china perspectives

Development and environmental conflicts in China

LI MA AND FRANÇOIS G. SCHMITT

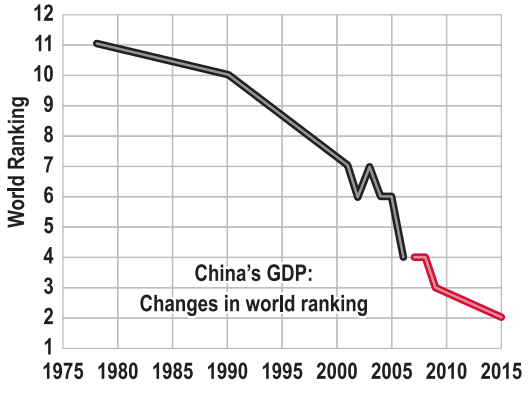
China has paid little attention to environmental issues over the decades, preferring to give priority to economic development. In this article, we start off with an examination of the acute and catastrophic problems in the environmental domain. We then consider environmental social conflicts these problems have generated, and which have grown exponentially in recent years. We conclude by assessing the Chinese authorities' approach to these problems.

Introduction

Over the past few decades, China has sustained economic growth averaging 9.8 percent between 1978 and 1997, [1] putting it in the fourth place globally in GDP terms. In 2006 and 2007, growth has increased at a rate (11.1 percent and 11.5 percent) [2] that should make China overtake Germany for the third spot in 2008. The same projections show the Chinese economy overtaking Japan's around 2015 (Figure 1). China, which had been dubbed the "workshop of the world," is also the top producer of consumer goods such as textiles, televisions sets, mobile phones, and toys. Since the early 1980s, the economy has grown five-fold, and per capita income has quadrupled. [3] Internally, this fast-paced growth has led to a sharp fall in the number of people living below the poverty line, as well as the emergence of a middle class. Behind these gratifying data, however, many problems lurk. Firstly, studies show that growth has been accompanied by spectacular inequalities between urban and rural residents [4] (Figure 2). Moreover, the education and social protection

Graph 1. Changes in China's Gross Domestic Product: past global ranking (black line) and future projections (red line)

If the growth rate is kept up, China will overtake Germany in 2008 and Japan around 2015.



Source: World Bank

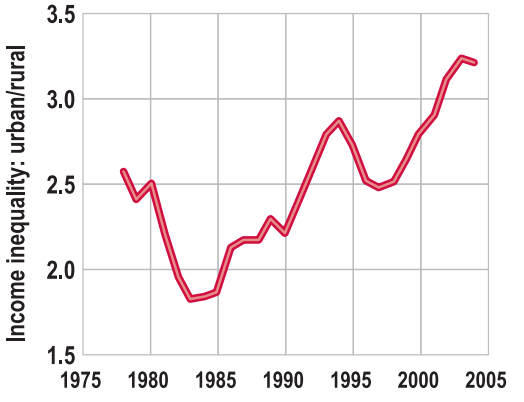
1. World Bank, *World Development Report, 1998/99*, Oxford, Oxford University Press, 1999.
2. *Beijing information*, 30 January 2007; China's GDP growth rate in 2006 was revised to 11.1%, Xinhua, 11 July 2007. For 2007 figures, Xinhua, 12 January 2008.
3. National Bureau National of Statistics : http://www.stats.gov.cn/english/ (April 2008); AFP, 14 July 2007.
4. Martin King Whyte, " City versus countryside in China's development," *Problems of Post-Communism*, n°43, 1996, pp. 9-22; Zhu G., *Zhongguo de pinfu chaju yu zhengfu kongzhi* (The cleavage between the rich and poor in China and governmental control), Shanghai, Shanghai sanlian shudian, 2002; Also Li Ma and François G. Schmitt, "Réformes économiques et inégalités en Chine: évolution des inégalités selon les régions et entre urbains et ruraux," (Economic reforms and inequalities in China: Evolution of region-wise and urban-rural inequality) in Yunnan Shi and Françoise Hay (Eds.), *La Chine: forces et faiblesses d'une économie en expansion, (China: Strengths and weaknesses of an expanding economy)*, Rennes, Presses Universitaires de Rennes, 2006, pp. 117-138.



A man collects snails from the algae-infested Taihu lake
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reforms carried out in the late 1990s have left many people with average and modest incomes in a precarious situation. These multiple problems have fuelled many social movements, which have spread at a disquieting rate in recent years. In July 2005, Zhou Yongkang, then public security minister, revealed figures confirming a steep rise in the number of protest movements, officially labelled "mass incidents" (*quntixing shijian*), a catch-all term for sit-ins, strikes, demonstrations, roadblocks, traffic disruptions, picketing of leaders, confrontations with police, collective protests, and riots. Figures for 2004 showed 74,000 protest movements involving a total of 3.76 million people. [5] In 2005, (according to published Chinese government figures) the number of protest movements rose by 6.6 percent to 87,000. [6] According to the Public Security Bureau, its branches recorded 200,000 petitions and visits by protesters in 2005 and dealt with them with a view to forestalling further social movements. The sharp rise in the number of movements, linked to rising inequalities, is disturbing. [7] Social movements recorded in recent years were mainly sparked by ill-treatment and exploitation of internal migrant workers, factory closures, illegal expropriation of land (34 million farmers lost all

Graph 2. Changes in the urban-rural average income divide, 1978-2004



Sources: China Statistical Yearbook 1998-2006.

5. Murray Scot Tanner, " China rethinks unrest ," *The Washington Quarterly*, n°27, 2004, pp. 137-156; " Protests in China: The cauldron boils," *The Economist*, 29 September 2005.
6. Statement by Wu Heping, spokesman of Public Security Bureau: *Renmin Ribao*, 20 January 2006.
7. Li Ma and François G. Schmitt, *op cit.*; Wenran Jiang, "The dynamics of China's social crisis," *China Brief*, VI, 20 January 2006 (http://www.jamestown.org/) (April 2008).

or part of their land between 1987 and 2001), [8] disputes over urban accommodation, local corruption, and especially the environment.

China's environmental problems stem from its decades-long strong growth for the profit of humans at the expense of nature. Overall, China has lagged behind in environmental matters, in terms of international indicators: An official study published recently by Xinhua puts China in the 100th place among 118 developed or developing countries in terms of ecological modernisation. [9] The worst situation is with regard to water – lakes, rivers, and coastal areas. For instance, China's third biggest lake, Taihu, is polluted by a blue-green phytoplankton algae that recently proliferated thanks to abundant nutrients contained in industrial discharge – a eutrophication phenomenon.

Wuxi City has found the drinking water that it draws from this lake turning greenish and nauseous, disrupting supplies to its two million residents. [10] More than 70 percent of China's lakes and rivers are said to be polluted, and "at least 320 million rural residents have no access to drinking water, 400 cities are inadequately supplied, with 110 of these seriously lacking supplies," according to Wang Shucheng, who was water resources minister until last year. [11]

Atmospheric pollution is equally serious. According to the State Environmental Protection Administration (SEPA), [12] air quality in nearly half of China's cities is medium or bad due to suspended particles stemming from urban pollution. [13] In cities with more than a million residents, sulphur dioxide (SO_2) is among the most serious pollutants. China is the world's largest emitter of sulphur dioxide, with 25.5 million tonnes produced in 2005. This leads to recurring acid rain. For instance, in Guangzhou, during the first three months of 2007, acid rain reached 100 percent, with pH dropping to 3.8, [14] a high acidity level that could give rise to infectious diseases.

In this article, we discuss social movements associated with environmental issues, and the authorities' response. Sometimes the damage is so great that it affects people's vital needs, leaving them no choice but to join collective action and collective movements or violent collective protest. In the first section below, we consider conflicts sparked by environmental problems. Then we examine the authorities' attitude to these conflicts. We seek to assess in particular the role of an authoritarian leadership under a sole ruling party in this catastrophic environmental situation, and the need for structural reforms that are indispensable for China's stability.

Conflicts stemming from pollution problems

Pollution incidents

According to the *China Statistical Yearbook*, between 1995 and 2004 there was an average of 1,800 pollution incidents annually, ranging from 1,400 to 2,400 accidents. (One of the most widely reported was the benzene poisoning in the Amur River in November 2005, which provoked a diplomatic crisis with Russia.) [15] At the local level, these incidents of pollution, or more recurring problems, could endanger the health, and even the life, of people in the most seriously polluted cities. According to a report by the World Bank and SEPA, pollution lies behind 750,000 premature deaths annually. [16] For instance, the incidence of cancer is high in Beijing, and in parts of the countryside such as Huangnijiao, a village in Zhejiang Province, 50 percent of inhabitants in the 35-45 age group have liver cancer due to industrial pollution. The incidence of cancer is also high in the nearby cities of Xinchang and Shengzhou, sparking major popular unrest in July 2005. [17] It is worth noting the remarks of Pan Yue, deputy director of SEPA, in an interview with *Der Spiegel*. A former journalist, Pan eschews official jargon, as these robust words show: [18]

> *Acid rain is falling on one third of the Chinese territory, half of the water in our seven largest rivers is completely useless, while one fourth of our citizens does not have access to clean drinking water. One third of the urban population is breathing polluted air, and less than 20% of the trash in cities is treated and processed in an environmentally sustainable manner.*

8. *Le Monde*, 12 December 2005.
9. AFP, 28 January 2007; the assessment was based on some 30 indicators.
10. *Le Monde*, 5 June 2007; Xinhua, 12 June 2007.
11. *Beijing Information*, 12 September 2006.
12. http://english.sepa.gov.cn/ (April 2008).
13. Xinhua, 24 October 2006.
14. *Xianggang dajiyuan shibao*, 6 July 2007.
15. AFP, 27 November 2005.
16. The World Bank and SEPA, *Cost of Pollution in China: Economic Estimates of Physical Damages*, 2007, 151 pp. This alarmist report was suppressed and censored following Chinese government pressure: *Le Monde*, 10 July 2007.
17. Zhang Yulin, "Zhengjing yitihua kaifajizhi yu zhongguo nongcun de huanjing chongtu – yi Zhejiang de sanqi 'quntixing shijian' wei zhongxin" (The mechanism for developing political and economic integration and environmental conflicts in China's countryside: The case of 'mass incidents' in Zhejiang), *Tansuo yu zhengming*, No. 5, May 2006.
18. *Der Spiegel*, 7 March 2005.

Asked what effect it has on the economy, Pan said:

> *It's massive. Because air and water are polluted, we are losing between eight and 15% of our gross domestic product. And that doesn't include the costs for health. Then there's the human suffering: In Beijing alone, 70% to 80% of all deadly cancer cases are related to the environment. Lung cancer has emerged as the No. 1 cause of death.*

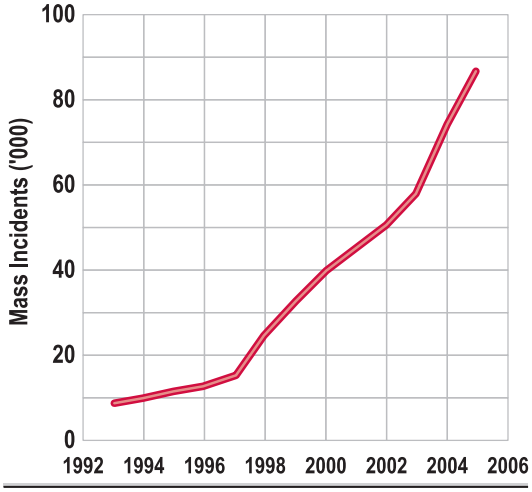
Factories (or other establishments) responsible are targeted by nearby residents, who mount protest movements. An earlier study on the subject of environmental conflicts is that of sociologist Jun Jing in 2000, detailing 278 conflicts from the mid 1970s to the early 1990s. [19] This number seems quite modest compared to recent figures; since the start of the 21st century, the number has grown dramatically.

Recent increase in environmental conflicts

In terms of overall figures (including different issues and protests), available data indicates a steep increase in protest movements in recent years. Chinese authorities label them "mass incidents," but we will also use the term "collective incidents" in this article. According to the *Blue Book of Chinese Society 2005*, published by the Chinese government, in the 10 years between 1993 and 2003, mass incidents confronting the Chinese authorities rose from 10,000 to 60,000, and the number of participants from 730,000 to 3,070,000. [20] There were 74,000 protest movements in 2004, with a total of 3.76 million people taking part; the number of protests rose to 87,000 in 2005, [21] an average of 240 incidents each day. [22] These figures, drawn from Chinese official sources, are alarming. They show a steep increase since 1993 (Figure 3). It should be noted that these protests also include social movements linked to the situation of retired workers, labour conditions, dismissals, and expropriation of property, and don't relate to environmental problems alone.

As for purely environment-related conflicts, figures are unavailable for the period as a whole, but SEPA director Zhou Shengxian admitted in an interview that the number of collective incidents linked to the environment had risen 29 percent yearly in recent years. Zhou did not give the figures for the most recent years, but said that in 2005 there were 51,000 incidents linked to environmental pollution. [23] Such statements coming from multiple sources are not easy to combine, because they give no indication of the method of data collection or the criteria used in categorising an event. It is not specified, for instance, whether the 51,000 incidents linked to pollution are accounted for in the overall figure of 87,000 collective incidents. If this is the case, it means that 60 percent of collective incidents in 2005 were due to pollution problems, which is already a high percentage. Using Zhou's second figure of 29 percent growth, we arrive at a total of 40,000 collective incidents linked to pollution in 2004, which, taken with the total of 74,000 collective events mentioned in Figure 3 would correspond to 53 percent. If this is extrapolated to the previous year, the figure of 29 percent growth gives us 31,000 collective incidents linked to pollution in 2003, which, read with the total of 58,000 collective incidents in Figure 3, also yields 53 percent. In the absence of other figures, we can regard as a realistic hypothesis that the figures mentioned come from a common accounting, and advance the figure of 53 to 60 percent as the total of collective incidents linked to environmen-

Graph 3. Number of mass incidents in China 1993-2005. A sharp rise is evident.



Sources : Tanner (2004) for figures until 2004 and Xinhua report of 9 December 2006 for 2005-2006 figures.

19. Jun Jing, "Environmental protests in rural China," *in Chinese Society, Change, Conflict and Resistance*, Elizabeth J. Perry and Mark Selden (eds.), Routledge, 2000, pp. 143-160.
20. *2005 nian shehui lanpishu* (The Blue Book of Chinese Society 2005), Beijing, Shehui kexue wenxian chubanshe, December 2004.
21. *Ibid* for figures till 2004; see also Murray Scot Tanner, "China rethinks unrest," *The Washington Quarterly*, n°27, 2004, pp. 137-156; *The Economist*, 29 September 2005; For 2005 and 2006 figures, see *Xinhua*, 9 December 2006.
22. *New York Times*, 20 January 2006.
23. Reuters, 21 April 2006. Also *Chicago Tribune*, 21 January 2007, online edition; and *Fazhi Ribao (Legal Daily)*, 13 December 2006.

tal pollution problems between 2003 and 2005. In an interview with Radio Free Asia, Zhou indicated that "mass incidents" provoked by pollution are increasing,[24] and he elsewhere stressed that pollution had become a major cause of social instability.[25] This trend is further confirmed in a report published in March 2008.[26]

In Table 1, we cite examples reported in the Chinese and international press, some of which are among the most dramatic events. The thousands of cases included in the statistics above are certainly not all as dramatic. These examples concern eight of the biggest instances of revolt or protest movements on environmental issues in recent years. The Dongyang riots of April 2005 were clearly a major event, and showed that radicalisation can pay, because this movement was able to gain the attention of the central authorities. These cases also show the contagious effect of the Dongyang riots: In the following months, four similar revolts took place in the same province, namely Zhejiang. The demonstrators noted in many cases that the Dongyang riots had served as their model, pointing to a real risk of contagion for this type of movement. This contagion benefits from modern communication methods such as mobile phones with digital cameras, the Internet, and access to foreign media. It makes for a new form of "resource mobilisation" for social movements,[27] which may be called the "multimedia method." Such communication could unleash chain reactions of protest movements, especially when the grievance sparking the protest is shared by a wider population and if the movement is organised. We analyse this later, while discussing institutional response to protest movements linked to the environment.

Institutional action and its limits

Environmental revolt and dynastic succession

We will now examine the attitude of Chinese authorities towards this situation. The authorities need to react, if only for economic reasons, given that according to SEPA, environmental problems cost the government about 10 percent of GDP in 2005.[28] In fact, violent collective protests linked to environmental problems have left China's leaders increasingly worried, as they recognise that it is a major factor in social instability. More generally, a close look at Chinese imperial history would clearly show that popular revolt has often been linked to climatic and meteorological problems.[29] Among the Chinese dynasties, the Tang,[30] Song, Yuan, and Ming were overthrown following popular revolt that developed alongside environmental problems: poor harvest, locust attacks, drought, and major floods leading to famine. These historical traditions of legitimisation of environmental revolts persist strongly in post-imperial Chinese culture and lend a strong underlying legitimacy to environment-related social movements in China today. This historical aspect explains why on the one hand populations affected by pollution problems do not hesitate to join together to put up petitions and demonstrate, and on the other why the government remains wary of these movements, and often endorses the protests by shutting factories and establishments at the centre of troubles.

Administration of environmental protection: SEPA and EPBs

On the institutional front, the authorities' response to environmental problems and the movements they generate is still far from perfect. While Chinese laws on environmental protection have addressed a number of pollution issues (Table 2), they are still too vague when it comes to modalities for application.[31] The implementation of various laws and directives is left to SEPA. Created to replace NEPA (Na-

24. Via http://epochtimes.com/b5/7/7/6/n1765439.htm, April 2008.
25. *Fazhi ribao op cit.*
26. *Huanjing lüpishu, Zhongguo huanjing de weiji yu zhuanji (2008)* (Green book on the crisis and environmental transition in China (2008)), Yang Dongping et al. (eds.), Shehui kexue wenxian chubanshe (Social Sciences Academic Press), Beijing, 2008, pp. 149-160.
27. For theories of social movements and resource mobilisation, see Sidney Tarrow, *Power in Movement: Social Movements, Collective Action and Politics*, 2nd edition, Cambridge, Cambridge University Press, 1998; Doug McAdam, Sidney Tarrow, Charles Tilly, *Dynamics of Contention*, Cambridge, Cambridge University Press, 2002. These authors have developed a comprehensive theory of resource mobilisation for social movements, but they have not yet taken into account "multimédia" resources and their great potential in the organisation of protest movements.
28. *Shanghai Daily*, 6 June 2006.
29. This seems to hold true for other civilisations as well: See for instance, Emmanuel Le Roy Ladurie, *Histoire humaine et comparée du climat, disettes et révolutions 1740-1860*, Paris, Fayard, 2006.
30. For the Tang, one recent study sets out the correlations between years of poor monsoon (derived from an examination of sedimentary core) and the years of revolts; see Gergana Yancheva et al., "Influence of the intertropical convergence zone on the East Asian monsoon," *Nature*, vol. 445, 2007, pp. 74-77; see also David Zhang, Jane Zhang, Harry Lee, Yuan-qing He, "Climate change and war frequency in Eastern China over the last millennium," *Human Ecology*, vol. 35, 2007, pp. 403-414.
31. Elizabeth Economy, *The River Runs Black*, Ithaca, Cornell University Press, London, 2004 ; Alex Wang, "The Downside of Growth: Law, Policy and China's Environmental Crisis," *Perspectives*, vol. 2, 2000 ; Benjamin van Rooij, "Implementation of Chinese Environmental Law: Regular Enforcement and Political Campaigns," *Development and Change*, vol. 37, 2006, pp. 57-74.

tional Environmental Protection Agency) in 1998, SEPA was at the same time elevated to ministerial rank. In March 2008, it was announced that the agency would soon attain full ministerial status, with a corresponding boost to its resources. In the current situation, its role is central to environmental protection, and it is the locus for international contact in the environmental domain. Its role, among others, is to ensure monitoring, organise measuring networks, fund research, formulate laws, and promulgate control procedures. SEPA also conducts Environmental Impact Assessments for major industrial projects. To accomplish all this, the State Council decreed that SEPA could have a mere 200 officials, [32] grossly insufficient to carry out inspections, which have been growing in number as campaigns and crackdowns have mounted over the past few years.

At the local, that is provincial and municipal levels, laws and national directives on environmental protection are implemented by the Environmental Protection Bureaus (EPBs). The EPBs depend on both SEPA and local governments. The 2,000-odd bureaus, spread around the country and totalling some 60,000 employees, [33] are vested with the task of carrying out monitoring, watching out for emissions from new projects, enforcing fines on polluting enterprises, and launching legal actions against those continuing to cause pollution problems.

Supervision by SEPA and the EPBs and limits to their actions

Since 2001, spot checks formed part of several campaigns of inspections and punitive actions: The number of inspections rose from around 140,000 in 2001 to 500,000 in 2003, [34] leading to the closure of the most highly polluting factories. These inspection campaigns were carried out by SEPA officials in collaboration with six other ministries, including those of justice and supervision. [35] In 2006, inspections targeted 720,000 enterprises, 28,000 problem cases were detected, and 3,176 enterprises that illegally discharged pollutants were temporarily or permanently shut.

In 2007, punitive action was taken against four of the five top electricity producers, a list of four industrial cities that had exceeded their pollution quotas was published, and 82 industrial projects were halted because of environmental problems. [36] But these campaigns are not always effective, because SEPA officials function at a distance from the problem areas. Often, by the time officials arrive at inspection spots, the enterprises have ceased producing pollutants, only to resume as soon as the officials turn their backs.

These limits to SEPA's effectiveness show that local monitoring can only be carried out by actors on the ground such as the EPBs. But at the local level political and social obstacles keep the EPBs from going about their business, and render them largely toothless institutions. For instance, although they are formally linked to SEPA, EPB officials effectively depend on local governments for their salaries, their office premises, and other needs. [37] This often compromises their independence and leads to situations described as "local protectionism," [38] with local governments seeking to defend their economic interests rather than caring about the state of the environment. Most of the time, enterprises are allowed to continue polluting the air and water after paying a tax to the EPBs. These fines become just another source of funding for local governments and have nothing to do with reducing pollution. [39] In 2007, SEPA deputy director Pan Yue severely criticised the dysfunction induced by the attitude of local officials, and denounced the protection of local authorities enjoyed by many polluting enterprises. [40]

Benjamin van Rooij narrates a case in which he met the local actors: A phosphorus mine in an area east of Kunming was so central to the local economy that the taxes it paid were a considerable source of funds for the local government. As all the actors were directly or indirectly dependent on the mine, none among them had any interest in seeking a strict observance of environment laws. Van Rooij's enquiries showed that it would be easier to apply environment protection laws where local economic alternatives exist, such as industries other than those that pose environmental problems. [41]

32. Voir Richard J. Ferris Jr. and Hongjun Zhang, "Environmental Law in the People's Republic of China; An overview describing challenges and providing insights for good governance," in Kristen A. Day (ed.), *China's Environment and the Challenge of Sustainable Development*, London, M.E. Sharpe, 2005, pp. 66-101.
33. Abigail Jahiel, "The Organization of Environmental Protection in China," *China Quarterly*, 1998, p. 772.
34. Benjamin van Rooij, *op cit.*
35. See the SEPA site mentioned earlier.
36. *Le Monde*, 16 January 2007.
37. Xiaoying Ma and Leonard Ortolano, *Environmental Regulations in China*, Lanham, Rowman & Littlefield , 2000. Elizabeth Economy, "Environmental Enforcement in China," in Kristen A. Day (ed.), o*p cit.*, pp. 102-120.
38. Benjamin van Rooij, *op cit.*
39. Jean-François Tremblay, *op cit.*
40. *Xianggang dajiyuan shibao*, 6 July 2007.
41. Benjamin van Rooij, *op cit.*

Table 1. "Mass incidents" sparked by pollution

- **10 April 2005: Dongyang City, (Zhejiang Province), water pollution from a factory**. In an attempt to resist plans to build a new factory in the Huashui zone, already filled with 13 factories, 20,000 farmers fought the police, and 60 official vehicles were left overturned or destroyed. This "mass incident" also left 30 people injured. Some 3,000 police officers were reported to have been brought in to quell this action. (1) The riots were sparked by concern over the health of children, local crops having been rendered unfit for consumption because of massive pollution of soil and water. In the aftermath of the events, which received nationwide attention, the rioters had their way as the factories were ordered to clean up. (2) In the following months, the city's 13 polluting firms were shut. But the price paid was high, as some farmers were beaten and others arrested. A dozen protesters were given prison terms of up to five years. These events had a contagious effect, serving as a model for many similar movements.
- **June 2005: Cangan County (Zhejiang Province), court action against a power plant project using waste as fuel**. A court action was launched by 300 farmers who retained a lawyer to try and block plans for a power plant using toxic waste. The plant would have used 400 tonnes of waste daily, producing dioxin. (3)
- **June 2005, Jianxia Village (Zhejiang Province), battery factory**. Hundreds of villagers who rioted and took 1,000 workers hostage in a protest against pollution by Tianneng Battery Company were attacked by police. The villagers said the factory had been causing air pollution for 15 years, making children sick. (4)
- **July 2005: Xinchang Village (Zhejiang Province), explosion and water pollution**. Thousands of people demonstrated against a pharmaceuticals factory following heavy water pollution when the river flooded. (5) The protesters then confronted the security forces. In mid-July, the farmers surrounded the factory, overturned police vehicles, and threw rocks at the police. Many people were injured in the ensuing repressive action by the police. (6) Protesters said they had been inspired by recent events elsewhere.

  20 August 2005: Changxing City (Zhejiang Province), farmers in Meishan Village and other neighbouring villages surround a power plant to protest against serious pollution. Several thousand protesters confronted the police. Many farmers were injured and several arrested. Two police vehicles were destroyed. (7)
- **April 2006: Quanzhou City (Fujian Province), factories attacked over water and air pollution**. On 9 April 2006, hundreds of villagers attacked factories in a tannery complex, causing much material damage. (8)
- **December 2006: Fuwen Village, Shunchang County (Fujian Province), protest by villagers against a chemical factory**. Demonstrators blocked a highway while demanding an end to the discharge of polluted water and gas from a recently developed industrial zone consisting of 35 factories. (9)
- **January 2007: Botang City (Guangxi Province), arrest of ten farmers who planned to attack a paper factory**. The Zhongtaifu paper factory was held responsible for heavy pollution that made it impossible to grow rice and fruit. The government had ordered the factory to shut down, but that had not been followed through, and the farmers lost patience. (10) •

1. Zhang Yulin, *Tansuo yu zhengming*, N°5, May 2006. Also *Los Angeles Times*, 3 September 2006; *Washington Post*, 13 June 2005.
2. Jean-François Tremblay, "Tempers flare in China," *Chemical and Engineering News*, vol. 83, 2005, pp. 21-28.
3. *China Daily*, 14 June 2005.
4. AFP, 30 June 2005.
5. Jean-François Tremblay, *op cit.*, p. 21-28; AP, 24 July 2005.
6. Zhang Yulin, *tansuo yu zhengming*, *op. cit.*
7. *Ibid.*
8. Zhaohua Li, "Villagers attack factories over pollution in Eastern China," *China Digital Times*, 13 April 2006.
9. "Fujian villagers block road to protest pollution," *Radio Free Asia*, 3 January 2007.
10. AP, 26 January 2007.

Table 2. Chinese laws relating to the environment [1]

At present nine laws specifically cover environmental protection:

- **Law on marine environment protection.** Promulgated 23 August 1982, amended 25 December 1999.
- **Law on prevention and control of water pollution.** Promulgated 11 May 1984, amended 15 May 1996 and 2 February 2008.
- **Law on prevention and control of atmospheric pollution.** Promulgated 5 September 1987, amended 1 September 2000.
- **Law on protection of the environment.** Promulgated 26 December 1989.
- **Law on prevention and control of environmental pollution by solid wastes.** Promulgated 1995, amended April 2005.
- **Law on prevention and control of pollution from environmental noise.** Promulgated 29 October 1996, amended 1 March 1997.
- **Law on prevention and control of desertification.** Promulgated 1 January 2002.
- **Law on appraising environment impacts.** Promulgated 1 September 2003.
- **Law on prevention and control of radioactive pollution.** Promulgated 1 October 2003.

These are complemented by 10 laws on the environmental protection aspects of resources, energy, agriculture, forests, or fishing.

- **Law on forests.** Promulgated 20 September 1984, amended 29 April 1998.
- **Law on cultivable land.** Promulgated 18 June 1985, amended 28 December 2002.
- **Law on fishery.** Promulgated 1 January 1986, amended 31 October 2000 and 28 August 2004.
- **Law on mineral resources.** Promulgated 19 March 1986, amended 29 August 1996.
- **Law on water.** Promulgated 21 January 1988, amended 1 October 2002.
- **Law on protection of wild life.** Promulgated 1 March 1989, amended 28 August 2004.
- **Law on conservation of water and soil.** Promulgated 29 June 1991.
- **Law on conservation of energy.** Promulgated 1 January 1998, amended in 2007.
- **Law promoting clean production.** Promulgated 1 January 2003.
- **Law on renewable energy.** Promulgated 1 January 2006.

These 19 laws directly or indirectly address environmental protection. They are complemented by dozens of measures and guiding rules issued by the State Council.

The laws and rules provide a general guideline, which are then applied locally by the adoption of specific local laws and rules at the provincial or municipal levels. An estimated 1,000 local laws and rules cover environmental protection.

There is thus a legal framework for environmental protection, but these texts are often deemed too vague and imprecise. They state their aims but without explicitly listing banned activities or clear threshold values. [2] •

1. Source: www.lawinfochina.com (April 2008). It gives access to English versions of a number of legal documents of the PRC.
2. Alex Wang, "The Downside of Growth: Law, Policy and China's Environmental Crisis," *Perspectives*, vol. 2, 2000; Benjamin van Rooij, "The Enforceability of Chinese Water Pollution Regulations: What Room for Improvement?"

Non governmental organisations

The above discussion shows that local action for environmental protection via the EPBs hardly makes for optimal efficacy. In practice, the central government also needs the participation of environmental civil society in environmental issues. Environmental civil society may be defined as the set of intermediate organisations between the state and the family, independent of the state, their members entering voluntarily into association with the aim of defending a well-identified cause. Non-governmental organisations (NGOs) belong in this category. Environmental NGOs have existed in China since 1994, with the founding of "Friends of Nature" as the first Chinese organisation. The number of such NGOs rose to 2,000 by 2000. [42] These NGOs have to register with the Civil Affairs Ministry in order to enjoy legal status and have it renewed annually. This allows the state to control or shut down groups that fail to follow all the rules. Given this stranglehold, Chinese NGOs do not play the role of opposition or seek to supervise the government the way their Western counterparts do. They avoid conflict and controversy and do not confront the authorities. [43] They are not structured as a counter-balance to power, because if they were, they would be banned. In fact, the authorities see them as non-state organisations cooperating with governmental institutions in sensitising and informing the public, helping organise clean-up campaigns, and obtaining aid through their contacts with foreign entities. [44] They are not going to be emancipated from this straitjacket anytime soon but, according to Ma Jun, a Chinese water specialist, "the NGOs are something new in China. We have just made a beginning." [45]

Conclusion: Pollution and the nature of the Chinese regime

China is a non-democratic country. Its development problems are therefore quite often analysed in a way that highlights deep structural causes, and environmental problems are no exception. Indeed, the following points may be noted:
- On the one hand, the problems of chemical pollution of the environment are stark and demand, above all, sweeping political action.
- On the other hand, the central government seems to have attached priority to this problem over the past several years because of three compulsions: (i) avoiding social conflicts, (ii) improving the population's health, and (iii) reducing economic loss and achieving more efficient growth.

It is clear, therefore, that there is political will, but it does not meet with the intended results on the ground. In fact, observers often stress that government orders concerning, for instance, inspection demands or closure of polluting firms are ignored by local officials, as the latter often have interests in local industrial activities. Use of force or non-legal means by victims to make their grievances heard is a last resort; affected populations in general prefer legal means such as petitions or court actions. Picketing of corrupt or unscrupulous local officials often figures in the lists of collective incidents recorded by the authorities. Lack of supervision over local officials is basically a structural problem inherent in the authoritarian nature of power in China.
Faced with mounting anger of an "environmental mass" that threatens to degenerate into violent collective protests in all corners of the country, China's central authorities seem to be engaged in a furious internal debate over deeper reforms in the Communist Party's structure. Pan Yue stressed in an interview published in July 2007 in the daily *Xinjingbao* that the notion of environment in China is no longer linked to technical problems, budgets, or functioning, but rather structural problems that can or cannot be reformed. He thinks that at the structural level, the most basic reform required is in the system for recruiting officials, which needs to take environmental norms into account. [46] No doubt, these reforms will not come about in the near future, but the mere fact that they have been talked about is a sign of awareness within the Chinese leadership of the structural nature of environmental problems. •

• Translated by N. Jayaram

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44. Jonathan Schwartz, *op. cit.* Guobin Yang, "Environmental NGOs and Institutional Dynamics in China," *The China Quarterly*, 2005, vol. 181, pp. 46-66.
45. *Le Monde*, 16 January 2007.
46. *Xianggang dajiyuan shibao*, 6 July 2007.