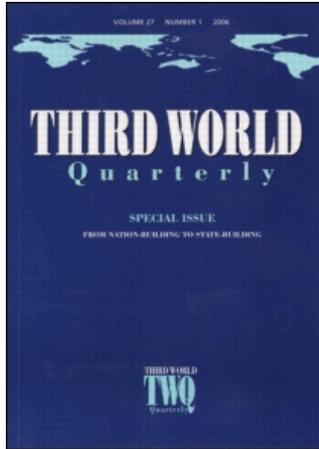


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### China's Environmental Governance: the domestic - international nexus

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# China's Environmental Governance: the domestic – international nexus

GERALD CHAN, PAK K LEE & LAI-HA CHAN

*ABSTRACT* This paper examines the connection between China's domestic governance and its involvement in global governance in environmental protection by studying the major actors and issues involved in the interaction between the domestic and international spheres of activities. These actors include international institutions, national and local governments, nongovernmental organisations, and others. The paper demonstrates that China has made some substantive progress in protecting its environment, but much more needs to be done. Internationally it seems to lack the will or the capability to make much contribution towards global environmental governance. However, because of its huge aggregate size, what it does or does not do to avert environmental degradation at home could have a significant impact on collective efforts to protect the environment at the global level.

Much has been said about China's environmental woes as well as its international environmental policy,<sup>1</sup> but little attention seems to have been paid to the interplay between the domestic and the international side of China's environmental governance.<sup>2</sup> This phenomenon is intriguing given that China's huge population size means that a fifth of humankind suffers from serious environmental damage, a situation which should have commanded the attention of the global community. What is China's participation in global environmental governance? What is the linkage between China's domestic environmental governance and its international environmental governance? How do they mirror each other with respect to China's concerns for environmental protection? As a rising power desiring to be seen as a responsible member of the international community, has China done enough to comply with the international rules and norms that govern environmental protection? In what way has it contributed to the governance of the global environmental commons? Does it aspire to do so? Is it capable of doing so? To answer these and other related questions, this article

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proposes to look at China from the inside out as well as from the outside in in order to map out the domestic–international linkage.

China realises that it stands to benefit from taking domestic initiatives and in joining international efforts to clean up its polluted environment, in so far as its political authorities are not severely compromised. China can be expected to co-operate more fully with international environmental regimes than with other types of global regimes, as it has come to realise, albeit belatedly, that proper environmental protection constitutes an important part of its overall development. Also, the central government is more tolerant of domestic environmental NGOs than of NGOs working in areas such as human rights and infectious diseases.

Chinese leaders seem to think that if the country can clean up its own environmental act, it will be making a significant contribution to the international effort to combat global environmental issues. Indeed, China's environmental protection, or the lack of it, has exerted a significant impact on the environments of its neighbours. Air carrying a high concentration of sulphur dioxide from the burning of coal has spread from mainland China to Hong Kong, South Korea, Japan, the west coast of the USA and Canada,<sup>3</sup> bringing with it acid rain, and as far as New Zealand, a far corner to the south of many industrial centres.<sup>4</sup> China's heavily toxic rivers have caused pollution problems not only in the country itself, but also for the lakes of neighbouring countries in Central Asia. The hydroelectric dams in its southwest Yunnan province have severely affected the people living downstream of the Mekong River in Laos, Thailand, Burma and Vietnam.<sup>5</sup> China has surpassed the USA as the largest carbon dioxide emitter in the world,<sup>6</sup> as it consumes a lot of hydrocarbon resources such as crude oil and coal. It is the second largest crude oil consumer after the USA and the third largest crude oil importer after the USA and Japan, consuming 350 million tonnes and importing 146 million tonnes in 2006 alone.<sup>7</sup> Also, it is the largest importer of tropical rainforest timber in the world, consuming about 50% of the world's annual output.<sup>8</sup>

The sheer aggregate size of China and its increasing integration with the rest of the world mean that what China does or does not do in the environmental field will increasingly exert a global impact. China has, to all intents and purposes, become an integral part of the world. If China enjoys a clean environment, then all will stand to benefit. This line of thinking suggests an intimate relationship between China's ecology and the global ecology, and between China's domestic governance and its global governance in environmental matters.

China's environmental involvement can be scrutinised at the international, regional and domestic levels. The main Chinese actors involved include the State Environmental Protection Administration (SEPA) and other central and local government agencies, green NGOs, and some environmentally concerned individuals. The functions of these actors will be discussed in the following assessments of China's global and domestic environmental governance, followed by the domestic impact on the global scene and then vice versa.

### Assessing China's global environment governance

China's environmental governance at the global level can be gauged from three related areas of activities: agenda setting, rule negotiations and rule compliance. In terms of agenda setting, China's contribution to international environmental programmes seems small, as it is still in a relatively early stage of learning from others about international diplomacy in general and international environmental protection in particular, although its engagement with global environmental governance can be dated back to the early 1970s, shortly after China's accession to the United Nations in late 1971. In 1972, at the close of the Cultural Revolution, PRC officials attended the UN Conference on Human Environment held in Stockholm. Since then China's level of participation in international environmental diplomacy remained low until its adoption of a reform and opening-up policy. Its contributions to these international conferences have been confined to the making of general statements about its view of the world or to the signing of international treaties. As of 2005, 253 out of 288 (or 88%) international treaties and conventions of various kinds, including those on the environment, which the country has signed or ratified since its establishment in 1949, have been done after 1978.<sup>9</sup> China has entered into some 50 international environmental treaties (see Figure 1).<sup>10</sup>

China's green NGOs started to participate in international environmental conferences in 2002, when delegates from dozens of Chinese green NGOs, supported by external funds, attended the World Conference on Sustainable

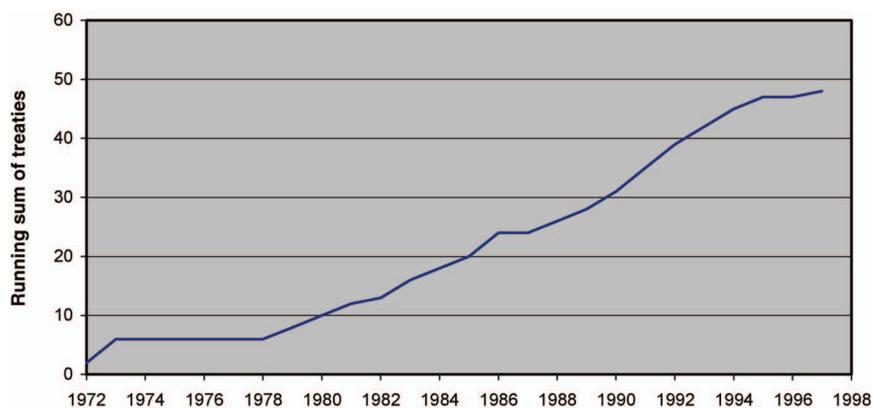


FIGURE 1. Chinese accession to environmental treaties, 1972–1997 (cumulative sum). Sources: Cai & Voigts, quoted in Alastair Iain Johnston, 'China and international environmental institutions: a decision rule analysis', in Michael B McElroy *et al* (eds), *Energizing China: Reconciling Environmental Protection and Economic Growth*, Harvard University Committee on Environment, Cambridge, MA, 1998; and China Environmental Protection—Environmental Treaties, at <http://www.zhb.gov.cn>, accessed 27 March 2003.

Development held in Johannesburg. There Chinese NGO delegates were said to be rather quiet, to a large extent reflecting their inexperience in international conferencing and their lack of confidence. Chinese NGOs' learning process is expected to gather pace, as many delegates have brought home useful information and have subsequently turned some of what they learned at these international gatherings into work programmes for domestic implementation. Some of these NGOs have continued to keep in contact with their overseas counterparts. In October 2002 the Global Environment Facility (GEF)—the designated financial mechanism for international agreements on biodiversity, climate change and persistent organic pollutants—held its second general assembly in Beijing. Some 40 Chinese NGOs joined overseas NGO representatives in a forum organised by Friends of Nature, a prominent Chinese green NGO. In November 2005 an international conference on renewable energy was held in Beijing, and Chinese NGOs were active in a parallel nongovernmental forum. (We shall return to the activities of these NGOs later.)

Information about China's involvement in international rule negotiations is sketchy. However, with Japan and South Korea, the country has set up regular meetings for environment ministers to discuss issues of common concern, such as air pollution and sandstorms. China has also entered into similar discussions with the Association of Southeast Asian Nations (ASEAN). It has begun negotiating with the European Union to broaden an existing economic and commercial treaty to include the environment. In addition, it has joined the US initiative to form an Asian Pacific Partnership involving four other countries<sup>11</sup>—Australia,<sup>12</sup> Japan, South Korea and India—to develop technology to control environmental pollution, as a way to complement the 1997 Kyoto Protocol. (Together these six countries account for half of the world's emissions of greenhouse gases.) The USA and Brazil have recently formed an International Biofuel Forum to explore the possibilities of wider use of biofuels, including ethanol derived from sugar cane and corn. Together with India, South Africa and the EU China is a party to the forum. China is also a dialogue partner of the Group of Eight industrialised nations, which has in recent years put climate change high on the agenda. Speaking in a meeting of environment ministers of the G8 together with five key developing countries, including China, in Potsdam in mid-March 2007, China's former environment chief, Xie Zhenhua, was non-committal as to what China would do to cut greenhouse gases after 2012. He said that the success of the current protocol's targets needed to be evaluated and assessed before a successor agreement could be made.<sup>13</sup> Apart from these activities, China has also entered into numerous multilateral and bilateral discussions on environmental co-operation.

As the world's top greenhouse gas emitters, as well as its top energy users, both the USA and China recognise the importance of their relationship not only to themselves but also to the rest of the world. Increasingly high-level discussions—bilateral or multilateral, formal or informal, regularised or occasional—have taken place in recent years in areas of economic co-operation, energy use and environmental protection.<sup>14</sup>

In terms of rule compliance China has committed to comply with the terms and conditions of some 50 international environmental treaties that it has signed or ratified, to observe the relevant international environmental standards, and to take measures to halt environmental degradation. In 1994 the country adopted Agenda 21, a comprehensive programme of environmental-protection activities first proposed at the UN Conference on the Environment and Development held in Rio de Janeiro in 1992. It has also passed much domestic legislation to protect its environment and to enhance the strength and punitive power of its environmental agency, SEPA (to be discussed further in the next section).

It would be difficult to make an accurate assessment of the compliance of any country with international environmental law, as the meaning of compliance is controversial, environmental norms and mechanisms are diverse and lack co-ordination,<sup>15</sup> and because most international environment treaties do not have a robust system of monitoring and enforcement to make compliance effective. An exception to this general situation is the Kyoto Protocol. Despite its relatively short, controversial history, the Protocol offers a basis for making a preliminary assessment. China is exempted from cutting down its emissions of greenhouse gases because of its developmental state, under the principle of 'common but differentiated responsibility', which allows developing countries to catch up. The work of the UN Development Programme (UNDP) and the UN Environment Programme (UNEP) is important in raising China's environmental awareness and standards, but these bodies take on an advisory and supportive role rather than a judicial role and they work under very tight budgets.<sup>16</sup> In addition, UNEP has a narrow mandate and a small staff size, and its work is often hampered by rivalry between the developed world and the developing world.

#### *China and the Kyoto Protocol*

The Kyoto Protocol is the most stringent environmental treaty so far established because of its formal legal requirements of signatory states to abide by its rules, under penalty, to cut back their emissions of greenhouse gases. China signed and ratified it in May 1998 and August 2002, respectively. An examination of China's relationship with the Kyoto Protocol serves as an important signpost of its engagement with global environmental governance.

Because of its developing status, China is at present exempt from the Protocol's legal requirements to cut down its emissions of greenhouse gases, including carbon dioxide, methane, chlorofluorocarbons and other gases.<sup>17</sup> Two options seem to be open to China to deal with air pollution. One is to trade its carbon credits with industrialised nations and industries. The other is to adopt measures to cut down its own emission of greenhouse gases.

China's factories and power stations are predicted to churn out 4.6 billion tonnes of carbon dioxide in 2010, even before accounting for vehicle emissions, which are also rising with increased car ownership.<sup>18</sup> Ironically

this situation provides a market for carbon trade. The Protocol, ratified by 164 countries, requires 35 participating industrial nations to reduce emissions of carbon dioxide and five other greenhouse gases by 5.2% below 1990 levels between 2008 and 2012. In order to emit more than their quota allowance while reducing the global amount of emissions, polluters in developed countries can buy Certified Emission Reduction credits traded under the Clean Development Mechanism (CDM) from companies in developing countries in which the former have invested in emissions reduction projects. While the European Union is the largest buyer in the market, China continues to dominate the selling of carbon credits with its 60% share in 2006, down from 73% a year earlier.<sup>19</sup> By October 2006 China has approved 125 projects under the scheme and it is expected to cut industrial emissions by 630 million tonnes of carbon dioxide equivalent by 2012, the cut off date of the first phase of the Protocol.<sup>20</sup>

As 2012 approaches, heavy emitting industries in the West are keen to buy carbon credits to hit the target cut and yet maintain industrial production. The largest trading so far involves the World Bank and 11 utilities, banks, trading firms and others on the one hand and two Chinese chemical companies in Jiangsu province on the other,<sup>21</sup> amounting to \$1 billion. The Chinese government is expected to reap a windfall from this trading, through taxes on the two companies, amounting to 65% of the money involved. The money will be put into a new Clean Development Fund that China will use to promote forms of renewable energy. About 75% of the money comes from European and Asian corporations.<sup>22</sup>

In early 2007 China and the United Nations set up a carbon trading exchange in Beijing, which would be the first such exchange to be set up in the developing world, in competition with private sector carbon exchanges established in Europe and the USA. As a large emitter of greenhouse gases not legally obliged to cut such an emission, China offers a lucrative market in carbon credits. According to the World Bank, about \$3 billion in carbon credits from developing countries were traded in the first nine months of 2006.<sup>23</sup>

All these activities are new experiences for China's government, industries and environmentalists. Many details are in the process of being worked out, such as how the country will set the total amount of emissions, distribute the quotas, and determine the prices.<sup>24</sup> These experiences may, however, prove to be useful to other countries, international organisations and environmental groups for managing global and domestic environmental governance.

### **Assessing China's domestic environmental governance**

Since 1949 the National People's Congress has formulated nine laws on environmental protection and 15 laws on the protection of natural resources.<sup>25</sup> And since 1996 the State Council has formulated or revised over 50 administrative regulations relating to environmental protection. By the end of 2005 the country had promulgated over 800 national environmental protection standards and 30 local standards, dealt with over 75 000

cases of environmental law violations, and closed down 16 000 enterprises discharging pollutants against the law.<sup>26</sup> There are now 3226 environmental protection administration departments at various levels all over the country, with 167 000 people engaging in environmental work, research, education and publicity. In addition, there are 3854 environmental supervision and environmental law enforcement organs with more than 50 000 staff members. Another 300 000 people work in enterprises and various government departments in dealing with the environment.

The above figures and statistics, reported in China's White Paper entitled *Environmental Protection in China (1996–2005)*, give a useful but static picture of China's domestic environmental governance. They do not tell us how effective the laws, regulations and standards are, and how well the staff involved in monitoring and enforcing compliance perform their tasks. Also the White Paper has little or nothing to say about the evolving NGO involvement in environmental protection in China, an increasingly vocal sector in the country's environmental management.

Largely thanks to its fast economic growth and industrial production, China has become the world's largest emitter of sulphur dioxide. The subsequent creation of acid rain creates havoc for China's environment, in terms of economic costs and human welfare, and to a lesser extent for that of its neighbours. In 2005 China emitted 25.5 million tonnes of the gas, which was a 27% increase since 2000, of which coal- and oil-fired power plants accounted for 11 million tonnes. The emissions increased to 26 million tonnes in 2006.<sup>27</sup> According to the Worldwatch Institute in Washington, DC, China has 16 of the world's 20 most air-polluted cities. A total of 357—more than half—of the 696 cities and counties in China were affected by acid rain in 2005 because of sulphur dioxide pollution.<sup>28</sup> In September 2006 SEPA and the State Statistics Bureau issued a Green GDP report saying that pollution cost the country an equivalent of 3.05% of the economic output and that it would take a one-time direct investment of about \$136 billion—nearly 7% of GDP—to clean up all the pollution pumped into the country's air, water and soil in 2004.<sup>29</sup> Health costs form a major part of the economic losses.

In view of the huge ecological cost, three years after SEPA was elevated to become a ministry, the 10th Five-Year Plan (2001–2005) set ambitious emission-reduction targets and boosted environmental spending to 700 billion yuan (\$85 billion), which was equivalent to 1.3% of GDP, up from 0.93% in the Ninth Five-Year Plan (1996–2000) and 0.73% in the Eighth one (1991–95) (though still below the 2% threshold suggested by the World Bank).<sup>30</sup> However, by early 2005, the actual spending was 30% short of the target.<sup>31</sup> Further, the 10th Five-Year Plan failed to meet 40% of its environmental targets.<sup>32</sup> SEPA estimated that the country would need 1.4 trillion yuan (\$175 billion) in its 11th Five-Year Plan (2006–10) to tackle environmental problems,<sup>33</sup> representing about 1.5% of GDP. (In comparison, developed countries were already spending about 1% to 2% of their GDP on environmental protection even in the 1970s, with the USA spending 2% and Japan 2% to 3%.)<sup>34</sup> Chen Bin, the vice head of SEPA's planning and finance department, said that the percentage needed to rise to about 3% before

noticeable improvements could be made to the environment.<sup>35</sup> It was estimated that in 1996–2000 15% of the total spending on the environment originated from multilateral and bilateral lending programmes and aid budgets.<sup>36</sup> For example, up to June 2006 the GEF has extended or approved over \$500 million to fund 45 projects in China.<sup>37</sup>

In 2004 China recorded more than 74 000 incidents of protest and unrest, up from 58 000 a year earlier.<sup>38</sup> In 2005 there were 51 000 pollution-related disputes, up 30% a year earlier.<sup>39</sup> Zhou Shengxian, head of SEPA, said in July 2007 that his agency received 1814 petitions from citizens ‘appealing for a better environment’ in the first five months of the year, 8% up from the corresponding period of the previous year.<sup>40</sup> Apparently these figures have alarmed the leadership, as social stability is the foundation of legitimate governance in the country.<sup>41</sup> However, there seems to be little or no systematic analysis of the scale of these conflicts or of whether they were directed at polluting factories or local government or both. Suffice to suggest a close correlation between riots and environmental causes. In May 2006 China announced the establishment of three more environmental supervision centres, in addition to two recently established, in order to strengthen the enforcement of environmental protection law.<sup>42</sup> In addition, six offices will be set up to monitor civil and military nuclear security around the country. These centres and offices will report directly to SEPA as a way of streamlining procedures in dealing with environmental issues and disputes, so as to bypass resistance from local government and inter-provincial rivalries.<sup>43</sup> Although SEPA has been elevated to ministerial level, its importance in China’s domestic environmental structure has not gone unchallenged. Formidable ministries such as those in the economic and industrial sectors have often put immense political pressure on SEPA, which sometimes responded by using ‘naming and shaming’ tactics, exposing serious breaches of environmental law to the public.

One of the recent measures taken by the government is a package of taxes dubbed ‘chopsticks taxes’, aimed at reducing the use of wood products and at increasing levies on luxury cars and yachts that consume a lot of fuel.<sup>44</sup> Other measures include the closing down of factories that produce heavy pollutants, and the monitoring of some 300 000 factories;<sup>45</sup> the cleaning up of rivers and lakes; the imposition of heavy fines on polluters; the strengthening of the legal system; and a stringent adherence to the requirements for industries to submit environmental assessment reports to the government before major infrastructural works can start.

Of the many serious environmental mishaps in China, the Songhua benzene spill in late 2005 may have served as a major wake-up call to the top Chinese leadership that something drastic needed to be done to clean up the country’s environment. The poisonous chemical came from an explosion in a plant in Jilin run by China National Petroleum Corporation. The Songhua River incident, which led to a cutting off of the normal supply of running water for five days to Harbin, the capital city of Heilongjiang province in northeast China with over three-million inhabitants, and also affected more than half a million people living

downstream in Russia's far east, has become a turning point in the official Chinese thinking on environmental protection. Not only did China apologise to Russia for the leak and Xie Zhenhua, head of SEPA, resign following the incident, the clean-up of the Songhua over the next five years is estimated to cost \$3 billion.<sup>46</sup> Subsequent to the Songhua spill the central government began to inspect 21 000 plants that line China's major waterways and to review old environmental assessment reports.<sup>47</sup> More than half of these plants were found to be located along the Yangtze and Yellow Rivers.

In view of the fragility of its one-sided economic growth, the country's 11th Five-Year Plan (2006–10) aims to cut 20% of energy consumption in terms of per capita GDP growth, 10% of emissions of major pollutants, and to increase forest coverage from 18.2% to 20%.<sup>48</sup> By 2010 70% of city sewage and 60% of non-toxic domestic waste are to be treated.<sup>49</sup> Yet, despite all these efforts, ordinary people in China continue to suffer from environmental damage. So what can they do to help themselves apart from taking violent protest actions?

#### *The role of non-state actors*<sup>50</sup>

In recent publications on public participation in environmental protection in China,<sup>51</sup> it has been suggested that public participation should be mutual and directed in reciprocal ways, that is, it should involve public input into government processes as well as government-initiated consultations with private citizens and groups. The process of such inputs and consultations should be open and transparent and should be conducted in a 'scientific way', meaning a rational way devoid of ideological pressure. Furthermore, decisions made must be acceptable to those who are affected by them, directly or indirectly.

A subtle indicator of China's compliance with commonly accepted environmental standards is the government's policy towards the growth of environmental NGOs.<sup>52</sup> In 1997 only a handful of NGOs of various kinds existed in China. Most of them were based in the capital, Beijing. By August 2002 there were more than 250 NGOs across the country, in every province.<sup>53</sup> Since the 1990s concerned Chinese individuals, mainly intellectuals, have started to organise NGOs to promote environmental awareness. The first,<sup>54</sup> Friends of Nature, was formally registered in March 1994 with the Ministry of Civil Affairs. This was followed by another now well known NGO, Global Village of Beijing, founded in 1996. The programmes and activities of these and some other NGOs are funded by overseas agencies, with foundations like Ford, Rockefeller Brothers Fund, and Winrock International annually contributing millions of dollars.<sup>55</sup> According to Yang Dongping, a vice-president of Friends of Nature, there are about 1000 indigenous green NGOs in China, of which more than 100 are grassroots groups, 500 are student groups, and the rest receive some form of government subsidy.<sup>56</sup> A survey conducted by the All-China Environment Federation, an NGO established in 2005 under the sponsorship of SEPA, reveals that there were 2768

environmental NGOs in China at the end of 2005,<sup>57</sup> with a total individual membership of 224 000.<sup>58</sup> About 90% of these NGOs were initiated by government departments and student volunteers, and only 20% had registered with the government.<sup>59</sup> Most of them are poor in resources and many are too small to have any significant impact.

Chinese environmentalists made their debut on the international stage when they attended the UN-sponsored World Summit on Sustainable Development, held in Johannesburg, in late August 2002.<sup>60</sup> The summit was attended by leaders and representatives of over 100 countries as well as delegates from a thousand NGOs around the world. Apart from Chinese government officials, some 40 social organisations were present, including 11 grassroots NGOs from different parts of the country.<sup>61</sup> The 20 delegates from China's environmental NGOs were sponsored by the British Embassy, the Ford Foundation and Canada's Civil Society Project.<sup>62</sup> Although the voice of Chinese environmentalists was said to be feeble at the international forum,<sup>63</sup> they have started to link up with international NGOs and to lobby or work with their government, especially with SEPA. They have also worked with the industrial sector at home to help alleviate environmental problems. The UN conference was an eye-opening experience for many Chinese grassroots NGO workers, as they were exposed to a flood of information on global environmental issues. They also realised how far behind China's NGO development was, even in comparison with other developing countries like Indonesia, the Philippines and Malaysia.<sup>64</sup> In addition, they had the rare opportunity of meeting their own Chinese colleagues from other parts of the country. After the Johannesburg Summit Chinese delegates held a conference in Nanjing in September 2002 to brief their colleagues in China and, as a result, they drew up an action plan outlining their future work in the country, emphasising the importance of NGO contributions and promoting the ideas of sustainability and public participation.

Unlike other types of NGO, green groups in China are seen in a peculiar light by the authorities. On the one hand, they are seen as less threatening, as they tend to work with the government to alleviate environmental damage which the government finds it difficult sometimes to tackle on its own. These NGOs work more efficiently to motivate ordinary people to take steps to protect their environmental interests. The existence of green NGOs can, apart from helping to improve China's environmental record, enhance the country's international image.<sup>65</sup> On the other hand, the fact that they can raise the level of public awareness over some rather volatile social and environmental issues poses a potential threat to the legitimacy of the authorities. Furthermore, the government is worried that such groups may eventually evolve into a political party, as has happened in many overseas countries. Somehow the government and the emerging NGO sector have to learn to live and work with each other. During the campaign to compete for the hosting of the 2008 Olympics, the Beijing Olympic Organising Committee, a semi-governmental body, for the first time invited environmental NGOs to attend proceedings as advisers, in order to promote the green image of the Beijing Games.

A courageous and adventurous nongovernmental initiative was the setting up of the Centre for Legal Assistance to Pollution Victims in Beijing in 1999, with substantial financial support from the Ford Foundation. The director of the centre is Wang Canfa, an environmental lawyer and a professor at the China University of Politics and Law. The centre provides a channel for citizens to voice their grievances against the authorities. Through legal proceedings ordinary people can seek compensation from the government and business corporations. Up to 2002 the centre had fielded thousands of phone calls and had taken 22 cases it deemed most worthy to the courts. The number of cases had risen to over 80 by mid-2006.<sup>66</sup> Beginning with two to three part-time volunteers in 1999, in 2004 its 200 or so volunteers received 6000 requests for help.<sup>67</sup> In a landmark case raised by the centre in 2002 on behalf of 100 peasant families against a paper factory for dumping toxic chemicals into Shiliang River in eastern Jiangsu province, a local court ruled against the factory and awarded compensation of 5.6 million yuan to the affected families.<sup>68</sup> According to influential green activist Liang Congjie,<sup>69</sup> this was a landmark case, as almost nobody in China had ever used environmental law to protect his or her rights before 1992.

A new non-governmental effort to combat environmental problems arose from the business sector. Originally triggered by their concerns over the annual sandstorms that blow from northern China to Beijing, around 100 business people (including 20 or so from Taiwan working in China) met in mid-2004 to form an environmental group called Alxa SEE Ecology Association (where Alxa or Alashan is the name of a place in the Mongolian plateau, a seedbed of sandstorms, and SEE stands for society, entrepreneur and ecology).<sup>70</sup> By the end of 2005 this association has collected some 100 million yuan (\$12 million)<sup>71</sup> to fund works in combating sandstorms. This is perhaps the first time that Chinese entrepreneurs have exercised their corporate social responsibility in a collective way to forge a public-private partnership to deal with environmental issues.

Another unique aspect of the development of green NGOs in China is the development of government-organised NGOs or GONGOS. These organisations enjoy three advantages over grassroots NGOs: they are better resourced as they are funded by the government, they can attract a relatively large number of specialists and experts to work for them, and they can serve as effective and efficient conduits between international organisations or donors, civil society and the government.<sup>72</sup> Two such organisations with strong links to SEPA stand out: the China Environmental Culture Promotion Association (first established in 1993), whose work was revived by Pan Yue when he joined SEPA as vice minister in 2003; and the All-China Environment Federation,<sup>73</sup> a nationwide mass organisation established in April 2005 with the aim of bringing the public and the government together to achieve sustainable development. According to Ru Jiang, who carried out doctoral research on China's environmental issues at Stanford,<sup>74</sup> GONGOS are generally more effective in performing tasks related to the official responsibilities of their supervisory organizations, such as policy consultation and information exchange; in contrast, citizen-organised NGOs are more

effective in engaging in public education, environmental advocacy and grassroots environmental activities. Although GONGOS have mushroomed as a direct result of the administrative reform of 1998, which aimed at downsizing government bureaucracy, they are increasingly independent of government agencies. This is not only because of their exposure and access to international rules, resources and technology but also because their second-generation leaders and staff members are no longer recruited from the government.<sup>75</sup>

Many international environmental NGOs work, sometimes in close collaboration with local NGOs, to promote environmental protection by introducing programmes and management techniques and by bringing in much-needed funding. Groups such as WWF, Ecologia, Pacific Environment, Friends of the Earth and Greenpeace have all set up projects or opened offices in China.<sup>76</sup>

#### *The role of local governments*

As the bulk of environmental pollution takes place in the localities, it is imperative to study why local authorities have failed to address the problem successfully. The incentive structure that local officials face helps us understand more about the mounting difficulties in remedying pollution at the local levels. First, there are competing interests between combating environmental degradation and maintaining production and employment. For local officials whose performance is assessed by higher-level authorities and local people on their record of economic growth, the latter goal is always accorded a higher priority than the former. Even with a pollution-fee system in place, local governments tend to offer their enterprises tax exemptions or grants to offset the penalties.

Second, government officials' thinking about environmental problems is based on a hypothesis known as the 'environmental Kuznets curve' (EKC).<sup>77</sup> The hypothesis asserts that environmental degradation increases in the early stages of economic development (as indicated in higher emissions per capita) until the process reaches a turning point or threshold at a higher level of economic development. Thereafter the overall levels of degradation will gradually fall and stabilise at a relatively low level. In other words, the relationship between economic growth and its environmental impact shows an inverted U-shape. The reasoning is that, at higher levels of development, the economy will have been transformed into one based on information technology and services, thereby reducing the rate of resource depletion. Additional favourable factors include increased environmental consciousness and enforcement of environmental regulations, increased use of cleaner and more energy-efficient production technology, and enhanced commitment to environmental expenditures. A policy implication of the EKC hypothesis is that economic development is not a threat to the environment. Rather, it should be conceived as a means to environmental improvement. So there is no need to curtail economic growth to protect the environment. This hypothesis was once believed to be applicable to China. Between

1997 and 2001 China's GDP grew by 33.7% while carbon dioxide emissions rose by 0.2% only and sulphur dioxide emissions even fell by nearly 40%. However, there were controversies surrounding the remarkable drop in the emissions. In addition to falsified data, the closure of a large number of small-scale, inefficient coal mines was also an important factor. Economic development, however, has not brought with it a decrease in environmental degradation.<sup>78</sup>

Third, the efforts of local government to curb environmental pollution are undermined by the fact that the dumping of hazardous waste into the environment and measures to safeguard the environment possess the properties of externality and public goods.<sup>79</sup> With no charges being made for the harm done to the environment, the market system cannot discourage individuals and firms from discharging wastes into the air and water. Given that, within a threshold level, non-payers' consumption of public goods is not at the expense of payers and that it is highly difficult or costly to exclude non-payers from consuming public goods, individuals and firms tend to 'free-ride' with respect to the provision of public goods (ie environmental clean-up in our case). Both result in an oversupply of polluting goods and an undersupply of public goods.<sup>80</sup>

Following this logic, local county officials in China are inclined to take a free ride on others' investments in environmental clean-up. This is because, while the county would have to shoulder the full cost of the investment, it would share the benefits with the people downstream who contribute little to the clean-up and yet cannot be excluded from the enjoyment of it. Analogously environmental pollution is a 'public bad' whose harmful effects are experienced by all who use the environmental resource. To minimise a local population's exposure to pollution, local officials are tempted to push polluting firms close to the downstream boundaries of local jurisdictions. In so doing local people are 'minimally' hurt by the toxic wastes, and local firms are not charged for damaging the environment, while their industrial production can be maintained. The decentralisation of economic powers to sub-national governments is consequently at odds with the collective efforts to achieve environmental goals. This is one of the reasons why environmental experts have called for the power to combat environmental problems to be vested with a regional or central agency, and that Pan Yue of SEPA demands that environmental officials be given real power to implement existing laws and regulations and that environmental inspectors in various sectors be unified.<sup>81</sup>

The central government is putting mounting pressure on local governments and enterprises to rein in pollution. In a SEPA inspection campaign launched in October 2006, it was found that only 30% of the investigated projects had obtained a pass in pollution control design before they were allowed to begin construction. The environmental watchdog blacklisted a total of 82 projects worth 1.12 trillion yuan that had allegedly seriously violated environmental protection assessment rules. In a Politburo study session in December 2006 Hu Jintao urged local authorities to conserve the environment, linking energy use and pollution control with national and economic security.<sup>82</sup> In January

2007 SEPA stripped four cities in Shanxi province of the power to approve new construction projects for their failure to take measures to protect the environment.<sup>83</sup> Working with the People's Bank of China, the central bank, and the China Banking Regulatory Commission, SEPA is to refuse polluting firms bank credit. However, it remains to be seen whether this 'green credit' policy is enforceable at local levels where officials attach primary importance to economic growth.<sup>84</sup>

### **Domestic impact on global environmental governance**

As the largest and fastest-growing developing country, China's domestic experiences in environmental governance may be of some use to other developing nations and have impacts on its neighbours. The fact that China shares land borders with 14 countries and shares 15 rivers with them means that China's environmental problems can easily be spread to them, as evidenced by the Songhua Incident, increasing the potential for environmental conflicts. These issues have a clear impact on China's diplomacy, not least in terms of environmental justice. China jealously guards the principle of common but differentiated responsibility, for its own benefits as well as for the developing world. It has chastised some developed countries for using environmental excuses, in the form of trade barriers, for tying development aid to environmental standards, for the exploitation of the natural resources of the Third World, and for the transfer of polluting industries to poor countries, to delay Third World development. These acts constitute what the Chinese government regards as environmental imperialism.<sup>85</sup>

China has become an innovator in environmental governance institutions in some areas. These include a National Environmental Model City programme, the proposed establishment of a green GDP,<sup>86</sup> the use of tradeable emissions permits, the inclusion of environmental performance as a factor in evaluating staff performance and promotion, and a widespread use of hotlines for reporting environmental offences.<sup>87</sup> In some technical areas, such as biodiversity, as well as projects to conserve water and to protect wildlife, including pandas and golden monkeys, China is seen to have become a leader.<sup>88</sup> China's experiences in combating desertification has been cited by Hama Arba Diallo, an executive director of the UN Convention to Combat Desertification, as worthy of sharing with other countries.<sup>89</sup>

China's stance on two crucial issues that tend to divide more developed countries from less developed countries is worthy of note for its direct impact on the working of global environmental governance. They are: how should the burden of tackling environmental deterioration be fairly shared among countries of uneven levels of economic development? And how should the issue of climate change be framed?

While China has indicated a willingness to participate in talks on fighting global warming beyond 2012, it maintains that more developed countries should take the lead in addressing the problem of environmental pollution and that it would reject any imposition on it of mandatory quotas of reductions in greenhouse emissions.<sup>90</sup> Instead, it argues for improving its

relatively low energy efficiency to *slow* the growth of the emissions.<sup>91</sup> Its arguments are threefold. First, China's per capita emissions are low in comparison with the world average, and that of the industrialised countries in particular.<sup>92</sup> Second, as a developing country China lacks the financial or technological resources to shift to the use of environmentally-friendly energy technology. Finally, developed nations are more responsible for the accumulation of greenhouse gases than developing ones (see Tables 1 and 2 in the Appendix).<sup>93</sup> However, the USA has declared that it would not be a party to a new climate change treaty if it was not applicable to China, India and the rest of the Third World.<sup>94</sup> In the final analysis, as argued by neorealists, global public goods can only be provided by great powers (hegemons). The effectiveness of global environmental governance depends to a large extent on whether the USA and China, the two principal emitters of greenhouse gases, could jointly assume a leadership role and reach a compromise on a new protocol beyond 2012.

A related issue is how the international community should define the nature of climate change. In April 2007, when the UN Security Council, under the presidency of the UK, was debating whether climate change should be considered an imminent threat to global peace and security, China and a group of developing countries were opposed to the discussions. China argued that climate change is an issue of sustainable development<sup>95</sup> and that the 'Security Council has neither the professional competence in handling climate change, nor is it the right decision-making place for extensive participation leading up to widely acceptable proposals'. The developing countries were of the view that climate change is an issue for the General Assembly, a more democratic and representative body, and for the Economic and Social Council. Third World countries are concerned that a securitisation of global warming would widen the powers of the powerful states in the Security Council and leave the door open for encroachment on national sovereignty and intervention in internal affairs by great powers in the West.<sup>96</sup>

### **Global impact on domestic environmental governance**

In examining the international sources of environmental policy change in China, Robert Falkner has identified two dynamics at work: one is international socialising and learning through China's political integration with the world, such as participation in international organisations and entering into international treaties; the other is China's economic globalisation through trade, which helps to upgrade its environmental standards to meet the higher standards set by the developed world with which China has substantial trade.<sup>97</sup>

By mid-2006 China had entered into bilateral environmental co-operation agreements or memorandums of understanding with 42 countries.<sup>98</sup> Its participation in global environmental governance seems to serve at least two purposes. First, it uses the global environmental governance as a platform for it to present its argument that developing countries should be

given 'common but differentiated treatment', a principle which would allow these countries greater flexibility in complying with internationally agreed standards so that they can have more time to catch up with the West in their industrialisation.

Second, the Chinese government can use the signing and ratification of international treaties relating to environmental protection to put pressure on domestic manufacturers and consumers and on those with vested interests to take steps to improve the environment. The measures taken in this respect include legal, economic, and administrative means, and the introduction to China of expertise and financial support from international organisations and rich countries. China's membership of the World Trade Organization serves as a good way of improving the quality of its manufacturing products so as to meet certain environmental standards. Its close working relationships with the World Bank and the UNDP help to secure the necessary funding and technology to enhance its environmental work. With financial and technical aid from the UNDP and Norway worth \$2.4 million, China is scheduled to introduce a pilot scheme to analyse and study ways to mitigate environmental changes in provinces and regions that are sensitive to climate change and that use fossil fuel intensively.<sup>99</sup> China is the largest recipient of grants and loans from the World Bank for its environmental work. In a similar vein, China's interactions with various global environmental actors at various levels serve to break down domestic inter-agency obstacles that might stand in the way of bureaucratic co-ordination.

The hosting of the 2008 Olympic Games is likely to push China to improve its environmental protection standards. The Chinese government has vowed to run a green Olympics. Under mounting pressure from the International Olympic Committee, whose President, Jacques Rogge, issued a grim warning in August 2007 that Beijing's poor air quality could cause a postponement of some endurance sports events,<sup>100</sup> China has gone to great lengths to clean up the environment ahead of the Games. Polluting factories along Beijing's rivers have been either relocated or closed; Capital Iron and Steel, Beijing's largest polluter, has been closed and moved to Hebei province.<sup>101</sup> The Chinese authorities are also contemplating ordering 1.3 million of Beijing's three million-strong vehicles off the city's streets during the Games.<sup>102</sup> The impact of a trial car ban in August 2007 on air quality was, however, not visible because about one-third of the particulate matter in Beijing originates outside the city. Environmental pollution is now a nationwide problem on which the capital city seems to have lost its grip.<sup>103</sup>

### Conclusion

Domestically China has done quite a lot of work to combat environmental degradation in recent years, but because of the sheer size of the problem and its neglect since 1949, the country faces an uphill struggle. With an environment that is likely to get worse before it may get better, China will continue to export its environmental problems to neighbouring countries

through river pollution, air pollution and acid rain. It will also continue to import heavy pollution-producing industries through foreign direct investments made by multinational corporations and to spread these industries, together with their pollution, to the rural parts of the country. In a certain irony, the international community has to make use of both international pressure and international assistance to help China to help itself.<sup>104</sup> China's green NGOs can potentially play an important role, not only to link up with international NGOs and multilateral institutions to deal with the problem, but also to relate more directly with grassroots problems than do government agencies.

Neil Carter and Arthur Mol have concluded that the decisions and actions of Chinese leaders—at home and abroad—‘strongly reflect well-perceived domestic interests and priorities (sovereignty and security being among the most important), and there is little evidence of an acceptance of a wider global environmental responsibility as a future global hegemon.’<sup>105</sup> The success or otherwise of China's environmental policies, according to Elizabeth Economy,<sup>106</sup> lies with a broader and more fundamental set of institutional reforms that would promote transparency, the rule of law and official accountability. In other words, unless political rights are properly protected, it will be difficult to make significant progress in environmental rights.<sup>107</sup> To be sure China has made some progress, but more needs to be done quickly in order to deal with a fast deteriorating environment. Domestically there is a pressing need for the central government to establish a governance framework that contains incentive for local officials to embrace the idea and practice of environmental protection rather than relying on the present costly command-and-control style of domestic environmental governance.

Obviously China's domestic approach can hardly be applicable to the management of global environmental governance, for reasons of international anarchy and power competition among big powers. Also China has shown little sign of contributing to the setting of a global agenda for environmental protection, thanks to its limited capability and its lack of international experience. What it could do is to try to eliminate the Chinese sources of global environmental problems as much as possible so as to reduce adverse effects on the global commons, using self-help or assistance from the outside. While China is changing itself, at its own pace, to change the world, the world can help China to help itself to enhance environmental protection. China's environmental problems are so serious that any significant improvements made in any sector of its environment would be greeted with applause by others. China has accumulated a lot of experiences during its development, including those in combating environmental problems, some of which can be of use to the developing world. That said, with a self-proclaimed aspiration to be a responsible great power and the privileged position of holding a permanent seat on the UN Security Council, China is obliged to demonstrate by deed how it is to assume the responsibility for the provision of global public goods commensurate with its growing political and economic power.

## Notes

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- 9 The calculation is based on sources from the website of the Ministry of Foreign Affairs of the PRC ('China's participation in multilateral treaties', in Chinese), at [www.fmprc.gov.cn/chn/wjb/zjjg/tyfls/tfscckzlk/zgcjddbty/default.htm](http://www.fmprc.gov.cn/chn/wjb/zjjg/tyfls/tfscckzlk/zgcjddbty/default.htm), accessed 21 June 2006.
- 10 Gerald Chan, *China's Compliance in Global Affairs: Trade, Arms Control, Environmental Protection, Human Rights*, Singapore: World Scientific, 2006, pp 148–149. See also China's White Paper entitled *Environmental Protection in China (1996–2005)*, Beijing: Information Office, State Council, 2006. A complete list of international environmental treaties that China has signed or ratified can be found at [www.zhb.gov.cn/eic/651615674891763712/20031017/1042166.shtml](http://www.zhb.gov.cn/eic/651615674891763712/20031017/1042166.shtml), accessed 21 June 2006.
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- International Relations in a Changing Global System: Toward a Theory of World Polity*, Boulder, CO: Westview Press, 1992, p 95.
- 17 China's official status is a non-Annex I party to the Convention. China's State Development Planning Commission submitted in December 2004 its first 'Initial national communication on climate change'. See 'China,' in United Nations Framework Convention on Climate Change website, at <http://maindb.unfccc.int/public/country.pl?country=CN>, accessed 18 April 2007.
  - 18 The number of cars increased to 19 million in 2005 from a mere four million five years ago. 'Grim tales: the more growth, the more damage to the environment', *The Economist*, 31 March–6 April 2007. According to Hamish McDonald, satellite images, released by the European Space Agency in 2005 showed that the surrounding area of northeast China had the world's most dense nitrogen dioxide, produced mainly by vehicles. McDonald, 'Images show Beijing vehicle emission pollution is world's worst', *Sydney Morning Herald*, 26 October 2005.
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  - 23 Mure Dickie & Fiona Harvey, 'China and UN plan carbon trading exchange', *Financial Times*, 5 February 2007.
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  - 25 The figures and statistics in this paragraph are taken from *Environmental Protection in China*.
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## Appendix I

TABLE 1. Major carbon dioxide emitters (cumulative emissions)

| Countries      | Cumulative emissions, 1850–2003 (million tonnes) | Percentage of world total (%) | Emissions per person (tonnes) |
|----------------|--|-------------------------------|-------------------------------|
| United States  | 318 739.7  | 29.20                         | 1096.0                        |
| Russia         | 88 302.1   | 8.09                          | 610.7                         |
| China          | 85 314.3   | 7.81                          | 66.2                          |
| Germany        | 78 498.8   | 7.19                          | 951.0                         |
| United Kingdom | 67 348.3   | 6.17                          | 1130.3                        |
| Japan          | 45 197.9   | 4.14                          | 345.3                         |
| France         | 31 378.3   | 2.87                          | 522.7                         |
| India          | 24 346.5   | 2.23                          | 22.9                          |
| Ukraine        | 23 500.1   | 2.15                          | 491.5                         |
| Canada         | 23 378.2   | 2.14                          | 739.1                         |
| Poland         | 22 199.8   | 2.03                          | 581.2                         |
| Italy          | 17 437.2   | 1.60                          | 302.5                         |
| South Africa   | 12 790.7   | 1.17                          | 279.1                         |
| Australia      | 11 643.3   | 1.07                          | 585.9                         |
| Mexico         | 11 052.1   | 1.01                          | 108.0                         |

*Note:* China is ranked 91st by measure of per capita cumulative emissions while Luxembourg is ranked first with 1384.6 tonnes per head.

*Source:* *Climate Analysis Indicators Tool (CAIT)*, Version 4.0, Washington, DC: World Resources Institute, 2007, at <http://cait.wri.org>, accessed 2 May 2007.

TABLE 2: Major carbon dioxide emitters (annual emissions)

| Countries      | Annual emissions,<br>2003 (million tonnes) | Percentage of<br>world total (%) | Emissions per<br>person (tonnes) |
|----------------|--|----------------------------------|----------------------------------|
| United States  | 5777.7                                     | 22.27                            | 19.9                             |
| China          | 4497.1                                     | 17.34                            | 3.5                              |
| Russia         | 1581.0                                     | 6.10                             | 10.9                             |
| Japan          | 1258.2                                     | 4.85                             | 9.9                              |
| India          | 1148.3                                     | 4.43                             | 1.1                              |
| Germany        | 865.1                                      | 3.34                             | 10.5                             |
| United Kingdom | 552.6                                      | 2.13                             | 9.3                              |
| Canada         | 543.5                                      | 2.10                             | 17.2                             |
| South Korea    | 489.0                                      | 1.89                             | 10.2                             |
| Italy          | 468.4                                      | 1.81                             | 8.1                              |
| Mexico         | 400.0                                      | 1.54                             | 3.9                              |
| France         | 393.9                                      | 1.52                             | 6.6                              |
| South Africa   | 382.5                                      | 1.47                             | 8.3                              |
| Iran           | 374.2                                      | 1.44                             | 5.6                              |
| Indonesia      | 346.8                                      | 1.34                             | 1.6                              |
| Australia      | 341.4                                      | 1.32                             | 17.2                             |
| Spain          | 335.1                                      | 1.29                             | 8.0                              |
| Brazil         | 332.3                                      | 1.28                             | 1.8                              |
| Saudi Arabia   | 327.1                                      | 1.26                             | 14.0                             |
| Ukraine        | 322.6                                      | 1.24                             | 6.7                              |
| Poland         | 311.2                                      | 1.20                             | 8.1                              |
| Taiwan         | 261.9                                      | 1.01                             | 11.6                             |

*Notes:* China is ranked 75th by measure of per capita emissions, while Qatar and Kuwait are respectively ranked first and second, with 44.5 and 26.0 tonnes per head.

A tricky question arises as to which country should bear greater responsibility for cutting carbon dioxide emissions (and that of other greenhouse gases). If emissions per capita is a good indicator of which country should take the lead in addressing the looming problem of climate change, then tiny states such as Luxembourg, Qatar and Kuwait should do more and first. Also, the per capita emissions in Palau (12.3 tonnes) and Nauru (11.4 tonnes), two small island states in the South Pacific, are higher than those of China. Should they therefore contribute more to cutting greenhouse gases than China? Nauru, a country with a tiny population, depends very heavily on mining, a polluting industry, for its national income. It would seem unfair to require a small or a poor country to contribute more to cleaning up the environment. Does it have the capacity to do so? Also of interest is Australia. As of 2005 Australia was the world's largest emitter per capita of greenhouse gases, which include methane belched out by farm animals. Although some countries are not happy that it refuses to ratify the Kyoto Protocol, few complain that the country is a large 'polluter' in the world. On 3 December 2007 Kevin Rudd signed the instrument of ratification of the Kyoto Protocol in his first act after being sworn in as prime minister of Australia in the morning. Perhaps a balance should be struck between absolute amounts of emissions and emissions on a per capita basis when assessing the responsibility of polluting countries. On this score, the USA should take a lead as it is a high emitter on both counts. The idea of apportioning responsibility is a complex one and will remain controversial—an interesting line of enquiry.

*Source:* *Climate Analysis Indicators Tool (CAIT)*, Version 4.0, Washington, DC: World Resources Institute, 2007, at <http://cait.wri.org>, accessed 2 May 2007.