

TEACHING CHINA'S ENVIRONMENT BEYOND THE THREE GORGES

By Emily T. Yeh and Mark Henderson

China's environment is increasingly in the news. The controversy over the Three Gorges Dam comes immediately to mind—but think too of major flooding on the Yangtze River, dust storms that blow from the Gobi Desert over the Pacific Ocean as far as North America, and the environmental theme of Beijing's 2008 Olympics bid, among many other pressing concerns. From local pollution caused by rural enterprises producing for export markets to the effects of China's coal consumption on global climate change, the fate of China's environment is both alarming and tremendously important to global sustainability. Furthermore, as human ecologist Baruch Boxer puts it, China's environmental experience is "perhaps the world's best case study" of the possibilities for environmental sustainability in a context of rapid social, economic, and political change.

Nevertheless, China's environment is typically overshadowed by other topics in both the Asian studies and environmental studies curricula. An informal survey of more than a dozen recent syllabi on political ecology, environmental geography, and environmental anthropology courses in the US revealed the use of almost no material about China. The long-standing trend of "Chinese exceptionalism," in which China is understood as completely unique (in contrast to case studies from other countries, which are more easily accepted as part of the general literature) may have fostered the misperception that little research has been published on China's environment. In fact, many educational resources are available.

Tony Saich's recent textbook, *Governance and Politics of China*, identifies environmental problems as the first of four major challenges that China faces in the twenty-first century. Just as China should be more fully integrated into environmental studies curricula, the environment also should, and can, have a much more significant presence in courses on Chinese history, politics, and society. Teaching on China's environment—whether as a significant component of classes in Chinese studies, environmental studies, or in its own right—remains rare, but with growing interest among students and faculty this is starting to change.

Photo montage created with two images courtesy of ImagineChina.
ImagineChina photo captions:

1. A ship passes the Three Gorges permanent ship lock, June 16, 2003. Lesser Three Gorges, Wushan county, Chongqing.
2. The Little Three Gorges in Wushan refers to the three separate valleys of the Daning River, namely Dragon-Gate Gorge, Misty Gorge, and Emerald Gorge. ©2004 ImagineChina



Guilin's trademark karst mountains—one among the many varied landscapes across China.
Photo by Karen Kristiansson.

This article draws on our experience leading a college seminar on “China’s Environment: History, Policy, and Sustainability” at UC Berkeley. Among the tasks we faced in designing the seminar were balancing theory with specific case studies, linking historical and contemporary perspectives, and providing enough background material to engage students from diverse academic backgrounds (our class included students from thirteen majors and programs). Limiting the number of topics and sources was another challenge. We decided to focus most of the seminar on recent publications about several different natural resources, while students pursued additional topics of interest by writing and presenting research papers and compiling annotated bibliographies. Among the topics they chose to explore were industrial pollution, international water conflicts, urbanization, wind power, and biogas energy. Here we present our suggestions for accessible readings, videos, and Web sites that may help introduce important issues of China’s environment into the broader curriculum.

APPROACHING CHINA’S ENVIRONMENT

Students arrive with a range of mental images of China’s environment. We found a slide show to be an effective and fun way to engage with their preconceived notions while introducing the general topic. Our aim was to broaden students’ understandings of the incredible variation of climate, land cover, and population density across the world’s third largest country, as well as to emphasize cultural, ethnic, and historical specificity at a smaller scale. Assembling both our own and colleagues’ photographs gave us a set of images with wide regional coverage as well as historical depth (We were fortunate to be able to cover a period of more than twenty years, thus illustrating changes from the Maoist period through economic reform.). Students may find additional images in illustrated features in the *New York Times*, *National Geographic*, and a plethora of Web sites as well as in Mao era books and periodicals.

Maps and electronic atlases such as ERIM International’s CD-ROM “China: the Environment” invite students to explore China’s spatial variations. One striking aspect of China’s geography introduced this way is the imaginary Aihui-Tenchong line. Roughly paralleling the 450 mm isohyet that forms the outer boundary of settled agriculture, the line divides China into approximately equal halves. West of the line lie most of China’s high mountains but only six percent of the population. To balance the standard treatment of China that highlights only the eastern seaboard and interior, we emphasized throughout the course that most of China’s unexploited natural resources are found in the west, in areas historically occupied by non-Han peoples. Geographical approaches to China are also suggested in a 1999 *Education About Asia* article by Robert McColl.

For book-length introductions to the range of China’s environmental challenges, Vaclav Smil’s texts have been mainstays in the field since the publication of *The Bad Earth* in 1984; his latest text is *China’s Past, China’s Future: Energy, Food, Environment* (2004). Another general survey of China’s environment is Richard Louis Edmonds’ *Patterns of China’s Lost Harmony: a Survey of the Country’s Environmental Degradation and Protection* (1994).

More important to our class was Edmonds’ edited volume, *Managing the Chinese Environment* (2000). Previously published as a special issue of *The China Quarterly*, this collection of essays provides a good sampling of China’s environmental issues and the political structures that manage them. The Woodrow Wilson Center’s *China Environment Series* provided a number of policy-oriented pieces, including a lucid and concise article by Kenneth Lieberthal that introduces the structure of the Chinese government and explains how that structure can complicate the implementation of environmental laws.

We spent one intense week toward the beginning of the semester introducing students to several different theoretical frameworks, and then did our best to make connections through-

out the semester between this theory and specific cases. (While some students found this immersion in theory quite helpful, others were somewhat overwhelmed. An alternative would be to introduce different theoretical frameworks gradually throughout the semester.) Along with the perspectives of institutional politics and environmental history, we found political ecology to be particularly useful. Broadly speaking, we understand political ecology to be a conceptual tool-kit and a theoretical framework that calls for an integration of political economy, cultural politics, and ecology in the analysis and understanding of environmental phenomena. Key themes in political ecology include access to and control over natural resources (including property rights), competing perceptions and cultural constructions of nature and the environment, and the effects of expanding markets on natural resource use. All of these themes are clearly important in each of the natural resource sectors in China, and material that falls broadly within the political ecology framework has been published on each.

ENVIRONMENTAL HISTORY

Theories of interactions between Chinese society and the environment have a long legacy. Classical concepts warranting mention include Karl Wittfogel's hydraulic despotism and G. William Skinner's regional and cyclical model. The 1967–68 debate between Lynn White, Jr. (writing in *Science*) and Yi-Fu Tuan (in *Canadian Geographer*) engaged students with the question of whether traditional Chinese society promoted a less damaging effect on the environment than Christian culture and Western technology (Tuan argues no, and our later readings lend support to his argument.).

More recently, two useful texts have been published on different aspects of China's environmental history. One is *Sediments of Time: Environment and Society in Chinese History* (1998). Edited by Mark Elvin and Liu Ts'ui-jing, this volume comprises twenty-one articles ranging from environmental records of the Tang dynasty through modern village environmental histories. Another text to consider is Judith Shapiro's *Mao's War on Nature* (2001), which discusses the devastating environmental destruction of the Mao years. While political ecologists may quibble with Shapiro over some aspects of her analysis, the material she presents on Maoist rhetoric of "attacking nature," the "Learn from Dazhai campaign," and the persecution of scientists who questioned dam-building and population policies highlights a crucial piece of modern Chinese history that has been ignored for too long. Shapiro writes in a style easily accessible to an undergraduate audience.

A recent spurt of writing on Chinese environmental history gives instructors a long list of other materials from which to choose. Among recent monographs are Nicholas Menzies' *Forest and Land Management in Imperial China* (1994), Robert B. Marks' *Tigers, Rice, Silk and Silt* (1998), and Mark Elvin's epic *The Retreat of the Elephants* (2004).

LAND RESOURCES

Our seminar allocated the most time to land-based resources—particularly forests, cropland, and grasslands. For all three, property rights and land tenure figured as important concepts for understanding competing claims about resource conservation and degradation.

We found that a fun way to draw students into the topic of forestry was to introduce China's new Natural Forest Protection Program. Popularly known as "the logging ban," the program was



"Man can conquer nature" Propaganda Artists Group, Shanghai 1976.

Courtesy of University of Westminster, Chinese Poster Collection.

Logs in Diqing prefecture, Yunnan, summer 1998.

Photo by Emily Yeh.





Terraced farmland created after the wetlands surrounding the edges of Lake Dianchi, near Kunming, Yunnan, were filled in during the Mao-era campaign to “encircle the sea, create farmland.” Photo by Nicholas Menzies.



Fencing on the pastures of Hongyuan county, Aba prefecture, Sichuan, summer 1998. Photo by Emily Yeh.

launched in 1998 in response to devastating floods on the lower reaches of the Yangtze River. Students read a short article by Zhang et al., from the Chinese government’s perspective, along with a dissenting view by Xu et al., and a rebuttal, all of which appeared in *Science*. A 2004 volume published by the China Council for International Cooperation on Environment and Development (CCICED) Task Force on Forests and Grasslands adds case studies on both the Natural Forest Protection Program and a related afforestation project, the Sloping Land Conversion Program. This debate provoked our students to engage with questions about policy implementation, the landscape practices of China’s non-Han minorities, land tenure, the “tragedy of the commons,” the reliability of Chinese statistics, and the relationship between population and environment.

Debate also enlivened our discussion of cropland—this time pitting Lester Brown’s 1995 booklet *Who Will Feed China?* against researchers who dispute Brown’s alarmism about China’s growing grain consumption and declining availability of cropland. A special issue of *Food Policy* presents numerous arguments against Brown’s methods and conclusions. Relevant here are questions about urbanization and loss of cropland, projections of future food demand, and the accuracy of current government data on arable land. This debate about the availability of cropland then lends itself nicely to a discussion about changes in land tenure from collectivization and the Mao era “Learn from Dazhai” campaign through the present tentative moves toward privatization.

Dee Mack Williams’ ethnographic study of pastoralists, *Beyond Great Walls: Environment, Identity and Development on the Chinese Grasslands of Inner Mongolia* (2000), was especially appreciated by our students for discussing environment-society relations in a non-Han region of China with a theoretically sophisticated yet readable style. Williams masterfully weaves together key themes in political ecology, including competing perceptions of degradation; privatization and enclosure; critical analyses of scientific narratives; and the cultural politics of landscapes. Graham Clarke’s edited volume *Development, Society, and Environment in Tibet* (1998) was also well received for its coverage of Tibetan regions.

Chris Coggins’ new book *The Tiger and the Pangolin: Nature, Culture and Conservation in China* (2003) fills an important gap with its historical and contemporary perspectives on the political ecology of wildlife conservation and resource management. Another recent contribution on this topic is the video documentary *Mystery of Yunnan Snub-nosed Monkey*, produced by two prominent Chinese environmentalists, Shi Lihong and Xi Zhinong, through their new company, Wild China Films. Available in English on VCD, this documentary is somewhat romantic in its portrayal of wildlife and conservation, but is also groundbreaking as one of the first documentaries about China’s environment produced within China to date.

WATER RESOURCES

The international debate over China’s construction of the world’s largest dam has been at the forefront of public consciousness about China’s environment for over a decade. Patience Berkman offers maps and lesson plans on the Three Gorges Dam controversy in her 1998 *Education About Asia* article. We showed the video *Great Wall Across the Yangtze*, featuring journalist Dai Qing and other dam opponents from abroad as well as a few statements in favor of the dam from Chinese officials. The companion book *The River Dragon Has Come!* (1998) addresses the same arguments in greater depth.

With the completion of the Three Gorges Dam structure in the summer of 2003, much of the debate has become moot. Nonetheless, China’s dam-builders have set their sights on many other rivers, such as the Nujiang and Lancangjiang (Salween and Mekong), raising many of the same concerns about the environmental and social costs and benefits of dams.

The legacy of past dams is treated in Shapiro's *Mao's War on Nature*, while students found present-day dam building to be a fruitful topic for online research into news sources and organizations such as the International Rivers Network, Rivers Watch East and Southeast Asia, and the World Bank.

Urban water supplies and water pollution are also of pressing concern to Chinese policy-makers and citizens alike. According to the Woodrow Wilson Center, as of 1998, eighty-six percent of China's rivers exceeded standards for industrial pollution, while 400 of China's 600 major cities suffered from severe water shortages. In another engineering feat to rival the Three Gorges Dam, work has begun on the gargantuan South-North Water Transfer system that would reroute rivers across China, including the upper reaches of the Yangtze on the Tibetan Plateau, to meet the demand of cities in the north. These issues are covered well in *Managing the Chinese Environment* and the *China Environment Series*.

ENERGY AND INDUSTRIAL POLLUTION

China's energy system is of global importance: the country's greenhouse gas emissions are expected to surpass those of the United States early in this century. A good place to start learning about both energy and industrial questions is *Energizing China: Reconciling Environmental Protection and Economic Growth* (1998). With sections on "energy and emissions," "environment and public health," "energy and the economy," "the domestic context," and "international dimensions," this edited volume could become the basis for one to several weeks of class lecture and discussion.

For an official government perspective, we sent students to the Web site of China's State Environmental Protection Agency and the annual State of the Environment report. The World Bank presents its vision for balancing development with environmental protection in China on its Web site, as well as in the report *Clear Water, Blue Skies* (1997). The interplay between environmental policy and economic trends is highlighted in a *China Environment Series* article by Jonathan Sinton and David Fridley, while Lester Ross considers the benefits of international trade standards on environmental compliance by Chinese factories in his chapter of *Managing the Chinese Environment*.

Elizabeth Economy's *The River Runs Black* (2004) and two books co-authored by Stanford researchers, *Implementing Environmental Policy in China* (1995) and *Environmental Regulation in China* (2000), provide detailed case studies that illustrate the challenges of balancing environmental and economic concerns at the local level. Combining common themes from these cases, we asked students to play the roles of factory owners and workers, neighbors complaining about pollution, local environmental protection officials seeking to enforce national standards, and a local mayor charged with keeping order. Over the course of an hour, students attempted to forge alliances and negotiate compromises that met their objectives. An exercise such as this can reinforce the point made in Lieberthal's article that environmental policy implementation is often a process of balancing conflicting interests.

POSITIVE STEPS FOR ENVIRONMENTAL SUSTAINABILITY

Teaching on China's environment runs the risk of overwhelming students with the sheer number of potential environmental catastrophes. To balance out a tendency towards incapacitating pessimism, we devoted the end of our seminar to efforts that are pushing China towards a more sustainable path, including international cooperation and the rise of a Chinese environmental movement.

The aforementioned *China Environment Series* and other publications of the Woodrow Wilson Center, all available online, are excellent sources of information on Chinese environmental education, activism, and NGOs, as well as foreign organizations working on energy and the envi-

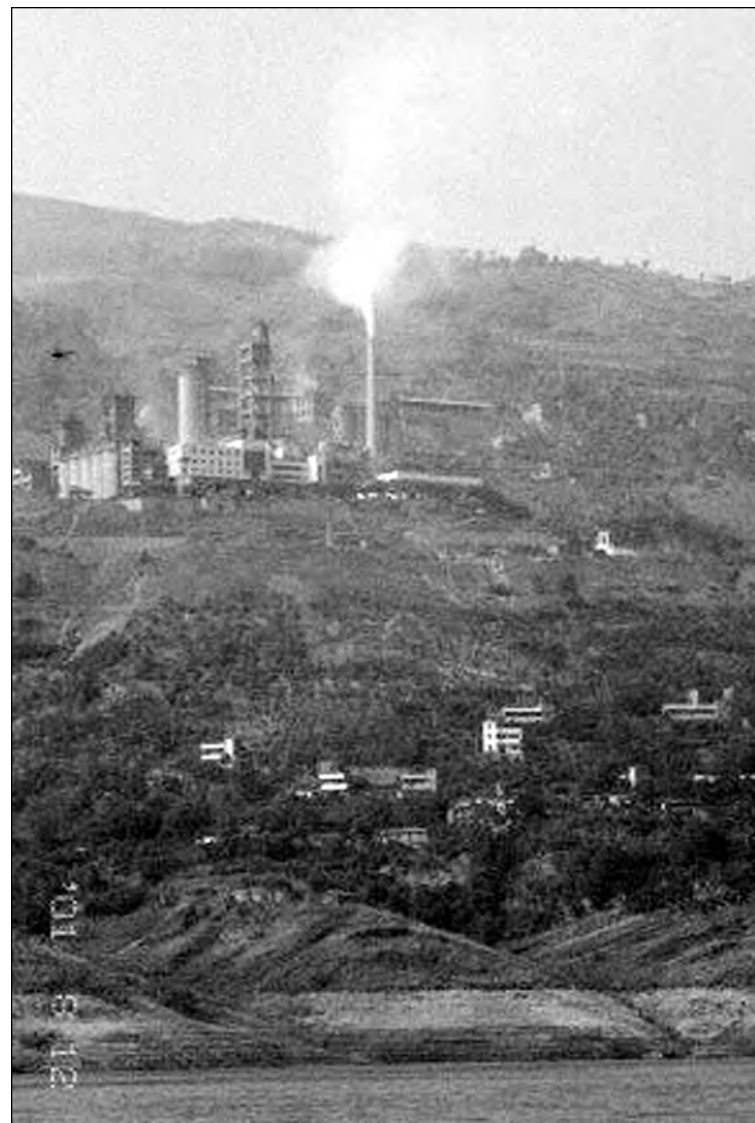


Three Gorges permanent ship lock, June 16, 2003. Lesser Three Gorges, Wushan county, Chongqing.

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Pollution from factory along the Yangtze River, 2001.

Photo by Joanna Lewis.





New state environmentalism: "Planned land use benefits the nation and the people." Lhasa, TAR, Summer 2002. The billboard stands on drained wetland.
Photo by Emily Yeh.

environmental quality is of increasing global concern. With resources such as those presented in this article, instructors can ensure that every student who completes a survey class on China or environmental studies gains a deeper understanding of the important topic of China's environment. ■

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