local industry began to operate. Why was there such a discrepancy in our findings? Different methodologies and interview techniques go some of the way to answering this question. Researchers’ own biases about how activism is defined and what may be

included of course influence the way we raise questions about it and the answers we receive. The open line of questioning we adopted during fieldwork allowed research participants to interpret questions such as “what can be done” about pollution as they chose and elicited descriptions of past protests, petitions, and blockades that they may not have volunteered otherwise. Specific questions about whether locals engaged with the political process or resorted to legal pathways in response to pollution may not have triggered these accounts because (as we came to learn) locals discounted these efforts as futile. By contrast, a more open discussion about pollution in the context of everyday life enabled research participants’ dissatisfaction and sense of frustration to surface more easily, even where they may have felt that their responses had limited outcomes.

Most crucially, however, this discrepancy is derived from a conceptual blurring between resignation and activism apparent in all the fieldsites. Indeed, the fact that Baocun could seem both acquiescent *and* activist presents an important lesson: surely the boundary between these two attitudes and forms of engagement is not as clear as we may have assumed. An anthropological sensibility to the primacy of locals’ own categories and experiences allowed this blurring to emerge clearly during fieldwork and subsequent analysis. In turn, the co-presence of resignation and activism demands that we situate the whole spectrum of attitudes and reactions to pollution vis-à-vis complex, shifting, and uneven social, cultural, political, and economic contexts. Why does such blurring take place and with what effects?

The expression *mei banfa*, meaning literally “there is no way,” was the most common reply I received when, in the context of discussions of pollution with villagers in all three sites, I asked the open question “what can be done?” (*zenme ban?*). It was so prominent that I considered adopting it as the first part of the book’s title. Ultimately, I decided against it because a simplistic reading of this statement would result in an incomplete characterization of the more layered entanglement of perceptions and practices at play. Upon an initial and superficial analysis, the frequent declaration *mei banfa* may seem to portray a situation in which subjects are determined by their contexts, where social reproduction and structural constraints leave no room for agency. The implications of these statements, however, are more complex than they may at first seem. As uncompromisingly defeatist as *mei banfa* sounds, it should not be taken at face value. *Mei banfa* does not

literally mean that people have done nothing and intend to do nothing to engage with pollution. It does not mean that their actions have had no effect, or that they necessarily *believe* that their actions have no effects at all. Rather, it is a way to convey their own feelings of powerlessness: to emancipate themselves from the expectation (from themselves, their family, the community, the anthropologist) that they may be personally responsible for effectively curbing pollution. It is a means through which they comfort themselves about the limits to their agency.

In his 2010 book, Steve Lerner examined a dozen cases of what, following environmental activists, he calls “sacrifice zones”: locations across the United States that are disproportionately affected by pollution. He explained that residents of sacrifice zones endured severe pollution until their “rude awakening” (Lerner 2010, 8) prompted by events such as “the discovery of a cluster of pollution-induced illnesses or the release of a report or newspaper article revealing the extent of the contamination” (9). This in turn galvanized residents to organize and resulted in grassroots environmental justice struggles. Phil Brown (2007) described similar processes underlying the development of “embodied social movements” and “popular epidemiology”: individual awareness of pollution is followed by the social discovery of a disease cluster and the politicization of the local community. Similar dynamics are documented in the Mississippi chemical corridor (Louisiana) that has come to be known as “cancer alley” (Allen 2003; Lerner 2005; Ottinger 2013) and in other locations across the US (Brown, Morello-Frosch, and Zavestoski 2012; Kroll-Smith, Brown, and Gunter 2000; Little 2014), and beyond (Auyero and Swistun 2009; Das 2000; Fortun 2001; Mah 2012; Kirby 2011; Petryna 2002).

By contrast, this book shows that there is no inevitable linear development leading from the discovery of pollution’s detrimental effects on the environment and health to the formation of collective identity, the politicization of the local community, and the emergence of citizen-expert alliances. Routine pollution and acute events (such as the explosions in Baocun) alarm local residents and may sometimes prompt localized political acts such as small blockades, protests, and petitions. However, such acts rarely escalate to higher levels (with the exception of some petitions in Qiancun, as we shall see in chapter 4), infrequently involve obtaining the support of scientific experts, or succeed in attracting substantial redress. Studies of environmental injustice understandably tend to focus on the

mechanisms through which activism develops and to examine its effects. Less attention is given to fatalism, resignation, and to the processes through which pollution becomes rooted in local communities. Alternatively, where the absence of sustained collective action receives attention, it is often explained as a direct consequence of the locality's economic dependence on polluting activities. Against these trends, this book asks: What about communities that instead of coming together against pollution are torn apart by it? What about a wider range of activism that includes its less visible forms? What about resignation? How is resignation shaped by dynamics beyond simple economic dependence? How does uncertainty of the kinds described in the opening vignette come into being and with what effects?

The term "resigned activism" serves as a conceptual tool to attend to subtle shifts in parameters and expectations, and to the diverse forms of environmental engagement they support. It encapsulates a spectrum of perceptions and practices comprising acts that may fit the conventional label of collective environmental contention, such as protesting at the factory gates and filing petitions. But it also includes less confrontational and more individualized or family-oriented strategies aimed at minimizing pollution in one's immediate surroundings: closing the windows at night to limit exposure to fumes; wearing masks; buying bottled water, at least for children; sending children and pregnant women to live elsewhere; quitting the most harmful jobs; or discursively defending one's own work as less harmful than that of others. Of course, most of these actions do not amount to collective resistance. Bryan Tilt (2013) described similar patterns as part and parcel of a wider trend toward "individualisation" in Chinese society (Yan 2009), ways of countering pollution on an individual or family basis rather than as a community (see also Lora-Wainwright 2013d). Conventional approaches to environmental activism would neglect these practices as inconsequential by virtue of their limited political momentum and absence of collective spirit. However, the seeming absence of collective action against pollution should not be a reason to ignore subtler, less visible forms of environmental engagement. These practices may not present the characteristics of a full-fledged environmental movement, but their effects are no less significant, even if those effects are more on the individuals themselves than on the context they may have originally wished to change.

In this guise, activism comprises the small steps individuals and families take in order to minimize the physical, psychological, and social effects of pollution. It includes individual efforts to alter one's most immediate circumstances (the air inside one's home, for instance) and to protect one's family, but also shifts in attitudes and expectations to accommodate and normalize pollution. The power and effects of these processes of attunement may only be grasped through an examination of the wider challenges people face and how they intersect with the gradual and deep embedding of pollution. This requires a holistic approach to health, environment, and development as they intersect in locals' lives. Rather than assuming a normative definition of healthy environments and healthy bodies, researching resigned activism in severely polluted localities demands that we take seriously locals' own diverse languages of valuation (see Guha and Martinez-Alier 1997), and what has come to be considered as a healthy—or at least a bearable—environment in the context of toxic natures. These adjusted expectations, rather than economic dependency alone, powerfully affect the forms that activism may take.

This suggestion has broader conceptual implications for the study of environmentalism. It demands that we attend to environmental concerns and environmental activism that may be present in unexpected and less visible forms. Indeed, it requires a redefinition of activism that would allow a study of these less obvious forms of engagement. This approach entails combining attention to resilient forms of activism and the often slow process through which environmental plight may become embedded and normalized, or, to borrow Gramsci's (1971) terminology, "hegemonic." However, as this book shows, the hegemonic nature of pollution is not static. Following Raymond Williams' (1977) influential critique of Gramsci's concept: "A lived hegemony is always a process ... It is a realised complex of experiences, relationships and activities, with specific and changing pressures and limits ... It has continually to be renewed, recreated, defended, and modified. It is also continually resisted, limited, altered, challenged by pressures not at all its own" (112). Similarly, resigned activism and living with pollution encompass complex, multiple, diachronic, and contested processes through which pollution is both challenged and naturalized, as locals' parameters and their expectations shift.

The process of altering one's demands in response to circumstances was perhaps most famously studied in social science circles by French

sociologist, anthropologist, and social theorist Pierre Bourdieu. Throughout much of Bourdieu's extensive corpus of scholarship, he elaborated conceptual tools such as the *habitus*, taste, and the "feel for the game" (1977, 1984, 1990), which in various ways make sense of the processes of social reproduction, of the ways in which individuals are complicit in entrenching their own social position by taking their entitlements (or more pertinently, their lack of entitlement) for granted and adjusting their expectations to the *status quo*. Bourdieu refers to these dynamics as "symbolic violence." The term describes subtle and implicit processes of naturalization and legitimizing of unequal power structures (1991, 51). Through symbolic violence, subordinate social groups are rendered doubly powerless: they are in a structurally disadvantaged position and they come to accept their inferiority as normal (1990, 118).

Bourdieu has been often criticized (unfairly, at least in part) for presuming too much stability and precluding the possibility of agency.⁴ While his interests lie predominantly with processes of social reproduction rather than social change, his attention to subjects' practical logic—similar to players who learn to anticipate where a game might go and to follow its rules—also highlights flexible forms of agency. The physical—if slow—violence of living with pollution is combined with symbolic violence to the extent that people have learned to take it largely for granted and to adapt their expectations to seemingly inevitable circumstances. But residents of highly polluted sites in China's countryside also attempt to craft a better future for themselves and their families, however circumscribed they may be. Their agency may be tactical rather than strategic—typical of those who cannot transcend their conditions (De Certeau 1984, 37)—but it nevertheless deserves attention.

Processes of attunement to pollution are not only social, cultural, political, and economic, but they are also powerfully and inextricably embodied. Indeed, engagements with pollution affect not only expectations about what counts as a healthy body, but also what a healthy body *is* in the context of toxic natures. Margaret Lock (1993) elaborated the influential concept of "local biologies" to make sense of cultural and biological differences in experiences of menopause in Japan and North America. She argued that the diversity in symptoms reported among women in these two contexts were not only to do with culturally specific understandings of menopause, but also with biological, embodied differences, potentially rooted in

different diets. The concept of local biologies suggests that culture and biology are coproduced; they both shape experience and this in turn shapes discourses about the body.

Where Lock noted the development of local biologies that are spatially discrete, this book portrays local biologies that develop diachronically in the three research sites. Locals reported that symptoms that affected them at first (for instance, nose infections in Baocun and Guiyu) no longer troubled them after some time. Migrants were presented as the clearest evidence that one can “get used to pollution,” as their initially acute symptoms abated with time. The alleged decrease in symptoms may be to do with bodies’ attunement to their surrounding toxic natures. Perhaps the loss of some respiratory function due to chronic and acute exposures resulted in less prominent symptoms. Exposure to pollution rendered local residents seemingly immune to its effects. But such physical immunity is also inextricably psychological and social: chronic and common symptoms ceased to seem significant. Local biologies in these severely polluted sites consist of bodies *and* minds attuned not to notice pollution’s effects, not to dwell on them because they are widespread and seemingly inevitable. These shifts in perception, experience, and expectations are part and parcel of the forms of resigned activism described in this book.

Limitations and Reflections

Carrying out research in China as a foreigner has its complications. On the most basic level, needing a visa and other approvals by local governments overseeing the research location means networks need to be in place and sometimes lengthy negotiations need to be undertaken in order to secure access. Of course, Chinese scholars also face many of these difficulties. Being physically more remote from fieldsites than Chinese collaborators and colleagues adds a further burden when it comes to coordinating research schedules and sharing analytical perspectives—something that is much more easily done in person or at least with the benefit of geographical proximity. When research concerns highly sensitive topics such as rural pollution, health, and activism, these complications increase significantly. Access to fieldsites has to be negotiated carefully and patiently, and may in fact never materialize, or cease to be feasible at certain times, as was the case in Qiancun.

While Chinese researchers face similar obstacles in researching sensitive topics, the consequences differ markedly. At worst, a foreign researcher may be deported and denied access to the country in the future. Chinese nationals may face more severe repercussions. Therefore, participating as a foreigner in projects that involved Chinese colleagues and collaborators in the respective local governments required added care to minimize the chances of my involvement jeopardizing their positions. This meant that the relative freedom with which I undertook fieldwork previously, even on sensitive topics such as forced relocation, was considerably curtailed.

Leading or participating in research projects populated largely by Chinese colleagues has put me in a position of relative privilege when it comes to analyzing the findings and reflecting on these projects in English-medium publications. I am keenly aware of this imbalance. To address it, I have previously published in conjunction with some of my closest collaborators (see for instance Lora-Wainwright, Zhang, Wu, and Van Rooij 2012; Lu and Lora-Wainwright 2014) and have sought to consult colleagues as I revised this book's manuscript. Nevertheless, I make no claim to offer an objective account encompassing the views of all colleagues who took part in these projects. Interpretations remain, of course, my own, and I am fully responsible for any omissions or partial representations.

Last but certainly not least, I am painfully aware of the imbalance between those I describe in this book, who by and large continue to suffer from pollution, and the academic standing I may derive from writing about them. For those who endure severe pollution, reflecting on its effects can be very excruciating and disheartening. For me, it was often heartbreaking to listen to their stories, their anger, their disillusionment, and their hopes for a better life without being able to offer comfort or help, whatever that might mean. I open this introduction and the following three chapters based on my case studies with personal reflections and notes from the field, in the hope of taking the reader closer to the experience of "being there," which is so central to anthropology. But I made a conscious decision not to take a more prominently self-reflexive stance throughout the book. This is not to deny that I am the architect of the arguments I put forward, or to pretend I have produced an objective account of what I witnessed. Rather, I do so to avoid my own experience taking center stage and detracting from the rightful subject matter: the experience, suffering, and practices of those whom I describe.

Chapter Summaries

Chapter 1 situates the book within a broad range of relevant literature. In the first part, it engages with social science of environmental health and environmental movements, particularly about the study of social movements, varieties of environmentalism, complexities in environmental health, and the role of citizens in contesting them. On this basis, it proposes a diachronic focus beyond single strategies and attention to the processes through which environmental concerns are formed and their complex interplay with local contexts. It calls for a more emic approach to how local communities value environment and health within the broader context of their everyday lives, and how and why these values may change over time. It presents “resigned activism” as an analytical tool for bridging analyses of activism and resignation, and for showing how they merge across a wide range of villagers’ attitudes and everyday practices. In the second part, it outlines China’s major environmental challenges and rising forms of environmentalism, including a broad set of actors. It suggests the need to shift the focus away from formalized and organized environmental activism—resulting in numerous studies of NGOs—and to examine more routine and often invisible forms of environmentalism emerging in rural areas, as well as the reasons why such concerns may be downplayed or silenced.

Chapter 2 examines the emergence of China’s “cancer villages”—village-sized clusters of high cancer incidence—and their significance. It overviews how media accounts discursively shaped their social, political, and epistemological nature. It develops a typology of “cancer villages” based on a close analysis of a selected number of cases examined in recent qualitative research by the leading sociologist of rural pollution in China, Chen Ajiang, and his team (Chen et al. 2013). These relatively high-profile, politically active cases provide a useful background against which to compare the less visibly active case studies examined in later chapters. They illustrate a broader range of activist practices, but they also show that such strategies are often ineffective. Ultimately, these examples suggest that the term “cancer villages” is not an epidemiologically uncontested label, but rather a cultural, social, economic, and political phenomenon. Further, they prove that scientific evidence is not the most important element in gaining redress. Rather, it is the socioeconomic contexts, the persistence of

the local population's complaints and their ability to threaten social stability, which largely determines the ways in which polluting firms and the local government may respond. This point is further supported by the book's three case studies, in which scientific evidence plays a relatively minor role in villagers' reckonings about environmental health effects and in their demands for redress.

Chapter 3 begins to flesh out the contours of resigned activism through the case of Baocun village, a major site for phosphorous mining and fertilizer production. It shows how industrialization deeply diversified the local population, ranging from poor migrants to wealthy business owners, and bore unequal effects on them: while some are better positioned to take advantage of opportunities, others suffer a precarious existence affected by socioeconomic marginality and the slow violence of unaddressed environmental hazards upon their health. It focuses most closely on unfolding processes of resignation among the migrant population—who stand to suffer the most from pollution—and poor locals. The chapter illustrates how financial dependence on polluting activities is a form of “disaffective labor” (cf. Hardt 1999) that pushes migrant workers and poor locals to take pollution and their precarious position for granted. They regard toxicity as a part of the natural environment and environmental afflictions on the body as “normal.” In this context, the value of life and parameters to define it are slowly but firmly altered.

Chapter 4 describes the evolution of lead and zinc mining in Qiancun village and its effects. Mining contributed to the entrenchment of socioeconomic stratification, as well as to the shifting and uneven effects upon environmental health. It affected livelihood pathways available to the local population, their perceptions of the benefits and effects of mining, and the ways in which they valued the environment. This chapter takes a closer look at how dynamics of resigned activism overlapped with marginalization and accusations of “madness” waged against one of the foremost figures in local activism. It explores the intersections between one issue that particularly troubled locals—provision of safe drinking water—and local politics and the lack of trust in local officials. Locals' efforts to secure safe drinking water also threw into sharp relief their inability to coordinate effectively, which reinforced feelings of resignation. Finally, the chapter elucidates some of the dynamics animating the interdisciplinary project of which my fieldwork was part and some of the elements that shaped what

experimental intervention pathways were explored and embraced at an early stage in this ongoing project.

Chapter 5 examines a third case study that differs in important ways from the first two studies. Unlike Baocun and Qiancun, Guiyu town is a well-known, indeed notorious, environmental health hotspot. Pollution is caused by a vast and complex cottage industry processing electronic waste. Chapter 5 explores how such “e-waste work” became closely embedded within the local community, family and social relations, as domestic and work spaces were inextricably blurred. It disaggregates the black box of “e-waste work” to show how it evolved over time, the great diversity that composes the sector, how the government attempted to regulate particular activities within it, and why their efforts were not fully effective. It shows that, as in Baocun and Qiancun, the economic benefits and environmental costs of these activities are unevenly distributed. By describing a range of diverse e-waste workers engaged in a spectrum of more or less polluting work, the chapter illustrates how locals fashion counter-discourses of relative harm to excuse their practices and avoid blame. In these circumstances, as in Baocun, toxicity is naturalized, and parameters of health are adjusted to normalize and accept widespread pollution-induced ailments.

The conclusion draws comparisons across the three sites and it highlights common dynamics and processes, such as the normalization of pollution, and the molding of new parameters of health and new expectations for a “good life.” It closes by returning to the main themes of the book and to their implications for the social science study of environmentalism and of contemporary China. It reflects briefly on the wider global responsibility for the forms of pollution and suffering described, on the importance of looking beyond conventional forms of activism, and of taking local contexts seriously. It puts forth some suggestions for how academics might contribute to empowering communities affected by pollution.

1 Situating the Study of Rural China's Environmental Health Activism

"Pollution affects health. So what? Nobody asked you to be born in this village. Living here has benefits and drawbacks. The drawback is pollution. ... I live as long as fate allows (*huo jitian suan jitian*). ... So if I have to breathe this poison I don't care, that's how we live."

—Fifty-four-year-old woman with a low income, Baocun, May 19, 2009.

Environmentalism, Health, and Activism

Social Movements, Resistance, and Acquiescence

The study of social movements and resistance provides a useful broad framework for the study of environmental health activism (below I expand the excellent overview by Klawiter 2008). The field developed significantly over the past half century. The theorization behind early social movements was rooted in positivism and neoclassical economics, and therefore treated actors as rational self-interested individuals who participate when benefits outweigh the costs. This intersected with resource mobilization theory (as exemplified by Tarrow 1983), which emphasized the importance of resources to the rise of activism, but did not examine in detail how and why movements develop. Political process theory expanded this approach by stressing the importance of political opportunities structures to mobilization (McAdam, McCarthy, and Zald 1996). While these approaches focused largely on material and structural elements, later scholarship highlighted that efforts to craft a shared understanding of a problem, that is, how grievances and responses were socially constructed, or "framed," played a crucial role in mobilization (Snow and Benford 1992). Perceptions and ideas, in other words, are important drivers (or inhibitors) of activism (Gould, Schnaiberg, and Weinberg 1996; Jasper 1997). Combining insights from this literature, this book will explore the importance of material and

structural elements as they intersect with knowledge formation and framing in order to understand approaches to pollution and forms of action and inaction as they develop over time.

Early social movements theories have been variously criticized for their overwhelming focus on the state as the target of social movements, the scant attention to conflicts within movements, and the lack of a nuanced analysis of the relationship between suffering, subjectivity, and social movements (Klawiter 2008, 13). The turn toward the study of New Social Movements was a reaction to this bias. Partly claiming to reflect the rise of new movements (for instance, those to protect human rights, to advance civil rights, and to promote gender equality), and partly offering a new approach to examining movements as a whole, New Social Movements scholars placed the focus on identity and on the body as a site of contention (Mellucci 1989). Unlike working-class movements demanding redistribution of resources, these movements engaged in the “politics of recognition” (Fraser 1996). The suggestion of a categorical shift from politics of redistribution to politics of recognition however is one-sided. Klawiter’s study of advocacy surrounding breast cancer in the US shows that movements may be at once about redistribution *and* recognition; they may target the state alongside other institutions. Similarly, as Phil Brown (2007) shows, those who join “embodied health movements” around asthma, cancer, and Gulf War Syndrome seek recognition, but they also complain about the unfair distribution of hazards. This book takes these critiques on board and illustrates the ways in which these concerns with redistribution and recognition may clash and collaborate. It shows how the dynamics behind the rise and fall of environmentalism have many more counterparts than the state or even the polluting companies. Understanding these dynamics requires a study of community cohesion and tensions, conflicts of interests, and conflicts over the uneven distribution and spread of benefits and harm.

One innovation in the New Social Movement scholarship that is crucial to this book is the focus beyond single strategies, such as protests, to a much wider repertoire of action. This may include protests, sit-ins, court cases, marches, more diffuse communication processes across multiple locales, use of mass media and new technologies, and engagement with scientists, NGOs, and various government departments (Leach, Scoones, and Stirling 2010, 147). These different spaces and modes of mobilization

affect the ways in which problems are understood and what is seen to count as evidence of a problem at all. Likewise, growing scholarship on coalitions moves beyond a focus on single tactics and localities to examine “the production of a new connection between previously unconnected sites” (Tilly and Tarrow 2006, 31), contributing to the “scaling-up” of localized concerns into environmental networks and broader social movements (McAdam and Boudet 2012; Saunders 2013; see also Gottlieb 2002). The term “mobilizing citizens” portrays citizens as knowledgeable actors engaged in a dynamic, networked politics, involving “shifting and temporary forms of social solidarity and identification” and local, national, and global networks (Leach, Scoones, and Stirling 2010, 141; see also Leach and Scoones 2007).

A fuller understanding of social movements can only be achieved by also examining what is commonly regarded to be their diametrical opposite—acquiescence—and the conditions under which it is sustained. Italian Marxist theorist and prominent political figure Antonio Gramsci (1971) proposed the concept of hegemony to refer to instances where domination takes place not by force but by consent. Attending to similar dynamics, John Gaventa opened his widely acclaimed study of quiescence and rebellion in an Appalachian valley with the question: “Why, in a social relationship involving the domination of a non-elite by an elite, does challenge to that domination not occur?” (Gaventa 1980, 3).¹ Quoting Steven Lukes (1974, 23), Gaventa explained the workings of power as follows: “A may exercise power over B by getting him to do what he does not want to do, but *he also exercises power over him by influencing, shaping, or determining his very wants*” (Gaventa 1980, 12, his emphasis). Eventually, Gaventa argued, B begins to withdraw unconsciously, due to his or her “sense of its own powerlessness” (17), coupled with a history of withdrawal. The sense of powerlessness is historically formed, through past experiences of defeat. As a consequence, B may not act because he or she has learned to view “the order as immutable or through lacking conceptions of possible alternatives” (20).²

Exploring some of the vast sociopolitical space between activism and resignation, James Scott (1985) famously highlighted less visible, everyday “small acts of resistance” such as irony, satire, foot-dragging, and sabotage, which he termed “weapons of the weak.” Against Gramsci, he argued that such everyday acts show that subaltern subjects have not fully consented to

domination. Like Scott, I am interested in the space between domination and resistance and in challenging their dichotomy. However, instead of only focusing on resistance, I examine various forms of activism alongside resignation and the feelings of powerlessness described by Gaventa. Most crucially, I argue that more attention is required to the processes through which activism is shaped (both in its aims and its forms), as well as to how expectations shift to accommodate resignation. Accounts of the three core case studies reveal that locals' concerns are not always unified and that mobilization efforts are uneven across the socioeconomic spectrum and through time.

Varieties of Environmentalism

Environmentalism is globalized in two senses: vertically because of concerns with global justice, and horizontally because it emerges in different places (Walker 2012). It involves broader, sometimes globally oriented “not-in-anyone’s-back-yard” (NIABY) coalitions concerned with the transfer of hazards to poorer regions or countries in the global South (Bullard 2000; Carmin and Agyeman 2011; Clapp 2001; Pellow 2007). Likewise, those who study environmental justice movements have advocated an analytical framework that sits between militant particularism and theoretical universalism (Schlosberg 2007) and examines the multiple “spaces of environmental justice” (Holifield, Porter, and Walker 2010). This book contributes to these debates by showcasing the development of a silenced, largely invisible environmentalism in rural China. Two of the cases—Baocun and Qiancun—may seem to fit the label of NIMBY (not-in-my-back-yard) movements, but I show that their connotations, structural contexts, strategies adopted, and outcomes are rather different than US-based studies might suggest (e.g., Lerner 2010), raising questions about the applicability of theoretical models based on cases from the global North to the Chinese context. When judged according to normative standards of what may count as success for an environmental movement—the ability to decrease or cease pollution—these practices may seem largely ineffective, but I show that they nevertheless exerted vital effects upon locals' lives.

The idea of “environmentalism of the poor” (Guha 2000, Guha and Martinez-Alier 1997, Martinez-Alier 2003) was put forward in part to tackle differences between environmentalism in the global South and the global North. It suggested that while Northern environmentalism is largely

premised on post-materialism (i.e., concerns with the environment only emerge when material needs have been met), Southern environmentalism is premised on regarding the environment as a source of livelihood. This form of environmentalism focuses on social justice, claims to recognition and participation, and efforts to defend indigenous land rights and preserve their livelihoods against mining, dams, land grabs, oil, and gas exploitation (Bebbington, Hinojosa, Bebbington, Burneo, and Warnaars 2008; Bebbington, Bebbington, Bury, Langan, Muñoz, and Scurrah 2008; Bridge 2004). While it is important to avoid using environmentalism in the global North as a blueprint for environmentalism elsewhere, this portrayal is one-sided for three main reasons. First, Northern environmentalism—to the extent that it can be regarded as a coherent movement—is not always and only driven by affluence or self-indulgence and may also involve opposition to environmentally destructive facilities (Horowitz 2012). Second, environmentalist ideologies and practices do not only travel from the global North to the global South, but rather “environmental winds” move much more fluidly in several directions (Hathaway 2013). Similarly, environmental concepts flow between academia and activist circles and across regions through multiple networks and learning processes (Martinez-Alier 2014; Martinez-Alier et al. 2016). Third, and most relevant for this book, the implication that the poor always resist environmental degradation and protect nature is a romanticized portrayal that ignores that local communities have mixed views of development, and they may be victims of pollution as much as they are complicit in it or even perpetrating it themselves (Kirsch 2007). Celebrating “ecosystem people” as alternative authentic voices may result in ignoring diversity and darker elements of their discourses (Williams and Mawdsley 2006, 668).

This criticism may be leveled at the concept of environmental justice as a whole: to the extent that it relies on self-definitions of victimization, environmental justice may ignore those who suffer from pollution but do not necessarily self-define as victims. This point may be extended to any uncritical study of grassroots environmentalism. The term itself implies a populist movement among the masses against ‘big powers’ like industry or the state. Yet dynamics are more complex: investors and workers may be among those fighting pollution, movements are full of tensions and conflicts, and they may be better characterized as sporadic and short-term rather than as sustained resistance (Gould, Schnaiberg, and Weinberg 1996). Based on

their case studies, Gould, Schnaiberg, and Weinberg argue that opposition to pollution focuses on health concerns instead of development only when there are other options for development, otherwise residents are likely to accept the facility (187–188). This is an important point, but, as this book shows, concerns with health and the environment may continue to coexist alongside the desire for development. Even when residents no longer demand that industry should protect environment and health, their concerns persist and may take the form of more individualized responses to protect themselves and their families from pollution. More crucially, these dimensions of life are not so easily separated. In light of such insights, this book avoids drawing general conclusions as to whether the poor or the wealthy care more for the environment, but rather focuses on how different communities and their members regard the environment and their health, how they define what is worth protecting, what they regard as the problem, and what solutions they envision and embrace. Similarly, the success of environmental action should be assessed according to the aims set by participants rather than against a predefined standard. Their ideas of what may count as success vary through time, depending on the outcomes of previous actions (Lora-Wainwright et al. 2012).

Indeed, one vital contribution of the environmentalism of the poor approach is to highlight that there are different languages of valuation (Guha and Martinez-Alier 1997). Environmental movements sometimes resort to a language of economic valuation (for instance, demanding compensation for externalities), but they may also use the language of sacredness and of territorial and human rights. It is equally vital to examine how justice and fairness are defined. As Amartya Sen put it, “we can have a strong sense of injustice on many different grounds, and yet not agree on one particular ground being *the* dominant reason for the diagnosis of injustice” (Sen 2009, 2). Likewise, definitions of justice vary in different contexts, and depending on whether they are formulated by communities, campaigners, legal systems, or compensation mechanisms (Schlosberg 2007). This demands taking a step back and questioning given definitions, and examining instead how justice, fairness, and moral behavior are defined by villagers who live with pollution. This also enables a more nuanced approach to villagers, not simply as victims, but as subjects who inhabit complex positions vis-à-vis pollution.

Given these complexities, a detailed and diachronic study of the contexts of environmental concerns and environmental movements is crucial.

The broad field of political ecology highlights how unequal power relations produce particular discourses on the environment and subjects endowed with the power and responsibility to safeguard what is deemed worthy of protection.³ Arun Agrawal's study (2005) of how Kumaon villagers (North India) became party to forest conservation is a classic example of these processes. It outlines the historical and contingent emergence of "environmental subjects" who care for the environment and see themselves as the guards of local forests. In a similar way, this book traces the emergence of different types of environmental subjects across the three sites. These environmental subjects do not necessarily care for the environment in a conventional sense. At particular points in time, they may demand a clean environment, but at others they participate in reconfiguring the value of the environment as a source of profit and a resource to be exploited rather than a communal good to be protected.

To understand these processes, I do not postulate actors with already fully formed opinions, but rather build on Agrawal's work on the formation of environmental subjects to ask such questions as the following (2005, 164): "When and for what reason do socially situated actors come to care for, act, and think of their actions in relation to something they define as the environment?" Also based on Agrawal's work, we may ask how and why, conversely, do people come to view pollution as inevitable? These complexities demand a study of how particular environmental subjects emerged in response to the local context. How are their interests defined? How do they develop over time? What elements influence attitudes to the environment and how do they intersect with attitudes to development? In turn, this approach enables a more nuanced approach to the relationship among villagers, polluters, and the local state. It allows us "to dissect simplistic, essentialized interpretations of environmental struggles, unpacking concepts such as the 'community' or the 'social movement' by examining the ways in which micro-level political, economic, and social interactions influence grassroots visions of industrial development and actions to address it" (Horowitz 2012, 23).

Environmental Health Complexities

Environmental health is a contested field given scientific uncertainty in both toxicology and epidemiology. Establishing causal links between exposure and health effects (which is often necessary for those who regard themselves as victims of pollution and want to demand redress) is complex

for several reasons: there are no scientific studies for large numbers of chemicals, exposure may take place over a long-term period (see Nixon 2011), risk may be posed by a multiplicity of factors rather than a single substance, incidence of chemical exposure is difficult to pinpoint, symptoms may not fit a typical pattern, and experts disagree about the import and even the existence of widespread, low-level exposures (Brown 2007; Brown, Kroll-Smith, and Gunter 2000; Brown, Morello-Frosch, and Zaveskoski 2012; Murphy 2006; Steingraber 2010; Tesh 2000). As a consequence of such complex causality and disputed standards of evidence, “virtually all diseases and conditions that can be attributed to environmental causes are highly contested and the source of considerable confusion, anger, and resentment” (Kroll-Smith, Brown, and Gunter 2000, 9).

While environmental health is haunted by radical uncertainty, such uncertainty is often maintained given the political and economic interests involved.⁴ Uncertainty in turn reinforces the sociopolitical assemblages that kept it in place. Indeed, while in many cases the copresence of several factors that might precipitate cancer in addition to pollution complicates matters, in others the link between pollution and illness may be relatively clear (Holdaway and Wang 2013). Yet complex overlapping circumstances mean that local populations are unable to secure redress. Several authors, particularly in science and technology studies, have pointed out that industrial and political interests shape science and standards of evidence (Murphy 2006; Waldman 2009, 2011). Such processes are closely tied to what Proctor and Schiebinger (2008) have termed “agnotology,” or the production of ignorance, and “undone science” (Frickel et al. 2010). The “toxic uncertainty” produced by these strategies is rooted in uneven power relations and is a form of domination (Auyero and Swistun 2009). Resulting forms of “organizational deceit” (Kroll-Smith, Brown, and Gunter 2000, 16) privilege the well-being of organizations over human health and deny agency to those who are most adversely affected by environmental threats. They allow governments and corporations to deny responsibility for alleged environmental health harm. One prominent strategy for doing so is to highlight the role of genes, diet, and lifestyle in disease causation over the role of pollutants, or stress that the latter cannot be blamed in isolation. This serves to maintain the legitimacy of both state and industry instead of questioning the unequal social order produced by industrial development and the profit imperative. It places the macroeconomic

forces that subject some people to a disproportionate amount of harm beyond scrutiny.

Conversely, evidence required to prove environmental health harm and gain compensation from liable companies or state agencies is typically defined very narrowly (see Fortun 2001). A. Petryna's (2002) study of Chernobyl victims in post-Soviet Ukraine illustrates the politically driven, narrow legal criteria laid down by the state for what constituted radiation and attempts by citizens to gain compensation. Victims of radiation become "biological citizens" through their "demand for but selective access to a form of social welfare based on medical, scientific, and legal criteria that both acknowledge biological injury and compensate for it" (6). Their engagements with science and the state reveal that "the biology of citizens [is] a contested part of political processes" (21). Similarly, Waldman (2009) argues that the Indian state's "narrow definition of asbestos diseases enables it to officially document the lack of asbestos diseases experienced by Indian workers" (3). This, coupled with the delay between exposure and onset of disease, makes it "impossible for workers to be identified as victims" (16) of these ailments. Industries are therefore able to capitalize on competing epistemologies around the dangers of asbestos and claim to limit exposure to an acceptable level at which there is no evidence of harm (Waldman 2009, 21; Steingraber 2010).

These mechanisms of exclusion are supported by equally narrow, legalistic notions of justice for environmental health harm (Phillips 2012; Vanderlinden 2011). Conversely, victims are often accused of being emotional and lacking knowledge of the hazards or evidence that they are exposed to them. In this context, what may be deemed just by the justice system or the state may not be experienced as just according to victims' experiences and their moral codes. In fact, many studies of environmental justice show how people who raise the alarm and demand a cleaner environment are failed by the (justice) system and by the state, as well as by the companies (Das 2000; Fortun 2001; Phillips 2012). On this basis, Brown (2000) argues that it is necessary to ask "for *whose* standards, and by what version of *proof* is a standard of proof determined and employed?" (374). Steingraber (2010) similarly asks: "At what point does preliminary evidence of harm become definitive evidence of harm?" (9). The answer is not only scientific, but inevitably social, political, and economic.

This book illustrates how uncertainty about environmental health effects is articulated in the three case studies. It shows that, while powerful political and economic interests may maintain uncertainty (as much of the literature cited above points out), citizens do not always question these interests and might feel uncertain about environmental harm. They are caught between what they may recognize as relatively incontestable embodied evidence of pollution's harm and a feeling that their forms of evidence do not count. In some cases, their previous experiences with activism to stop pollution convince them that they are rather powerless to do so (Lora-Wainwright et al. 2012; Tilt 2010; Van Rooij 2006; Van Rooij et al. 2012). When citizens who live with pollution have also learned to take for granted the power relations underlying agnotology, and therefore these power imbalances are perpetuated rather than challenged, the complex subjectivity of those citizens requires closer attention. In turn, this might reveal some of the pitfalls of assuming that those suffering from pollution are likely to oppose it, question discourses of uncertainty, and compile evidence of harm.

Environmental Health, Toxic Natures, and the Origins of Resigned Activism

Given the uncertainties surrounding environmental health and the powerful political and economic interests at stake, citizens can play an important role in questioning established standards for evaluating risk. The field of citizen science has raised important theoretical and analytical questions on the contestability of science, competing definitions of evidence, and citizens' role both in shaping knowledge and in mobilizing at local, national, and transnational scales.⁵ "Popular epidemiology" presents a classic example of citizens' contribution in scientific controversies. While Petryna's biological citizens predominantly focus on demanding compensation based on parameters laid down by the state, popular epidemiology challenges existing scientific paradigms and science's claim to value neutrality (Brown, Kroll-Smith, and Gunter 2000, 18; see also Balshem 1993). First elaborated by sociologist Phil Brown, popular epidemiology refers to grassroots efforts begun by citizens, whereby they compile maps of local disease incidence, gather scientific data and other information, and also direct and marshal the knowledge and resources of experts in order to understand the epidemiology of disease (Brown 2007, 33–34; see also Brown, Morello-Frosch, and

Zavestoski 2012). Such citizen-science alliances took shape in the Woburn (Massachusetts) childhood leukemia cluster (Brown and Mikklesen 1997), and in parts of Louisiana's "cancer alley" where citizens teamed up with experts to map health effects onto the physical presence of pollution (Allen 2003; Lerner 2005; Ottinger 2013).

Studies of environmental health social movements are predictably concerned with the multiple forms of activism against pollution. Alongside citizen science, these include protests, resorting to the law and the media, lobbying polluting companies, and demanding governmental redress (Fortun 2001; Lerner 2005; Petryna 2002; Shevory 2007). They may take on relatively NIMBY (not-in-my-back-yard) connotations or be part of a more networked movement across different localities (Szasz 1994). But activism is by no means the only reaction. Just as often, communities may become resigned to pollution. Brown and Mikklesen (1997) argue that in Woburn victims fought back because children were affected, because they received media attention and help from legal and public health experts, and also because concern with toxic waste was on the rise nationally. However, it is much more common for victims of pollution not to fight back.

Such resignation has complex origins. When contamination is gradual and long-term—what Rob Nixon (2011) termed "slow violence"—victims may become accustomed to it and regard it as part of their lives (Auyero and Swistun 2009; Brown and Mikklesen 1997). I refer to this naturalization process as "toxic natures": in various ways across the three sites discussed in this book, pollution is part of the natural environment. Indeed, pollution is incorporated in the local environment, not only by virtue of being omnipresent—in the air, the water, the crops, locals' bodies—but also by affecting the very substance and appearance of the environment and its inhabitants. Baocun villagers, for instance, reported the appearance of a new kind of vegetable, which they termed "cabbage-turned-turnip." Due to the high levels of phosphorous in the soil, cabbages grew unusually long roots that resembled turnips. Similarly, claims that bodies can become accustomed to pollution (and that therefore, allegedly, they would be less affected by it) encapsulate locals' sense that contamination of their bodies was "normal," too common and self-evident to even comment on.

In these contexts, hazards may assume "the harmless aspect of the familiar" (Steingraber 2010, 8, quoting Carson 2000). Familiarity often goes hand in hand with a deep embedding of polluting activities within local

socio-political and economic contexts. On the most basic level, this boils down to economic dependence on polluting firms. Erickson (1976) illustrated this in his study of the 1972 Buffalo Creek dam disaster in an Appalachian mining region. Given their complete dependence on the coal company, residents behave “*as if* they trusted the experts because it would have been socially and psychologically unviable to do anything else” (Wynne 1996, 52).

But the relationship between polluters and residents is often more complex than simple economics. Residents invest emotional and financial resources in the locality, as was the case of residents of Legler, a suburb of New York built on a municipal landfill. “Caught up in their families, work, home, and the other concerns of the American lifestyle,” contamination was “virtually inconceivable” (Edelstein 2004, 29). Similarly, despite their knowledge of pollution, residents of the Argentinian shantytown of Flammable have become slowly tied to the locality, taking roots in the neighborhood through work, family, and friendship networks, and therefore they play down the dangers they face (Auyero and Swistun 2009, 86; see also Brown and Mikkelsen 1997, 62).

Under such circumstances, communities affected by pollution may prefer to deny its existence or its gravity. Indeed, across my three case studies, widespread ailments correlated with environmental contamination were not mentioned as ailments at all unless research participants were prodded by the researcher. Denial serves as a strategy, a psychological defense against contamination (Brown and Mikkelsen 1997, 53). By contrast, to identify pollution’s harm would also imply the recognition that government and industry did not protect residents’ welfare, and the explicit acknowledgment of their own powerlessness, neglect, and marginality (Brown and Mikkelsen 1997; Erickson 1976; Wynne 1996).

Pollution has deep social effects too: it may create a sense of social malaise, instability, anxiety, depression, anomie manifested as exploitation, selfishness, and loss of confidence in commercial practice, government, and science (Williams 1998, 14–15, see also Auyero and Swistun 2009; Brown and Mikkelsen 1997; Edelstein 2004; Singer 2011). The community’s “lifescape” (their entire world and their experiences) is radically disrupted: people experience a loss of control; they learn to see the environment as uncertain and harmful. The home, which is usually regarded as a safe haven, becomes a site of risk and fear (Edelstein 2004). The experience of

contamination may convince residents that there is “no safe place” where they could seek refuge, that pollution is pervasive and inescapable (Brown and Mikkelsen 1997). This experience in turn often divides communities and causes social conflict; activists are ostracized, stigmatized, and portrayed as oddballs intent on undermining social stability (Brown and Mikkelsen 1997; Kirby 2011).

This literature is useful in posing questions on citizens' role in environmental health contestations in China. Chinese citizens—particularly among the urban middle classes (see Johnson 2013a and b), but also some residents of “cancer villages”—have increasingly contested environmental pollution through instances of activism, resorting to new technologies, social media, and environmental NGOs. Chapter 2 will illustrate how residents of some self-identified “cancer villages” have attempted to gain attention, legitimize their claims, and obtain redress, and the challenges they face in doing so. However, rural environmental activism remains largely invisible, silenced, and ineffective as a measure to significantly decrease pollution. Partly, the absence of a social movement premised on pollution's effects on health is due to the inherent complexity of environmental health and the difficulties in gathering scientific evidence that particular ailments can be conclusively traced to exposure to particular chemicals. Uneven access to evidence and resources to question existing claims are a challenge for any environmental justice movement (Steingraber 2010), but they are all the more haunting in rural China, where resources are limited and the government largely holds the monopoly on tests and their results. Even when tests are carried out, either the results are not shared, or their reliability is deeply doubted by the local population.

Yet the absence of an environmental health social movement stems not only from the nature of the hazard but also from the nature of society (Kasperson and Kasperson 2005). Indeed, a number of recent qualitative social science analyses of environment and health in China have begun to highlight the importance of social and economic dependence and wider opportunity structures in shaping the local population's perceptions of and responses to pollution (Chen et al. 2013; Deng and Yang 2013; Lora-Wainwright, Zhang, Wu, and Van Rooij 2012; Tilt 2006, 2010; Van Rooij 2006; Yang 2010b). Building on these studies, I argue that knowledge of pollution cannot be separated from the many other challenges locals face—such as finding work, paying for healthcare, and improving their family

homes. As industry becomes enmeshed with the local community and locals become more and more closely tied to their place of residence, pollution can come to be regarded as a fact of life, and only one of a number of potential causes of illness. Conversely, common illnesses potentially correlated with pollution (such as nose bleeds in Baocun) become regarded as “normal.” As a consequence, responses to pollution also become embedded within social, economic, and political relationships, and the everyday challenges of making a living and attaining a good life. This book is devoted to elucidating these processes.

Across the three main case studies, dependence on polluting activities, social divisions generated or exacerbated by such activities, (limited) opportunity structures, and past experiences with seeking redress reinforce locals’ sense of uncertainty in attributing illness to pollution and weaken their sense of entitlement to a healthy, clean environment. Uncertainty in turn further crystallizes these social, economic, and political configurations by undermining villagers’ ability and willingness to claim they are physically harmed by pollution and to act collectively on this basis. I use the term “resigned activism” to highlight these powerful, if at times counterintuitive, dynamics among perceptions, attitudes, and responses to pollution. Rather than assume a unidirectional relationship among these elements, I argue that the results of previous activist efforts contribute to forming new perceptions and attitudes to pollution. Perceptions of and responses to pollution in other words are part of a shifting, complex entity, which in turn is affected by its constantly changing social, economic, and political contexts. Resigned activism then refers to efforts villagers undertake routinely, individually or as a group, to counter or avoid pollution. But it also refers to the simultaneous processes through which pollution comes to be regarded as a normal and unavoidable part of the natural environment. It attends to the effects that subtle forms of environmental engagement may have not only on the environment but also on the subjects themselves.

The expression “resigned activism” is intended not only to convey the mutual relationship between perceptions and actions, but also to bridge the wide spectrum of responses that are usually regarded to be separate and even incompatible. It includes well-oiled activist strategies, such as petitions, blockades, and protests, alongside lifestyle choices (drinking tap water and closing windows at night), requests for scientific tests on water

and crops, and demands for piped drinking water. Elements in this complex spectrum of attitudes and responses—from various forms of opposition to the denial of pollution's harm—may be visible at different times among affected communities. Examining only certain forms of activism would fail to capture the much more uneven nature of engagements with pollution. By contrast, resigned activism encapsulates the development of attitudes and responses to pollution over a longer time span, to include both highs and lows in cycles of activism, as well as the hesitation, uncertainty, despondence, and acquiescence that pervade much of these processes.⁶ Full-length monographs on single case studies of resistance to pollution have shown aptly how communities' understanding of pollution, their strategies, and their relationship to the polluters, state agents, and various stakeholders change over time.⁷ This book examines these dynamics in the Chinese case. It maps how and why resilience in opposing pollution may coexist with resignation to it. This in turn requires a careful redefinition of both resistance and resignation, as well as their potential overlaps.

China's Environmental Challenges and Environmentalism

The Basic Challenges

China's environmental problems are multifarious and therefore difficult to summarize. They may take the form of both pollution accidents and of routine, widespread pollution. They are the result of a combination of forces including rising affluence, globalization of manufacturing, urbanization, and climate change (Shapiro 2012). For instance, the exponential growth of waste in recent years creates challenges for waste disposal that in turn materialize as potential threats to the environment: dumpsites may pollute the soil and water, incineration may cause air pollution. Electronic waste is potentially poisonous, when part of the recycling process leeches harmful heavy metals into the environment (see chapter 5). Likewise, the huge expansion of industry, and resource extraction and processing, have several effects on the environment, including air, soil, and water pollution from heavy metals and toxic organic chemicals—which in turn may directly affect food safety, as well as the health of those who live in the vicinity of industries (see chapters 3 and 4). Exposure to pollutants in food—whether they are heavy metals from nearby industries, excessive farm chemicals, or noxious substances willfully added during food production (as was the case

for the melamine-contaminated milk powder)—poses additional risks to human health. Even measures that were heralded as the key to sustaining development in the aftermath of the global economic crisis, such as the drive to encourage consumption and urbanization, also have huge repercussions for the environment. These problems may be exacerbated when they intersect with particular local geographical conditions such as climate, lifestyles, and patterns of production and consumption. For instance, water scarcity may increase the impact of water pollution by making local residents more dependent on polluted water sources (see chapter 4).

China's particular pattern of development and the speed of that development mean that it is concomitantly faced with "'traditional' environmental impacts on health associated with poverty; an increase in 'transitional diseases' related to rapid industrialization and urbanization; and what are known as 'the diseases of affluence,' all at the same time" (Holdaway 2013, 257). Much literature to date focuses on health problems related to industrialization and urbanization. A 2007 collaboration between the World Bank and China's State Environmental Protection Agency (or SEPA, since 2008 known as the Ministry of Environment) to assess the cost of pollution in China identified cancer as the main cause of death in China (World Bank and SEPA 2007). This study also showed that mortality rates for cancers associated with water pollution, such as liver and stomach cancer, are well above the world average. According to unreleased World Bank statistics, 750,000 people die prematurely in China each year due to high pollution levels (McGregor 2007). More recently, an international study using long-term data found that China's air pollution has cut life expectancy by an average of 5.5 years (Hook 2013). A 2015 documentary by former investigative journalist Chai Jing, *Under the Dome*, exposed China's pollution, its adverse effects, complex origins, and uneven solutions through field investigations and interviews with scientists and officials. The huge response it received—both in terms of the millions of hits it received within hours of its release and of the swift crackdown that quickly followed—is evidence of widespread concern about pollution's effects, among the general population and the upper echelons of the government alike.

Environmental health problems are posed not only by the speed of China's development but also by some trends that are relatively peculiar to this national context. First, much of China's industry, unlike in many other

parts of the world, has been historically located in the countryside and has involved a rapid turnover in the type and scale of industry (Holdaway and Wang 2013). Many of these industries later closed or changed product lines or forms of ownership, meaning that rural China has been affected by pollution from different sources and that liability is often unclear (*ibid.*). Migration adds a further level of complication: rural residents otherwise dependent on agriculture have often moved in search of waged work, including in industry and other polluting sectors, but their very movement complicates any effort at tracking how their health has been affected by working in these businesses (*ibid.*; Holdaway 2014).

The geographies of development and pollution are regionally and locally uneven. Indeed, under growing scrutiny and pressure to clean up, many polluting firms have opted instead to move to poorer regions and further into the countryside. As a consequence, many rural residents either do not benefit directly from development or do so at great cost to their health. "Cancer villages" (clusters of high cancer incidence typically correlated with pollution; see chapter 2) are one of the most notorious side effects of such rampant rural development and a classic example of "transitional diseases" (Holdaway 2013, 257). These inequalities are compounded by the continued disparity in welfare provision between rural and urban areas. Welfare provision in China's countryside has doubtlessly improved after the introduction of rural healthcare cooperatives in recent years, but it remains limited (Yip et al. 2012). Efforts to carry out "urban and rural integrated planning" (Chen and Gao 2011) might mitigate these disparities, but they might also result in bracketing rural areas for industrial development and therefore affecting rural populations disproportionately.

The movement of polluting projects into rural China is coupled with another trend, whereby those with more financial means move away from pollution, buy bottled water, and install air purifiers. Most rural Chinese cannot afford to do this. Unless strict environmental protection policies are implemented, inequalities in the distribution of pollution and harm are only likely to increase as industrialization and urbanization continue to move west and as tech-savvy, wealthier communities demand a cleaner environment. China's role as the world's factory exacerbates these trends, as additional opportunities for regional development may transform into further pressures to industrialize at all costs, to emulate and catch up with more developed coastal regions.

The Historical Evolution of China's Environmental Problems

The origins of China's environmental challenges are complex, and not only limited to the contemporary period (Elvin 2004; Shapiro 2001). However, the past four decades have witnessed particularly severe environmental degradation. Following the death of Mao in 1976, China embarked on a massive program of social and economic reforms. Rural industrialization is one of the key features of the reform period (Oi 1999). Township and Village Enterprises (TVEs) established during the reform period soon became a vital and unregulated engine for local development. The partial liberalization and privatization of resource extraction, which resulted in the opening of township and village mines and small private mines, also led to a further expansion and deregulation in these areas (Wright 2011). Low capitalization was crucial to the economic success of TVEs and private mines. Profit considerations determined investment in industrial infrastructure and methods of mining and processing, with little regard for longer-term environmental impacts (Tilt 2010; Wright 2011). The combination of high-potential economic benefits and severe and acute effects on environment and health makes pollution from mining and industrialization one of the most prevalent causes of contention and unrest among rural residents.

The grave environmental consequences of this development model soon became apparent, and the early reform mindset—"pollute now, clean up later"—has come under growing scrutiny. Since the late 1970s, China's government has developed an impressive body of environmental protection policies and legislation. But effective local implementation has remained uneven. Several studies highlight challenges to environmental protection posed by governance mechanisms and the legal system. Many of these are by now well-known: poor state environmental agencies' capacity to monitor and enforce compliance; lack of capacity among local governments; the decentralization of environmental enforcement to local officials with conflicting interests, particularly a tension between environmental protection and economic targets; lack of coordination and an ambiguous responsibility structure divided over a number of ministries and other agents; poorly designed policy instruments; and general, vague, and aspirational legislation that often falls short of being locally feasible or carrying a strong enough disincentive to pollute (see Carter and Mol 2007; Economy 2004; Kostka and Mol 2013; Tilt 2010; Van Rooij 2006).⁸

Changes put forward in the past decade are intended to tackle this notorious implementation gap. In 2008, the bureaucratic rank of the State Environmental Protection Administration, SEPA, was raised to that of a full Ministry of Environmental Protection (MEP), endowed with better capacity to enforce compliance. Five "Regional Supervision Centers" have been established to oversee local implementation and coordinate trans-provincial environmental disputes. Growing awareness of the threat that pollution presents to health is evident in the emergence of "environment and health" as a field of research and policy (Holdaway 2010, 2013). Among the new administrative measures and tools that have been introduced to enhance compliance are: mandatory 'binding' environmental targets for government; private enterprises adopting targets for energy efficiency and carbon emission; the strengthening of environmental courts; experiments with market-based instruments to reduce emissions and set electricity pricing; payments for environmental services (PES); and the creation of new decision-making structures, such as interdepartmental committees to coordinate implementation (Kostka and Mol 2013; see *People's Daily* 2015).

China's former leaders, Hu Jintao and Wen Jiabao, professed a commitment to "sustainable" "scientific development," harbored within a "harmonious society," and the current leadership emphasized the need to build an "ecological civilization" as part of the 12th Five-Year Plan announced in late 2012. Yet implementation and public participation still remain serious obstacles, and local interests continue to dictate development agendas (Kostka and Mol 2013). National policies are only implemented when localities are under direct and constant attention. Environmental protection is only one of a number of competing local priorities. Economic performance is still a vital target in the formal performance evaluation of cadres (Edin 2003; Ho 1994; Whiting 2001). More importantly, clashing targets put forward by the central state itself pose a challenge to local cadres' ability to implement central directives. A National Plan for Environment and Health Work, designed to be implemented at the county level, has made limited progress due to the lack of financial and technical resources in many localities (Holdaway and Wang 2013).

Innovations proposed by the new leadership of Li Keqiang and Xi Jinping might offer some room for hope. In recognition of the gravity of the situation, current premier Li Keqiang declared "a war on pollution" at

the opening of the 2014 annual session of the National People's Congress (Branigan 2014). The continued prominence of the concept of "ecological civilization" in recent key state documents (*People's Daily* 2015) entails comprehensive and detailed plans (including clearer standards, mechanisms, and a new lifelong evaluation for officials) that suggest the Chinese government is taking environmental protection increasingly seriously (see Geall 2015).

Only time will tell whether the most recent innovations may bring the desired effects. Challenges are likely to remain in historically poor regions with little revenue alternatives to polluting firms, and where therefore local governments depend on such firms to raise tax revenue necessary to support public services and villagers rely heavily on them for employment (Tilt 2010; Wright 2011). Many of these areas (albeit not all) are in western China, which is historically less developed than its eastern seaboard. There, mining and industrialization brought increasing employment opportunities. As Brian Tilt's 2010 ethnography of one of these regions (Futian, in Sichuan) shows, local officials and communities alike face genuine challenges. Township and County Environmental Protection Bureaus "must weigh the ecological and health consequences of industrial pollution against the economic and fiscal benefits of industrial production" (Tilt 2010, 112). This engenders a phenomenon known as "local protectionism," whereby local governments protect polluting firms, with the complicity of the local population (Van Rooij 2006). This is particularly the case when they depend on polluting firms for employment (Chen et al. 2013; Deng and Yang 2013; Lora-Wainwright, Zhang, Wu, and Van Rooij 2012; Tilt 2010; Van Rooij 2006). This trend raises important questions about the potential for citizens to become agents of environmental protection. The current book explores their complex positions.

Key Actors and Features of a Growing Environmental Movement: Rural China in Comparison

Given the gravity of China's environmental challenges, the limits in the government's capacity to enforce environmental regulation, and the vicious cycle of low compliance and weak enforcement, civil society has been a vital complement to top-down forces (Economy 2004; Geall 2013; Shapiro 2012; Zhang and Barr 2013). In the last decade, the Chinese state has become significantly more responsive to societal pressures. In part, this

is due to the fragmentation of authoritarian rule by local diversities in the modes and degrees of implementation of laws and regulations and to the emergence of a new and broader set of “policy entrepreneurs” (Mertha 2010). Analyses of environmentalism in contemporary China have grown in recent years, reflecting its increased prominence. In this section I will outline the range of strategies and actors that may take part in environmental action. Forms of activism may involve: litigation, petitions, direct negotiation with relevant firms, appeals to administrative regulators, appeals to the media, the Internet, environmental NGOs, advocacy networks and elite allies, and citizen protests to put pressure on firms or on administrative authorities. Each of them brings its own potential benefits and liabilities.

Direct Negotiation, Petitions, and Rightful Resistance Original fieldwork in Baocun and Qiancun, and a survey of media reports and academic publications containing “cancer village” or “environmental politics” in the keywords on CNKI (China National Knowledge Infrastructure, the main database of Chinese newspapers and academic publications), suggest that direct negotiation with polluting firms and with local government are among the most widespread strategies adopted by villagers, particularly in the early stages of contention (see Van Rooij 2010). This is often done alongside petitions to the local government in an effort to raise the alarm and obtain redress (Brettell 2003). The Internet, and microblogs in particular, play a key role by helping to raise concern among the wider population and organize actions of this kind (Yang 2011, 2013).

Indirect reference to laws and regulations in these negotiations is a common strategy to present their demands as lawful. The case of Qiugang, a “cancer village” in Anhui province portrayed in the 2010 documentary *The Warriors of Qiugang*, is a pertinent example. Qiugang villagers’ ability to ground their grievances in the law and to quote official speeches by Hu Jintao proved to be powerful weapons, even when litigation itself had failed them (Wang 2011). This strategy is known widely as “rightful resistance” (O’Brien and Li 2006; O’Brien 2013)—that is, citizens’ resort to existing rules and regulations to present their resistance as “rightful.” However, attempts to approach higher levels for support because they are seen as more trustworthy may not always have positive outcomes, and demands that escalate to higher levels are also likely to be more complex to resolve

(Michelson 2008). In some cases, what citizens strive to present as rightful resistance is strictly speaking unlawful. For instance, protesting against projects that have passed the Environmental Impact Assessment (EIA) is actually illegal and places both local governments and citizens in difficult positions (Hu and Tilt 2012). For their part, citizens have their reasons to doubt that EIAs have been done properly. While EIAs ought to be carried out for all major projects and should be openly available to the public, gaining access to such information is very time consuming and bureaucratic, and, more often than not, the data is actually unavailable. In some cases, the information contained in the EIA is simply wrong (Hu and Tilt 2012; Johnson 2013a). Only rarely have villagers succeeded in accessing such information.

Litigation Legal possibilities to obtain compensation for pollution have grown, and, as a consequence, so have environmental litigation cases, though they remain very low compared to petitions (Stern 2013). Yet knowledge of a risk does not always translate into action, and most action remains beyond formal institutions (Diamant et al. 2005). Surveys of litigation cases suggest that disputes emerge when aggrieved citizens forge a group identity; they require social and financial resources, support structures (especially from the local state and intermediary institutions), community solidarity, coalitions (including assistance from experts, NGOs, and the media), and leaders capable of gaining support (Diamant et al. 2005; Van Rooij 2010). Even when citizens resort to litigation, they still face many obstacles ranging from ability to afford legal assistance, to the challenges of providing evidence of damages, demonstrating the existence of a polluting act, and the liability of a given industry (Van Rooij 2010, 68–69). Although civil environmental litigation is occasionally successful, it is a relatively weak tool for environmental protection (Stern 2011, 310; Stern 2013), particularly in rural areas. In Qiugang village, local resident-turned-activist Zhang Gongli brought several unsuccessful lawsuits against local polluters, despite seemingly clear violations of the law. Lawsuits also typically focus on “post-hoc monetary compensation,” and therefore serve more as an alerting mechanism for extreme abuses than to prevent pollution or demand remediation (Stern 2013). They tend to be a relatively rare strategy, a last port of call when other avenues have failed. Their success also depends heavily on what happens outside the court, particularly on

the presence of populist pressure, sometimes galvanized by the media (Stern 2013).

Media Coverage Appealing to the media is another potentially crucial strategy (Geall 2013; Yang 2011). Y. Cai (2010) has shown that media coverage is a key determinant of successful collective action. Typically, if a case becomes well known, the central government is more likely to intervene and put pressure on the local government to address locals' complaints. Most recently, the campaign to demand that PM 2.5 (particulate matter smaller than 2.5 micrometers and therefore most harmful to health) in Beijing's air be monitored and results released was successful largely because of media attention (Fedorenko and Sun 2015). Reports can help to tip public opinion in favor of a movement. But when polluting firms play a vital role in the local economy, the potential of media attention to aid regulation and closure of polluting firms is limited (Tilt 2010; Tilt and Xiao 2010). Media attention is also hard to gain, and journalists are constrained in the ways in which they can frame their reports. The national media can generally be freer to report cases that do not implicate officials above the county level (Stern 2011, 306), but with potentially more controversial and broader problems they need to choose their focus carefully. At any rate, media coverage does not automatically result in redress, and in many cases the pressure dissipates once media attention falters (Chen et al. 2013).

NGOs Contacting or establishing NGOs may serve a vital role, often alongside the media (see for instance: Fürst 2012, 2016; Johnson 2010; Morton 2005; Spires 2011; Steinhardt and Wu 2015; Wu 2013; Yang 2005). Studies of environmentalism in China have predominantly focused on urban environmental NGOs, paying much less attention to grassroots forms of activism. This is understandable, given that the emergence of ENGOs (Environmental NGOs) in the mid-1990s is widely regarded as the starting point for China's environmental movements. The environmental field has the largest number of NGOs and longest history of public policy advocacy (Hildebrandt 2013). Environmental NGOs have grown exponentially in the past twenty years, and according to Wu Fengshi (2013) they are showing a certain degree of maturity, with a presence beyond large urban centers and in more regional areas. ENGOs have evolved to become very

diverse, ranging from well-established registered NGOs like Friends of Nature, the Institute of Public and Environmental Affairs (IPE), and the Center for Legal Assistance to Pollution Victims (CLAPV), to more grass-roots organizations like Green Beagle and Nature University, both founded by journalist-turned-activist Feng Yongfeng. Whereas in their early phase of development, ENGOs relied on a few leading activists, scientists, and journalists, in the aftermath of the 2008 Sichuan earthquake, a younger, less recognizable, and more diverse generation of social entrepreneurs and NGO leaders has emerged and spread far beyond Beijing (Wu 2013; see also Geall 2013 and Boyd 2013 for a genealogy of recent campaigns). Civil society however shows signs of tightening under the leadership of Xi Jinping since 2012. A new Overseas NGO management law approved in the spring of 2016, and coming into effect in 2017, mandates that any group wishing to operate in China must register with public security officials and poses many restrictions on their activities. This will affect not only foreign NGOs, but also domestic NGOs relying on foreign funding, and affect the issues on which they are able to focus.

Like the media, ENGOs need to be strategic about the issues on which they focus, and the manner in which they frame them, particularly when they are large and influential. The campaign against dams on the Nu River amply exemplified the importance of choosing a relatively noncontroversial focus that drew on global discourses of biodiversity. Such focus on protecting biodiversity and endangered species, rather than on the welfare of the local population and compensation for lost homes and land, was instrumental to the campaign's success in (temporarily) halting dams (Litzinger 2007, 289–91; Mertha 2010; Yang and Calhoun 2007). In this context, Peter Ho (2008) has referred to China's ENGOs as "embedded," because they operate closely with state structures and avoid direct opposition. Unlike NIMBY (not-in-my-back-yard) movements, which are more contentious, China's ENGOs are typically localized, loose, and informal, mostly embrace a rules-based approach to public participation and engage with educational activities, tree planting, or waste collection (Johnson 2010). They are "the pivotal organisational basis for the production and circulation of greenspeak" (Yang and Calhoun 2007, 213). "Greenspeak" draws on the conceptual space of donors (often led by the mainstream global discourse of sustainable development) and of the Chinese government (therefore avoiding openly political issues) (Yang and Calhoun 2007,

214). In addition, the success of a campaign depends heavily on the ability of greenspeak agents to raise concern in the public sphere. Mertha (2010) refers to these agents as “policy entrepreneurs”—including experts, disgruntled officials, journalists, and NGO campaigners—who are able to mobilize broad-based coalitions. His study highlights the importance of networks and coalitions, rather than NGOs in isolation (see also Wells-Dang 2012). In this context, Hathaway’s concept of “environmental winds” (2013) provides a fluid model for understanding the flows of environmental ideals within and beyond China and ways in which to think of entanglements between state agents, NGOs, scientists, villagers, and Chinese and foreign conservationists.

Predictably, registered NGOs that focus on regulating pollution are relatively few, due to the sensitivity of the topic, lack of relevant training among NGO staff, and difficulties in securing funding for this focus (Fürst 2016). In her detailed 2016 study of China’s environmental NGOs and their efforts and achievements in regulating pollution, Fürst estimated that out of 8000 registered environmental NGOs, only between 150 and 200 focus on pollution regulation, and their efforts are fragmented and weak. Her research suggests that these NGOs predominantly regulate “through leverage,” in other words, they rely closely on support by state agencies, international companies, the media, the market, and public opinion to influence the behavior of their targets. Their effectiveness is affected not only by underlying state-civil society relations in China and by the sensitivity of particular issues, but also by the level of scientific complexity involved, by the nature of this particular policy domain, and the structure of the policy networks (Fürst 2016, 376 and chapter 12).

Community Advocacy and Crowd-Sourcing Advocacy networks occasionally include community advocacy, though this is still relatively rare in China (Wells-Dang 2012). Such networks tend to be among elite, urban-based allies (Johnson 2013a and b). We hear less about the participation or viewpoints of the communities directly affected, whose perspectives may differ substantially from those of urban elites and advocacy networks (Litzinger 2007). Recently, there have been some signs of change, both in terms of NGOs’ embeddedness and avoidance of conflict, and in terms of their joining forces with local communities. In the past, NGOs have often been criticized for choosing soft targets and moderate strategies,

rather than making a stand in major cases such as the pollution of the Songhua River in November 2005 caused by explosions at a petrochemical plant in Jilin, or the blast and oil spill in Dalian, northeast China, in the summer of 2010 (Tang 2012). More recently, civil society organizations have become more confrontational and increasingly active in supporting citizen action against pollution (Fürst 2016). For instance, two NGOs—Friends of Nature and Chongqing Green Volunteers Union—supported by CLAPV joined the Qujing Environmental Protection Bureau to sue Luliang Chemical Industry for dumping extremely harmful hexavalent chromium in rural Qujing. Regardless of the outcome, this is a breakthrough case for NGOs to act as plaintiffs in environmental public interest litigation (CLAPV 2012).

Relatively new and grassroots NGOs also work more closely with the public to identify issues of concern, rather than imposing urban and middle-class environmentalist metanarratives upon local populations, as had largely been the case in the campaign against dams on the Nu river (Litzinger 2007). One significant development is efforts of these new and grassroots organizations to join forces with local populations in order to gather data on pollution. For instance, grassroots NGOs Green Beagle and Nature University provided portable handheld detectors to measure air quality (Zhang and Barr 2013). But these efforts also extend beyond air pollution. Former journalist and Goldman Prize winner Ma Jun established the Institute of Public and Environmental Affairs (IPE), which for several years has compiled online pollution maps to inform citizens about environmental hazards, demand transparency, and put pressure on polluters to clean up. Similarly, newspaper photographer Huo Daishan played a key role in raising the alarm about pollution in the Huai river basin. In 2000, he formed a group called Guardians of the Huai River, which trained hundreds of volunteers who now work in teams to regularly monitor the river and conduct water testing, pushing companies to implement pollution-control measures (Baik.com 2016). More recently, a nonprofit group called the IT Engineers for Environmental Protection Association created “danger maps,” an open platform that resorts to crowd-mapping and allows users and NGOs to upload their own pollution data. These efforts at documenting pollution, which are gradually spreading into rural China, are powerful signs of change. However, just as several of the strategies outlined above, they remain limited to a minority of cases.

Urban Protests Frustrated by the constraints and limited effectiveness of framing complaints within parameters set by the state and by the lack of effectiveness of attempts to negotiate directly with firms or to appeal to administrative regulations, citizens have engaged in less institutionalized contentious action (Deng and Yang 2013, Lora-Wainwright et al. 2012). This is the most daring strategy. Significantly, even when contentious action is involved, protestors endeavor to frame their activities in such a way as to portray themselves as rational, concerned citizens and avoid confrontational connotations (Johnson 2013a; A. Zhang 2014). In 2007, a groundbreaking protest in Xiamen (Fujian), against a paraxylene (PX) plant, succeeded in halting plans for the project (Ansfield 2013). As large protests are illegal, organizers described their activities as a “stroll.” The following year, similar protests took place in Shanghai against the construction of a magnetic levitation train line.

Arguably, these kinds of actions have intensified in the past few years.⁹ Citizens protested against a PX plant in Dalian in 2011. The year 2012 alone saw three protests of this kind, which were widely covered in the international media. In early July, more than 10,000 residents of Shifang (Sichuan) clashed with the police and succeeded in halting a planned molybdenum copper refinery (Hook 2012). Barely weeks later, similar protests erupted in Qidong (Jiangsu), as thousands occupied the local government building, filled the streets, overturned at least one car, and suspended plans for a wastewater pipeline (Tejada 2012). In October, demonstrations in Ningbo over the planned expansion of a petrochemical state-run Sinopec plant (already one of the nation's largest refineries) led to scrapping a controversial PX facility, and to promises of public consultations and greater transparency (*South China Morning Post* 2012). More protests against a PX plant took place in Guangdong in 2014 (Gu 2016; Lee and Ho 2014).

These are examples of a rising number of citizen demonstrations against existing pollution or plans for what are understood to be polluting projects that local residents fear would compromise their environment and health (Tang 2012). Protests are never the first port of call, but rather a desperate cry for attention. In Ningbo, for instance, protests only took place after authorities ignored weeks of petitioning. Undeniably, protests put pressure on local governments to clean up their act, but promises made may be forgotten as soon as the crowd disperses. Microblogging and web-based

chat groups can serve as platforms for public debates and to organize these forms of action (Yang 2011, 2013). However, attempts to present protests as nonconfrontational may not always succeed, and the line between peaceful strolling and protests is blurred at best. Indeed, the dangers to protesters are considerable. Arguably, the higher the profile of protests and their attracting international coverage, the higher are their chances of obtaining redress, but also the higher the political risks to those involved in protests.

Behind these protests and behind much of environmental activism portrayed in the media is a demographic that officials cannot ignore—rising numbers of urban, educated, middle-class professionals with economic, and, increasingly, political clout who form the backbone of the new affluent China (*South China Morning Post* 2012). These protests largely employ the language of personal rights and protecting one's home (Su and Link 2013), and strategically present their resistance as “rational,” in contrast to the irrational behavior of polluters and colluding local governments (Johnson 2013a; A. Zhang 2014). While urban homeowners' protests are more prominent in the media, rural complaints about pollution have been less visible (see also Yang 2010a). Activism in “cancer villages” represents an exception to the general lack of visibility of rural environmentalism, but these cases are by no means representative of how villagers in severely polluted areas react to such pollution. Often, these cases suggest that citizens inherently oppose pollution and the only real obstacle to them doing so more effectively is their limited ability to participate in the political process. This book challenges these assumptions. The range of options for activism outlined in this section offers a useful framework, but ultimately only qualitative case studies can illuminate how, when, and why these options are operationalized in practice and how they intersect with a pervasive sense of resignation. The latter deserves just as much attention if we are to grasp the complex, shifting, and diverse experiences of those living with pollution.

Environmental Consciousness and Activism in Rural China

The predominant focus in current research on the role of NGOs, the media, and litigation as potential forces in aiding environmental protection implementation leaves out much of citizens' actions, which often take place beyond these means and rest more firmly on small protest and direct

appeals to local officials and polluting firms. Indeed, countless villages are suffering from pollution without being able to gain attention, let alone redress. The processes underlying their decisions to take particular kinds of actions remain little understood. How do concerns with pollution crystallize and how does rural environmentalism emerge? While it is widely agreed that citizens may play an important role in pollution regulation, very little is known about the intricate processes through which villagers themselves understand environmental health threats (Tilt 2010; Weller 2006). How do they establish a link between a given threat (for instance, contaminated food or air pollution) and their experiences of illness? What do they consider to be evidence of environmental harm to health? Who is involved in these contestations and what are their consequences?

Studies of environmental consciousness have tended to focus on the urban middle classes. According to the post-materialist thesis, concerns for the environment only arise among those who are not preoccupied with meeting their basic subsistence needs. The poor, in other words, cannot afford to care. Writing against this view, Robert Weller argues that the rural Chinese he studied *are* “concerned about environmental effects on the health of their children and the quality of their crops. ... They lack environmental consciousness only in the sense that they are not concerned with the same issues as national and global elites, or as people who write questionnaires about values” (Weller 2006, 57). “The bulk of environmental action,” writes Weller, takes place “among people whose motivations are above all local and personal” (133). With this in mind, he argues that it is at least inaccurate to accuse people of lacking an environmental consciousness if the parameters used to assess it are different from those used by local people themselves.¹⁰ In this same spirit, the current book places attention on local parameters of environment, health, and development, and how they evolve.

Research on the formation of environmental consciousness among villagers and on their responses to pollution is still limited. A number of recent articles have examined the social, political, and economic context in which local communities understand and respond to pollution. They have shown that relative dependency on polluting firms and the relationship between villagers and polluters mold their attitudes to pollution. Different occupational groups react differently to pollution, and, predictably, those whose livelihood depends directly on industries are least likely to

complain (Tilt 2006). Deng Yanhua and Yang Guobin (2013) argued that villagers in Zhejiang opposed the siting of a polluting industrial park in their vicinity, but were more accepting toward equally polluting plastic recycling operations started later by other locals. Research by Chen Ajiang and his team (Chen et al. 2013) finds insider-outsider interactions shaping responses to pollution in the context of their research on “cancer villages.” Both Tilt (2013) and Lora-Wainwright (2013d) found that, albeit in different ways, residents of polluted villages take a relatively individualistic approach to coping with pollution, given its seeming inevitability and uncertainties about its effects.

The only full-length studies to focus closely on rural China and on villagers’ experiences of pollution are by Tilt (2010) and by Chen and his team (Chen et al. 2013). Research by Chen and his team (some of which will be examined in detail in chapter 2) is based on years of fieldwork in heavily polluted areas, including a number of “cancer villages.” Their book covers a range of sites through in-depth case studies that highlight the uneven understanding of pollution among villagers, equally uneven evidence of a correlation between pollution and health effects, and the diverse reactions of local communities to pollution. They attribute such diversity to different local political economies, different relationships between communities and polluters, and varying levels of interactions with outside actors, such as the media, lawyers, and higher government authorities. Bryan Tilt’s (2010) study of sustainable development in an area of rural Sichuan reliant on metal industry shows that pollution, for rural dwellers, has become a fact of life. But this is not taken as simplistic evidence that locals have become resigned to pollution and accept it because they are too poor to care. To the contrary, Tilt argues that people engage critically with the need for development and that pollution is experienced in deeply local ways. Environmental issues “are embedded in specific cultural, economic, and political formations and ... must be studied *within* those formations” (2010, 153).

Building upon Weller’s understanding of environmental consciousness and on Tilt’s work, this book examines the origins and implications of the parameters of environmental health consciousness that emerged in some severely polluted sites. It argues that these very parameters are inseparable from local power relations; they affect and are affected by various activist practices embraced. It shows that the link between concerns and action is

not linear or automatic. Indeed, not taking action is a common way for villagers to deal with injustice given the tremendous obstacles they face in taking successful action, even when they may be acutely aware of being victims of harm (see Michelson 2007; Tilt 2010). In view of this, the book zooms out on the longer processes of knowledge formation around pollution and looks beyond single strategies of contention to encapsulate the longer and more complex development of concerns with pollution and strategies to deal with it. It approaches forms of activism as embedded in the habits and values of village life (see Chen et al. 2013).

Ultimately, only a close analysis of particular cases may shed light on the vicissitudes of local activism and resignation to pollution and their complex dynamics. This requires focusing attention on: the evolving perceptions of pollution among villagers, polluters, and the local government; how the relationship between these intersecting groups shifts over time; and the uneven patterns of dependence, gain, and suffering. It also requires that we disaggregate the category of 'villagers' to better understand how engagements with pollution may vary across age, gender, occupation, economic standing, and other lines. This in turn enables an account of how villagers' identities and positions were shaped by the presence of pollution.

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