

# WebMemo



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## Industry v. Environment: China May Choke on Its Own Growth

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The air at the Beijing Olympics provided strong competition for headlines against Michael Phelps and Usain Bolt. Almost every story, article, or feature included comments that air quality would soon worsen again as full-scale industrial activity resumed. The perception is that there must be a tradeoff between a cleaner environment and economic growth.

The truth, however, is that the People's Republic of China (PRC) must improve its environment in order to sustain growth. The Chinese economy is far more efficient than it was 30 years ago, but its much-heralded expansion has placed unprecedented strain on natural resources and is now beginning to menace public health. Regardless of whether its economic size ever rivals or surpasses that of the U.S., China may very well match the now extinct USSR's astounding levels of environmental degradation, inefficient indigenous industry, and eventual economic stagnation.

**Water, Water Not Everywhere.** The PRC faces a water crisis. Starting at the top, the Himalayan glaciers are melting.<sup>1</sup> Winter 2008 levels on the Yangtze were the lowest since record keeping began in 1866, and the Yellow's outflow is a shocking 10 percent of what it was 40 years ago.<sup>2</sup>

Water consumption has already soared and will naturally continue to rise with population growth, urbanization, and industrial expansion. If glaciers can no longer provide sufficient water, rice output will plummet beyond possibility of domestic

replacement.<sup>3</sup> The Communist Party's hallowed goal of grain self-sufficiency will be lost and the domestic and international impact of food dependence will make oil pale by comparison.

Groundwater use, falling water tables, and subsidence occur in every eastern city, costing \$75 billion to date, with the promise of far greater costs to come. In rural areas, the Ministry of Health labels over 40 percent of drinking water unsafe. One-quarter of all surface water is unusable, and three-fifths can no longer support fish. Sanitation is a crucial health indicator, and despite growing wealth, China has badly trailed the global average on this count.<sup>4</sup> Grand plans for hydropower are doomed in the face of declining water levels, accentuating the need for coal, which in turn worsens air quality.

**Other Elements Also Fouled.** Receding water is also reducing the amount of available arable land. In 1996, arable land stood (officially) at slightly over 130 million hectares. In 2007, arable land slipped below 122 million hectares, approaching the central government's long-held 120 million hectare "critical mark," and the loss is accelerating.<sup>5</sup>

The Olympics notwithstanding, the degradation of air quality is bad enough to be fatal.<sup>6</sup> Chinese cit-

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ies account for the majority of the world's 20 worst urban air environments, and perhaps three-quarters of a million people die annually due to air pollution.<sup>7</sup> In addition, while climbing the global income ladder, China has moved above the World Health Organization's global average for birth defects. The link to air pollution is clear; leading provincial coal producer Shanxi has the worst incidence of birth defects, a correlation acknowledged by the provincial family planning agency.<sup>8</sup>

The 2008 central government budget pushes environmental spending 23 percent higher to \$35

billion. The State Council sends five times that amount, however, to aid local governments whose industrial expansion is causing the damage.<sup>9</sup> Close to \$90 billion was authorized for water pollution, and close to \$85 billion for air pollution in the 2006–2010 plan, but as a percentage of GDP, this is barely more than 2000–2005: a little over 1 percent annually.<sup>10</sup>

The 1 percent figure is dwarfed by the World Bank's 2006 estimate of costs from air and water pollution: 5.8 percent of GDP in direct costs, health expenditure, and the like.<sup>11</sup> This is the best avail-

1. "Himalayan Glacier Melting Observed From Space," ScienceDaily, March 28 2007, at <http://www.sciencedaily.com/releases/2007/03/070327113346.htm> (August 25, 2008).
2. China Radio International, "Yangtze Suffers Lowest Water Level in Records," China.org.cn, January 16, 2008, at [http://www.china.org.cn/environment/news/2008-01/16/content\\_1239635.htm](http://www.china.org.cn/environment/news/2008-01/16/content_1239635.htm) (August 25, 2008); Brook Larmer, "Can China save the Yellow—Its Mother River?," *National Geographic*, May 2008, at <http://ngm.nationalgeographic.com/2008/05/china/yellow-river/larmer-text> (August 25, 2008).
3. Debora MacKenzie, "Melting glaciers will trigger food shortages," *New Scientist Environment*, March 20, 2008, at <http://environment.newscientist.com/article.ns?id=dn13519> (August 25, 2008).
4. Yin Yueping, Zhang Kaijun, and Li Xiaochun, "Urbanization and Land Subsidence in China," International Association for Engineering Geologists 2006, 10th Annual Meeting, Paper No. 31, at [http://www.iaeg.info/iaeg2006/PAPERS/IAEG\\_031.PDF](http://www.iaeg.info/iaeg2006/PAPERS/IAEG_031.PDF) (August 25, 2008); Xinhua, "Over 40% Drinking Water in Rural Areas Unhealthy," China Daily, February 18, 2008, at [http://www.chinadaily.com.cn/china/2008-02/18/content\\_6464053.htm](http://www.chinadaily.com.cn/china/2008-02/18/content_6464053.htm) (August 25, 2008); "China to Invest Billions to Deal with Water Pollution," China Daily, January 15, 2008, at [http://www.chinadaily.com.cn/bizchina/2008-01/15/content\\_6395700.htm](http://www.chinadaily.com.cn/bizchina/2008-01/15/content_6395700.htm) (August 25, 2008); WHO and UNICEF, "Water Supply and Sanitation Data Query Tool," Joint Monitoring Programme for Water Supply & Sanitation, at <http://www.wssinfo.org/en/sanquery.html> (August 25, 2008).
5. David Harman, "China's Arable Land Acreage Falls in 2007," *Resource Investor*, April 17, 2008, at <http://www.resourceinvestor.com/pebble.asp?relid=42019> (August 25, 2008).
6. Two-thirds of the global increase in greenhouse emissions in 2006 came from China, which emitted 14 percent more than America did in 2007. See "China now no. 1 in CO2 emissions," Netherlands Environment Assessment Agency, at <http://www.mnp.nl/en/dossiers/Climatechange/moreinfo/Chinanowno1inCO2emissionsUSAinsecondposition.html> (August 25, 2008). The central government will spend nearly 80 percent more this year, or \$6 billion, on measures to control emissions, but this is a minor part of budget. See "Chinese government to spend 78 percent more on energy efficiency, emission reduction," Trade Council of Denmark, China, March 27, 2008, at <http://www.dtcchina.um.dk/en/menu/InfoAboutChina/Marketopportunities/News/EnergyAndEnvironment/ChineseGovernmentToSpend78MoreOnEnergyEfficiencyEmissionReduction.htm> (August 25, 2008).
7. Richard McGregor, "750,000 a Year Killed by Chinese Pollution," *Financial Times*, July 2, 2007, at <http://www.ft.com/cms/s/0/8f40e248-28c7-11dc-af78-000b5df10621.html> (August 25, 2008).
8. Reuters, "China Birth Defects Soar Due to Pollution," October 29, 2007, at <http://www.alertnet.org/thenews/newsdesk/PEK155250.htm> (August 25, 2008).
9. Reuters, "Selected Figures from China's 2008 Budget," March 5, 2008, at <http://www.reuters.com/article/newsOne/idUSPEK20553220080305> (August 25, 2008); "Total Investment in Fixed Assets in Urban Areas Kept Surging in from January to July," National Bureau of Statistics, August 15, 2008, at [http://www.stats.gov.cn/english/newsandcomingevents/t20080815\\_402498716.htm](http://www.stats.gov.cn/english/newsandcomingevents/t20080815_402498716.htm) (August 25, 2008).
10. U.S. Commercial Service, "Environmental Technologies," BuyUSA.gov, at <http://www.buyusa.gov/china/en/environmental.html> (August 25, 2008).
11. "Cost of Pollution in China," World Bank and State Environmental Protection Administration, February 2007, at [http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/China\\_Cost\\_of\\_Pollution.pdf](http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/China_Cost_of_Pollution.pdf) (August 25, 2008).

able adjustment to GDP after China's own green GDP project was canceled.<sup>12</sup> While the difficulty in calculating ecologically adjusted GDP was no doubt a factor, the unattractive results looming in a completed project were likely the primary motivation behind the cancellation.

**The Health Trap.** From tainted water to birth defects, public health in China is under assault. Central government health spending will increase 25 percent, but it will still be only \$13 billion, a shockingly low figure when considered on a per capita basis. Urban health insurance coverage expanded from 155 million to 220 million people in 2007, but the program to universalize urban insurance by 2010 must reach over 200 million more citizens.<sup>13</sup> And that is the easy part. The rural population of 900 million requires massive aid to participate even in an embryonic health insurance system.

Better health is the core of economic development. For instance, the single best correlate with long-term economic growth is life expectancy.<sup>14</sup> Unfortunately, environmental conditions capable of harming Chinese public health are clearly in place. It takes up to a generation for the effects of environmental harm to manifest in public health, but the

first signs are already appearing. It also takes years or even decades for large-scale public health programs to help, and Beijing has not yet grasped the magnitude of the challenge.

**The USSR: An Instructive Comparison.** It is not possible to draw definitive conclusions concerning the timing and degree of the impact of the PRC's environmental depletion on its long-term economic growth, in no small part because the extent of the depletion is unprecedented. There may be one instructive comparison, though, and it does not bode well.

China's reform era is 30 years old. For more than 30 years after World War II, the Soviet Union boasted an extremely impressive industrial expansion. Yet under the surface, ecological destruction had actually begun to reduce life expectancies and eventually led to prolonged economic stagnation. Moreover, the Russian Federation's recent recovery stems from its natural resources, which the PRC no longer has. It may be that, a generation from now, China's industrial boom will be viewed in a very different light.

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12. Melinda Liu and Jonathan Ansfield, "Where Poor Is A Poor Excuse," *Newsweek*, July 7–14, 2008, at <http://www.newsweek.com/id/143693> (August 25, 2008).

13. Xinhua, "China's 2008 Draft Budget Report," Embassy of the People's Republic of China in the Republic of Liberia, March 5, 2008, at <http://lr.china-embassy.org/eng/gvzg/a123/t412352.htm> (August 25, 2008); "China's Basic Medical Insurance System Covers 221 Million People," January 22, 2008, at [http://news.xinhuanet.com/english/2008-01/22/content\\_7473179.htm](http://news.xinhuanet.com/english/2008-01/22/content_7473179.htm) (August 25, 2008).

14. Life expectancy in the six richest provinces—all coastal—is more than a decade longer than in the six poorest provinces, which are all interior. See Shan Juan, "Life expectancy on rise, but gap remains," *China Daily*, January 10, 2008, at [http://www.chinadaily.com.cn/china/2008-01/10/content\\_6383396.htm](http://www.chinadaily.com.cn/china/2008-01/10/content_6383396.htm) (August 25, 2008). Gaps in life expectancy cannot be closed quickly. The degree of internal divergence implied by this chasm may be inconsistent with a unified economy. This does not mean China will be poor or politically fragmented, but it may increasingly become multiple large economies, divided on clear geographic lines and with very different features.