

Recent Trends in Chinese Environmental Law

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Nach Jahren des rasanten Wirtschaftswachstums sieht sich die VR China heute mit massiven Umweltproblemen konfrontiert. Während eine emsige gesetzgeberische Tätigkeit zu über einem Dutzend umweltbezogenen Gesetzen sowie zahlreichen Verordnungen und Umweltstandards geführt hat, bestehen Defizite bei der Rechtsdurchsetzung. Das chinesische Umweltrecht ist zudem lückenhaft und in zentralen Fragen oft unpräzise formuliert, so daß den lokalen Behörden bei der Anwendung ein weiter Ermessensspielraum zukommt. Vor dem Hintergrund der auf schnelles Wirtschaftswachstum fixierten Regierungspolitik wurde das Ermessen im Zweifel meistens zu Gunsten wirtschaftlicher Gewinninteressen und zu Lasten umweltpolitischer Erwägungen ausgeübt. Die Zentralregierung in Peking versucht den Umsetzungsdefiziten mit einer Verschärfung des Umweltstrafrechts sowie mit Medienkampagnen zur Schaffung eines ökologischen Problembewußtseins in der breiten Öffentlichkeit zu begegnen. Auf lokaler und regionaler Ebene kommt es vereinzelt zu rigorosen Umweltschutzmaßnahmen, wenn das Ausmaß der Umweltschäden und die unmittelbaren Gesundheitsrisiken für die Bevölkerung allzu drastische Formen angenommen haben. Insgesamt aber erscheinen diese Bemühungen nicht ausreichend, um die zu erwartende fortschreitende Umwelterstörung aufzuhalten oder eine Trendwende herbeizuführen.

I. Introduction

The environmental problems facing the People's Republic of China (PRC) after years of rapid economic development are of staggering proportions:

- A 1995 WHO comparison of total suspended particles (TSP) levels in world cities had named five Chinese cities as among the ten with the worst TSP pollution (Beijing, Shenyang, Xi'an, Shanghai, Guangzhou).¹
- China is the second largest emitter of the greenhouse gases that are blamed for global warming, accounting for 13.4 % of the world total (USA: 22.4 %). While the American sulphur dioxide emissions are expected to fall in the future, China's share is expected to rise up to 19.3 % of the world total by the year 2020.² Recently scientists have found an area in the atmosphere above the Qinghai-Tibet Plateau where the ozone layer is abnormally thin and on a continuous decline.³
- As a result of the sulphur dioxide discharges 30 per cent of China suffers from acid rain, which can harm the forests as well as the agricultural, livestock and

1 *East Asian Executive Reports* 1997, p. 10.

2 *China aktuell* 1997a, p. 636.

3 *Summary of World Broadcasts (SWB)*, 17 March 1999, No. 23.

fishing industries. Pollution caused by automobile exhaust is continually on the rise.⁴

- Water resources are diminishing faster than they can be replaced, with dozens of large cities lacking adequate water supplies. Furthermore, several rivers and lakes are in a state of crisis and soil erosion and desertification are serious problems in many parts of the country.⁵ In 1998 there were 20.04 billion tons of industrial waste water discharged and urban sewage discharges in 1998 amounted to 19.4 billion tons, a 2.6 per cent increase from 1997.⁶
- Industrial solid wastes have grown from 430 million tons in 1986 to 645 million tons in 1996 and are expected to grow further by the year 2000.⁷ Most factories dump their waste, much of which contains heavy metals, into municipal landfills. There it remains untreated and is left to leach on site and to migrate into surface and ground water.⁸
- According to Chinese and World Bank experts, the economic damage done by air and water pollution in 1998 accounted for more than 4 per cent of China's GDP.⁹

Since the late 1970s China has enacted or promulgated over a dozen environmental and related statutes and a wide range of regulations.¹⁰ By the end of 1998 it had formulated 395 standards for environmental protection.¹¹ Moreover, a wide range of local law in the form of a regulation, decision or order and local quality standards has been issued in provinces, autonomous regions and municipalities. Following Articles 9 and 26 of the 1982 Constitution the protection of the environment and natural resources is an obligation of the State. Paragraph 2 of Article 9 reads:

The state ensures the rational use of natural resources and protects rare animals and plants. The appropriation or damage of natural resources by any organization or individual by whatever means is prohibited.

Article 26 of the Constitution stipulates:

The state protects and improves the living environment, and prevents and remedies pollution and other public hazards.

The state organizes and encourages afforestation and the protection of forests.

Despite this legislation and an elaborated environmental bureaucracy, the environmental situation in China has constantly deteriorated over the past two decades. Even if some pollutant discharges in some places may be decreasing overall, the

4 *SWB*, 24 March 1999, No. 34.

5 See, for example, *China aktuell* 1998, p. 688, and Edmonds 1994, pp. 133–145.

6 *SWB*, 24 March 1999, No. 34.

7 Schüller 1997, p. 565; Edmonds 1994, p. 152.

8 Saywell 1997, pp. 48–49.

9 *SWB*, 24 March 1999, No. 34.

10 For a more detailed description of the existing body of environmental law in the PRC see, for example, Bachner/Wang 1997, and Palmer 1998, pp. 798–800. For an analysis of political aspects of the Chinese environmental legislation, see Chen 1997b.

11 *SWB*, 3 March 1999, No. 25.

absolute figures are still very high, and pollution in other areas or places is still worsening.¹²

This essay shall take a cursory look at the main reasons for the apparent ineffectiveness of the legal regulatory regime in China (section II). It highlights the recent measures the central or some local governments have taken to deal with the flaws of the system (section III) and their impact on foreign direct investment (section IV). The paper concludes by discussing the prospects for environmental management by legal means in contemporary China (section V).

II. Main reasons for the failure of environmental legislation to curb further deterioration

1. Enforcement problems

There is little doubt that environmental law implementation in China has not been as successful as its formulation. In an interview with Xinhua News Agency on 27 February 1999, the Chairman of the Environment and Resources Protection Committee, Qu Geping, admitted "the fact that the actual authority of the law has not yet been strengthened". He added that some laws have not been implemented properly and still others have been violated.¹³ In the past enterprises often failed to meet emission standards and ignored the orders of local Environment Protection Bureaux. Firms did not believe that laws would really be enforced. They often enjoyed the protection of the local administration, which intervened on behalf of profitable firms or enterprises crucial to local industries.¹⁴ Even when environmental agencies were not hindered in their enforcing of the rules against polluters, the fees, fines and orders were usually negotiated and rarely determined authoritatively.¹⁵ Environmental issues are still very much considered as a matter of policy rather than law.¹⁶ Therefore, personal relations are often more important than the written rules and law enforcement remains a hostage of larger political forces.¹⁷

Finally, effective implementation is undermined by the organizational weakness of the environmental protection organs. They are often short of staff and lacking financial resources to carry out their monitoring tasks.¹⁸ Secondly, the State Environment Protection Agency (SEPA) is poorly co-ordinated with other government agencies and with its subordinate Environment Protection Bureaux throughout the counties. As a result of poor communication with related agencies, SEPA had little informa-

12 *SWB*, 3 March 1999, No. 25, and 24 March 1999, No. 34.

13 *SWB*, 2 March 1999, No. 18.

14 See, for example, Jahiel 1997, pp. 86-87; Palmer 1998, p.806; Schüller 1997, p. 568.

15 Schabacker 1995, p. 568.

16 Palmer 1998, p.806.

17 In a speech at an environmental forum held by the National People's Congress in June 1997, its Chairman Qiao Shi exhorted cadres at various levels to "strengthen legal awareness on protecting the environment and resources, self-consciously administer affairs according to law, and resolutely stop such behaviour where their words replace the law, where their powers supersede the law, and where they violate the law while enforcing it". *SWB*, 26 June 1997, No. 15.

18 See, e.g., Jahiel 1997, p. 103.

tion about what was happening on a local level and consequently little ability to ensure that national laws and regulations were strictly enforced.¹⁹ In the meantime, the dispatching of Inspectors of Environmental Protection has become increasingly important for the National People's Congress (NPC).²⁰

2. Normative shortcomings

An additional problem is that many crucial terms in China's environmental statutes are not defined. Even if there are clear and substantive standards, the circumstances or parties to which the standards apply are not at all clear.²¹ Because most environmentally related disputes are brought to the people's courts in the form of civil actions, which typically lead to a mediated agreement between the parties,²² there is virtually no environmental case law to guide the interpretation of undefined terms. Therefore, local agencies had a wide discretion in considering the issue of balance between environmental protection on the one hand and economic development on the other, which is the inherent problem of any environmental legislation and its implementation. Without any clear guidance as to how the balance should be struck, it has leaned towards economic development for years.²³ In China's new political economy encouraging people to produce for profit in order to speed the economic growth and the emergence of a consumer society, a philosophy has developed that places profit first and control pollution second.²⁴ The Chinese government has formally subscribed to the concept of "sustainable development" since the 1992 Rio Earth Summit,²⁵ but in practice environmental protection has commonly been relegated to the sidelines to maintain economic development. While postulating the principle, China's Agenda 21 describes economic growth as a prerequisite that has to be achieved even at the expense of environmental protection.²⁶

The political emphasis on making a profit seems to have affected even those decision-makers in the environmental agencies whose task it was to protect the environment against individual and local economic interests.

3. Remaining gaps in the environmental legislation

Although China's present problems are due to implementation shortcomings in the first instance, there are also statutory and regulatory deficiencies. The environmental regulatory system still fails to tackle important problems like historical contamination. Clean-up standards for contaminated soil and ground water were discussed, but

19 *East Asian Executive Reports* 1997, p. 11.

20 *SWB*, 2 March 1999, No. 18; Palmer 1998, p. 794-795.

21 See, e.g., Klee/Thomas 1997, p. 40; Edmonds 1994, p. 252.

22 Michael Palmer 1998, pp. 805-806.

23 Tang/Lo/Cheung/ Lo, 1997, p. 864; Lin 1996, pp. 388 and 396, who relates to the 1995 Law of the PRC on the Prevention and Control of Atmospheric Pollution.

24 For a similar view see, e.g., Jahiel 1997, pp. 84 and 102; Mei 1995-1996, p. 29; Schabacker 1995, p. 37; Voss 1997, p. 574; Lin 1996, pp. 394 and 396.

25 United Nations Conference on Environment and Development (UNCED); for a critical analysis of the PRC's political strategy before and during the conference see Chen 1997a, pp. 75 ff. and 83 ff.

26 See China's Agenda 21, p. 4, chapter 2.1.

not introduced.²⁷ Thousands of heavily polluted sites in the PRC will have to be cleaned up as soon as possible. As the danger caused by this slow and secret pollution is less obvious than, for example, the fog resulting from air pollution in large cities, there is seemingly not enough pressure on the Chinese legislator to tackle the problem without further delay. However, the Chinese government has taken a variety of initiatives to deal with the fundamental flaws of its environmental protection legislation.

III. Recent efforts to improve environmental protection

1. Using criminal sanctions to fight environmental degradation

One of the legal tools available to the Chinese government to bring about greater compliance with national environmental regulations was the criminal law. Before the coming into force of a newly revised Criminal Law on 1 October 1997, the provisions on criminal liability for environmental degradation were disorganized and scattered throughout various environmental statutes and the Criminal Code of 1979.²⁸ The Criminal Law as amended in 1997 provides a more comprehensive regime for offences injurious to environmental resources. Section 6 of Chapter VI of the Criminal Law governs "Crimes of Impairing the Protection of Environment and Resources". It contains new provisions which clearly define the crimes and sanctions imposed on persons responsible for causing serious environmental damage. The most severe punishments, confiscation of assets and imprisonment up to ten years, may be imposed under Article 339 for illegal import of solid waste and under Article 341 for the killing of or trading in endangered species.

Under the amended 1997 Criminal Law, violations of environmental laws can be characterised as criminal offences. Since criminal punishment carries, in contrast to administrative penalties or civil liability, a special stigma, this could strengthen the deterrent force of the provisions dealing with environmental crimes.²⁹ In many cases, the deterrent effect of exposure to conviction of a criminal offence will be greater than exposure to merely civil or administrative liability, particularly given the heavy punishments provided for by Section 6 of Chapter VI of the 1997 Criminal Law.

27 Saywell 1997, p. 48, and Klee/Thomas 1997, p. 34. Even where the law deals with the problem of hazardous wastes, its implementation is often hampered by technical shortcomings. Under the 1995 Preventing Solid Waste from Polluting the Environment Law all enterprises are responsible for disposing of their own industrial solid wastes. However, as adequate disposal, treatment or incineration facilities are lacking in China, generators of hazardous wastes are left uncertain with respect to compliance options. In the province of Sichuan, e.g., which has a population of 113 million people, there was only one well-run landfill in 1997, situated near Chengdu; see, e.g., Saywell 1997, *ibid.*; Ross 1997, p. 57; Voss 1997, p. 577.

28 See, for example, Articles 43 and 45 of the 1989 Environmental Protection Law; Article 38 of the 1995 Air Pollution Prevention and Control Law; Articles 31 and 35 of the 1988 Law for the Protection of Wild Animals; Article 36 of the 1986 Forestry Law or Article 44 of the 1982 Marine Environment Protection Law.

29 See, e.g., Klee/Thomas 1997, p. 39 and Palmer 1998, p. 798.

Criminalizing environmental legal requirements could furthermore raise the significance of environmental issues in contemporary China, owing to the potential that criminal punishments have for use as means of exhortation and as a vehicle for mass education. The idea is that criminal sanctions educate the public concerning the moral wrongfulness of proscribed conduct.³⁰

Cases tried by the criminal divisions of the Chinese people's courts concerning environment related crimes show a tendency to punish harshly and are reported and publicised to raise public awareness of environmental issues.³¹ Cases involving the actual imposition of criminal sanctions on polluters might still be rare,³² but the new provisions in Section 6, Chapter VI of the 1997 Criminal Law are probably more persuasive by their mere presence than by their use and more valuable as means of exhortation than as grounds for prosecution.³³

Having said this, however, it might well be argued that the Chinese legislator places too much emphasis on harsh individual sentences while neglecting measures which increase the certainty of detection or material incentives in order to secure compliance with environmental rules.³⁴ This may be a reflection of the Chinese legal tradition, starting with the Tang Code from 651/653 AD, to use the law primarily as an instrument of discipline and punishment.

2. Efforts to increase public awareness of environmental issues

In order to improve the implementation of environmental law throughout the country, one basic strategy of the Chinese government is to raise environmental consciousness in the Chinese populace. The Chairman of the NPC, Qiao Shi, emphasised at an environmental forum held by the NPC in June 1997 that everyone would be responsible for protecting the environment and conserve resources. The enthusiasm of hundreds of millions of people should be mobilized to form good habits throughout the whole society to protect the environment.³⁵ This view is not new and has already been laid down in Articles 5 and 6 of the 1989 Environmental Protection Law of the PRC (EPL).³⁶ The idea of Article 5 EPL is, that public participation in the implementation of environmental law requires adequate information about environmental issues. As a result of the policy to educate and mobilize the

30 As regards the principal purposes served by imposition of criminal sanctions, see the Report of the International Meeting of Experts on the Use of Criminal Sanctions in the Protection of the Environment, p. 122 (Joint publication of the International Centre for Criminal Law Reform and Criminal Justice Policy, Vancouver, and the United Nations Interregional Crime and Justice Research Institute). Partly quoted in: Yang/Head/Liu 1994, p. 182, footnote 164.

31 Mei 1995-1996, p. 28.

32 Head 1996, p. 13.

33 Yang/Head/Liu 1994, p. 181.

34 See, e.g., Mei 1995-1996, p. 29, and Palmer 1998, p. 808.

35 *SHB*, 26 June 1997, No. 15.

36 Article 5 EPL requires the state to encourage the development of education in the science of environmental protection and to popularize scientific knowledge of environmental protection. Article 6 EPL stipulates, all units and individuals shall have the obligation to protect the environment. See also China's Agenda 21, p. 19, chapter 3.20.

populace in environmental matters, the Chinese mass media have increasingly informed and reported on environmental issues in recent years.³⁷

In recent times there is a growing trend for local governments to make information about the environmental situation, which was kept secret before, public. Since May 1997 weekly air pollution reports have been released to the media by 27 cities. It had finally been acknowledged that secrecy about bad environmental news had dulled public awareness of pollution problems and deprived policymakers and scholars of accurate information.³⁸ A campaign was launched by SEPA to increase public awareness of environmental problems through media reports as part of a strategy to put public opinion pressure on polluters and local governments to comply with national environmental regulations. Furthermore, the media were used to expose violators and praise enforcers of environmental law. Following the State Council Decisions of Environmental Protection of August 1996, exposing those economic units and individuals that have caused serious pollution and ecological damage is part of the supervisory role media institutions should play. It was also stipulated, that the general public should report and expose offences against environmental laws and regulations.³⁹ This idea is in line with Article 6 EPL, under which all units and individuals shall have the right to report on or file charges against units or individuals that cause pollution or damage to the environment.

An increased willingness of citizens to report and expose violations of the environmental law may provide SEPA and its subsidiaries with the accurate information they need to combat the serious enforcement problem of the central government. The SEPA campaign to increase public awareness of environmental issues seems to have had first results. Following a report by Xinhua News Agency of 27 December 1998, environmental departments around Taihu Lake in Jiangsu Province received nearly 200 reports from local residents about enterprises around the lake which had discharged waste water above amounts prescribed in the relevant regulations. Some of the residents, "whose sense of environmental protection has greatly improved", were even reported to have volunteered to inspect enterprises at night and to report polluters.⁴⁰

Another indication of a general trend to more public participation in the enforcement process could be seen in Article 13 of the 1996 Prevention of Water Pollution Law of the PRC (WPL). Article 13 WPL requires that environmental impact assessments must solicit the views of the affected public.⁴¹ It therefore expands the scope of public involvement in the approval process for new projects and fosters public consul-

37 For an evaluation of the print media in Sichuan Province in 1993/1994, see Voss 1997, pp. 574-576.

38 See *East Asian Executive Reports* 1997, p 9, and , for Beijing, *SWB*, 3 March 1999, No. 27.

39 See "Several Issues Concerning Environmental Protection Decision", issued by the State Council on 3 August 1996 as result of the Fourth National Environmental Conference, held in July 1996. The State Council Decisions are in part quoted in *East Asian Executive Reports* 1997, p. 12. See also *China's Agenda* 21, p. 21, chapter 3.25 (e).

40 *SWB*, 6 January 1999, No. 38.

41 Paragraph 4 of Article 13 WPL reads: "An environmental impact statement shall contain comments and suggestions of the units and residents in the place where the construction project is located."

tation. However, the WPL does not assure public access to information or extend the right of participation to persons not directly affected by the project.⁴²

The scope of public participation in environmental protection possible in contemporary China is very limited. The Chairman of the Environment and Natural Resources Protection Committee under the NPC Standing Committee, Qu Geping, sees the publication of environmental information as "a good way to get people to take the initiative and involve themselves in environmental protection".⁴³ But the role of citizens favoured by the Chinese government seems to be that of controllers and reporters of illegal polluters who refrain from any initiatives which could potentially interfere with governmental environmental policy. This explains the quasi non-existence of significant non-governmental organizations (NGOs) or pressure groups in the environmental field in the PRC. One of the few known independent environmental organisations operating on a national level is the "Friends of Nature". They have been founded in 1993 and had about 400 members in 1997. Their political leeway is extremely limited due to a strict control by the relevant authorities under the Ministry of Civil Affairs.⁴⁴ As environmental NGOs are associated with political consent and therefore remain suspect to the authorities, the political climate in the PRC is hostile for any environmental pressure group.⁴⁵ Without the democratic impulse of grass roots environmental movements, however, it will be much more difficult for the Chinese government to make people more accepting of restrictions on their own behaviour and to win the public support necessary for effective enforcement of national environmental law.⁴⁶

3. Accelerated enforcement efforts on a local level and in specific areas

Under the pressure of the severe health effects of ever-growing air and water pollution, municipal governments have sometimes taken stringent action to address pollution problems in specific areas.

Chongqing, for example, was reported at the end of the 1980s to have the highest mortality caused by lung cancer among the twelve largest Chinese cities. 30 per cent of the population suffered respiratory ailments,⁴⁷ and the rain was reported to have been black like ink with pH below 4 several times.⁴⁸ Due to increased efforts to fight air pollution, like the closing of emitting enterprises and enhanced air pollution control, the share of treated industrial emissions increased to 74 per cent in 1994. The volume of sulphur dioxide in the air has dropped by 10 per cent since the mid 1980s. The industrial emissions of dust dropped from 780,000 tons in 1985 to 430,000 tons in 1995. The amount of emitted industrial effluent was slightly reduced from 1,965 million tons in 1990 to 1,916 million tons in 1995. In order to clean up the Funan

42 Ross 1997, p. 57.

43 Excerpt from an interview, quoted in: *East Asian Executive Reports* 1997, p. 13.

44 About the history and status of the organisation see Schabacker 1995, p. 53, especially notes 109 and 111, and Vorholz 1997, p. 40.

45 See, e.g., Edmonds 1994, p. 246, and Palmer 1998, pp. 795-796.

46 See, e.g., Tang/Lo/Cheung/Lo 1997, p. 864.

47 Voss 1997, p. 572.

48 *SfWB*, 20 October 1994, No. 24.

River, 4,000 enterprises in Chengdu and over 100,000 local residents along the river were relocated in May 1996.⁴⁹

Another example for accelerated efforts to fight a continuously deteriorating air quality is Beijing. In December 1998 the municipal government approved nineteen emergency measures, said to be the strictest regulation on air pollution in any Chinese city.⁵⁰ Since coal combustion is responsible for a great deal of the air pollution in the Chinese capital, one principle aim is the replacement of coal with natural gas and liquefied petroleum gas (LPG). In 40 coal-free areas coal use has been limited to non-industrial purposes. Attention has also focused on motor vehicle emissions: Among the nineteen emergency measures eight aim at vehicle exhaust. Vehicles have grown at an annual rate of 15 per cent over recent years, reaching about 1.4 million on Beijing's streets in 1998.⁵¹ Beijing begun to require the use of lead-free gasoline on 1 July 1997.⁵² Since 1 April 1998, drivers of vehicles not meeting the emission standards can be penalised.⁵³ A new, stricter discharge standard for light-duty vehicles is effective as of 1 January 1999 and is expected to reduce pollutants by 80 per cent.⁵⁴

Beijing's emergency measures seem to have teeth. According to a Xinhua News Agency report on 24 February 1999, the volume of major air pollution in the city has dropped by an average of 10 per cent over the previous two months.⁵⁵

4. New legislation expected to come in the future

According to the Chairman of the Environment and Resources Protection Committee under the NPC Standing Committee, Qu Geping, the central government should mount a four year campaign in 1999 to establish a legal system to protect the environment and natural resources. The Committee plans to accelerate its rectification effort and to improve special laws covering pollution prevention, resource protection and ecological construction. Special attention is focused on the draft Air Pollution Prevention Law and the draft Marine Environment Protection Law.⁵⁶ The Committee's enforcement efforts in 1999 are planned to centre on the implementation of the Air Pollution Law.⁵⁷

Also expected to be promulgated in the future is a new packaging law, dealing with specifications for recyclable and biodegradable packaging.⁵⁸ Finally, a review of the 1989 Environmental Protection Law for purposes of revision is still pending.⁵⁹

49 Voss 1997, p. 577.

50 Han 1999, p. 10.

51 Han 1999, p. 12.

52 *China aktuell* 1998, p. 688. Since the installation of catalytic converters in newly manufactured Chinese cars is planned to be obligatory only as of the year 2000, there will be an avoidable loss of fuel efficiency; see Ross 1997, p. 57.

53 *China aktuell* 1998, p. 689.

54 Han 1999, pp. 10 and 13.

55 *SWB*, 3 March 1999, No. 27; see also *SWB*, 3 May 1999, No. 23 for efforts in Urumqi/Xinjiang.

56 The PRC Air Pollution and Prevention Law was amended in 1995; the Marine Environmental Protection Law was promulgated in 1982.

57 See the report of an interview with Xinhua News Agency in *SWB*, 2 March 1999, No. 18.

58 Klee/Thomas 1997, p. 38.

IV. The impact of the recent legal developments on foreign direct investment

The broader and more stringent environmental regulation will place additional regulatory burdens on foreign manufacturing companies in the PRC and will raise compliance costs. Even if environmental requirements may continue to be frequently relaxed in the interest of faster economic growth, companies with foreign investment are much less likely to benefit from this practice than China's established state-owned enterprises. Many Chinese officials consider international companies to have sufficient resources and experience to meet the new requirements, while there is a tradition of deferential application, if any, of environmental law to China's ageing state enterprises.⁶⁰

The same unequal enforcement may apply for the new provisions in Section 6 of Chapter VI of the Criminal Law, which increase the likelihood and severity of sanctions for violations of environmental regulations. Due to tougher penalties, a failure to comply has become increasingly costly for international firms.

These disadvantages will be partially balanced by greater transparency and certainty. Legal uncertainty, however, remains a problem in the field of historical contamination. Since no clean-up standards for contaminated sites have been introduced in the past, investors looking to establish a factory on previously used sites could face significant financial burdens as a result of cleaning-up obligations under new regulations promulgated later on.

The changes in China's environmental regime will also provide additional opportunities to vendors of environmental technology or products. According to the director of the SEPA, Xie Zhenhua, the PRC in 1998 spent over \$ 9.6 billion on environmental protection, mainly for urban air pollution controls and infrastructure to prevent water pollution in major rivers and lakes.⁶¹ This investment could, for example, help create a market for emissions monitoring equipment and control technologies, as well as for waste treatment facilities or environmental consulting services.

Furthermore, by improving the ecological situation in China, the new environmental legislation and more effective law enforcement could help to improve the competitiveness of Chinese products in the international markets. A high contamination of main export products like textiles, agricultural goods, synthetic materials or light industrial goods with harmful chemical contents is bound to become a competitive disadvantage for products made in China.⁶²

59 Bachner/Wang 1997, p. 531; Head 1996, p. 13.

60 Klee/Thomas 1997, p. 39.

61 See the excerpts from a report of Xinhua News Agency in *SWB*, 24 March 1999, No. 33; see also *SWB*, 19 May 1999, No. 23 about China's growing output of anti-pollution equipment. Environmental spending is projected to rise from 0.7-0.8 per cent of GDP in the Eighth Five-Year Plan to 1.5 per cent of GDP by 2000, in order to support the environmental goals of the Ninth Five-Year Plan (1996-2000). Saywell 1997, p. 49; Ross 1998, p. 813, note 14.

62 *China aktuell* 1997b, p. 637.

V. Conclusion

The prospects for environmental management in the PRC are grim. In a speech delivered to the National Environment Working Conference in early 1998, SEPA administrator Xie Zhenhua pointed out, that the 15th Party Congress had set the goal of a general halt to environmental deterioration by the year 2010. The next aim would be to reverse the deterioration trend by 2020 and to achieve a cycle for steady improvement and "harmony between economic and environmental development" by 2030.⁶³

One year later the Chairman of the Subcommittee on Human Resources and Environment of the Chinese People's Political Consultative Conference (CPPCC) National Committee, Hou Jie, described overseas reports saying that China's environment will further deteriorate until the year 2030 as not correct.⁶⁴ According to a statement by SEPA deputy director Wang Jirong, environmental deterioration will be curbed by the end of the year 2000 with the general amount of pollutant discharge staying at about the level of 1995.

Considering China's environmental facts, the optimism voiced at the CPPCC National Committee session appears unrealistic. The Chinese economy is expected to grow further rapidly, which will increase the consumption of energy. As coal is the PRC's main source of energy, increased coal combustion will result in more emissions of sulphur dioxide, TSP and greenhouse gases.⁶⁵ A growing number of motor vehicles will lead to more exhaust emissions. China plans a production of three million cars per year by 2000.⁶⁶ Adding to this picture the continued population growth and an increased production of industrial and household wastes, a further deterioration of China's environmental situation seems very likely.

Moreover, it is unlikely that there will be a significant expansion of environmental awareness in the Chinese populace. Without a free press or free public discussion of environmental issues and without independent grass roots environmental movements, people will be deprived of the accurate information necessary to improve their sense of responsibility towards environmental protection.⁶⁷ Lacking wide support in the population at large, the implementation of environmental laws will remain a serious problem.

Notwithstanding its environmental rhetoric about the strategy of "sustained development", the Chinese government seems to base its policy on the theory of the environmental Kuznets Curve. This theory is founded on the assumption, that parallel to the income differences the environmental degradation increases at the beginning of the development of a national economy, but then starts to decrease again from a

63 *East Asian Executive Reports* 1997, p. 12.

64 *SWB*, 17 March 1999, No. 23.

65 For a more detailed analysis of the relation between energy consumption and air pollution in the PRC see Smil 1993, pp. 99 ff and 117 ff.

66 Esty/Dunn, p. 41.

67 For a similar view see, e.g., Palmer 1998, p. 808, and Voss 1997, p. 577. Governmental efforts to raise the public consciousness of environmental matters by means of media reports, campaigns etc. have existed since the early 1990s – obviously without overwhelming success; *China aktuell* 1995, p. 469.

certain point of economic development. This would explain why until now environmental protection has often been subordinated to economic goals by the central government, too.⁶⁸ However, environmental degradation is increasingly affecting China's economic development. As mentioned above, the economic damage done by water and air pollution in 1998 accounted for more than 4 per cent of the GDP.⁶⁹ The lack of adequate water supplies in many cities as well as the loss of arable land as a result of increased soil erosion and desertification are bound to raise obstacles to China's social and economic environment. A World Bank study estimates that without environmental improvement, China's urban residents face 600,000 premature deaths and 5.5 million cases of chronic bronchitis a year by 2020 because of exposure to fine particles in the air.⁷⁰

The recent legal developments in the environmental field as well as increased enforcement efforts are not likely to curb further environmental deterioration in China. Successful law enforcement against opposing interests, resulting in a significant improvement of the ecological situation, seems to be limited to those cases in which the direct health effects of pollution have become intolerable.⁷¹ Also a special political interest, like cleaning up the capital for the celebration of the 50th anniversary of the founding of the PRC in 1999, may sometimes be apt to place pollution control first and economic interests second. But apart from occasional local progress in specific areas, the country's ecological burdens continue to increase as the population and economy expand, and new environmental concerns will emerge.

All in all, the general trend of environmental deterioration in China is not likely to be reversed until environmental protection becomes a core policy with at least the same priority as economic growth. The requirements of the environmental laws and of Articles 9 and 26 of the Chinese Constitution could then no longer be regularly subordinated to short term economic gains. On the contrary, they would have the requisite authority to restrain opposing interests where necessary and to achieve an environmentally responsible economic development.

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69 See above, section I.

70 Landers 1997, p. 17.

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