

## Is China Ready for the Mantel of International Leadership?

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In the past few years China has crossed two colossal crossroads. It is now the world's largest emitter of CO<sub>2</sub> (2006/7)<sup>1</sup> and held the summer Olympics (2008). And China shares a curious distinction with many other of the world's "old" civilizations in Asia, Africa, the Middle East, Central and Latin America. By today's standards, they are considered developing countries, a designation that appears singularly objectionable to the Chinese. But a designation that appears to be a significant driving force in China's overriding policy fostering economic growth. This article is a follow-up to two earlier articles published in this journal: "Is China Subordinating Health and Environmental Concerns to Economic Growth?" (Winter 2007) and "Environmental and Public Health Risks from Air Pollution at the Beijing 2008 Olympics" (Summer 2008). Both articles open the door to ask "Is China Ready for the Mantel of International Leadership?"

Considerable attention is paid in the press to human rights in China and one could hardly argue that China gets "good press." This article focuses only on environment and health which are generally perceived in modern society on a par with human rights in importance. At issue, fundamentally, lies China's drive for economic prosperity which has been impressive. The World Bank points out that growth of about 9.7 percent per annum since the late 1970s has helped to lift several hundred million people out of absolute poverty, with the result that China alone accounted for over 75 percent of poverty reduction in the developing world over the last 20 years.<sup>2</sup> Indeed, in his visit in November 2009, President Obama spoke of "an accomplishment unparalleled in human history."<sup>3</sup> The article will focus on three issues as representative indicators of international leadership: a) policies toward the environment, b) the legacy of China's monumental efforts to reduce pollution last year for the Olympics in August and the Paralympics in September, and c) policies toward public health and safety. One of the main reasons Beijing was chosen over Toronto and Paris was its proposals to have a "green Olympics." Clearly, the government and Non Governmental Organization (NGO)s have made considerable progress in establishing regulations and institutions to try to deal with environmental degradation --- indeed, China is probably as well known for its pollution as for the

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<sup>1</sup> "China now no. 1 in CO<sub>2</sub> emissions; USA in second position;" <http://www.pbl.nl/en/dossiers/Climatechange/moreinfo/Chinanowno1inCO2emissionsUSAinsecondposition.html>

<sup>2</sup> "China and the World Bank," <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CHINAEXTN/0,,menuPK:318958~pagePK:141132~piPK:141121~theSitePK:318950,00.html>

<sup>3</sup> "In Obama's trip a stark contrast with the past," *Washington Post*, 18 Nov. 2009, p. A1, <http://www.washingtonpost.com/ac2/wp-dyn/NewsSearch?sb=-1&st=accomplishment+unparalleled&x=12&y=8>

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Olympics --- but the question still remains. What other forces are at play to offset this progress in the form of policies countermanding or contradicting environmental progress and what is the influence of the private sector?

### Policies toward the Environment

#### History of Environmental Provisions and Regulations

After China decided to launch economic reforms in 1978, Deng Xiaoping proposed to allow some regions and some people to get rich first as a step to achieve a "common prosperity". The current plan has now been modified to stress "common prosperity" in a bid to bridge the growing gap between the rich and the poor, and to avoid polarization of the society.<sup>4</sup> The government has also adopted a "Green Strategy." "Environmental protection is changing from the down-stream, after-the-event management of the past to today's whole-process supervision and control."<sup>5</sup> However, during the first twenty years of reforms, China's track record was hardly stellar: "the most commonly measured forms of environmental pollution - particulate matter concentrations, sulfur dioxide levels, greenhouse gas emissions - have all increased literally to life-threatening levels."<sup>6</sup> How effective these provisions are remains to be seen, given that past institutional reforms and legal procedures have not been particularly effective. That is, according to the official government website (Gov.cn), environmental protection has been a basic national policy since the 1980s. "The State Environmental Protection Committee was established in 1984 and the first Environmental Protection Law formally issued in 1989, even before the United Nations Conference on the Human Environment in 1992. In 1993, the Environmental Resources Committee of the NPC was set up. So far [2006], the state has promulgated eight laws for environmental protection, 14 laws for management of natural resources and 35 regulations on environmental protection. Environmental protection authorities have publicized over 100 national environmental protection regulations and more than 1,000 local ones." More recently, the country has implemented numerous other provisions to reduce pollution, such as the Cleaner Production Promotion Law and the Environment Impact Assessment Law (effective Jan. and Sept. 2003 respectively) and to guarantee the implementation of the Green Strategy.<sup>7</sup> Whether the situation gets worse before it gets better remains to be seen, largely because of the continued emphasis on growth and, in particular, because of the demands for energy, based primarily on coal, where mining remains one of the most polluting and most hazardous occupations in the world.

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<sup>4</sup> "New Five-Year Plan to see revolutionary changes," People's Daily Online, 22, October 12, 2005; [http://english.peopledaily.com.cn/200510/12/eng20051012\\_213909.html](http://english.peopledaily.com.cn/200510/12/eng20051012_213909.html)

<sup>5</sup> "Green Strategy," Chinese Government's Official Web Portal, 2006, [http://english.gov.cn/2006-02/08/content\\_182528.htm](http://english.gov.cn/2006-02/08/content_182528.htm)

<sup>6</sup> "The Downside of Growth: Law, Policy and China's Environmental Crisis," Alex Wang, *Perspectives*, Vol. 2, No. 2, Oct. 31, 2000; [http://74.125.93.132/search?q=cache:ssRa0M0trAAJ:www.oycf.org/oycfold/httpdocs/Perspectives2/8\\_103100/downside\\_of\\_growth.htm+The+Downside+of+Growth:+Law,+Policy+and+China%27s+Environmental+Crisis&cd=1&hl=en&ct=clnk&gl=us](http://74.125.93.132/search?q=cache:ssRa0M0trAAJ:www.oycf.org/oycfold/httpdocs/Perspectives2/8_103100/downside_of_growth.htm+The+Downside+of+Growth:+Law,+Policy+and+China%27s+Environmental+Crisis&cd=1&hl=en&ct=clnk&gl=us)

<sup>7</sup> "Green Strategy,": Government of China, [http://english.gov.cn/2006-02/08/content\\_182528.htm](http://english.gov.cn/2006-02/08/content_182528.htm)

The 12th Five-Year Plan for Economic and Social Development

The 12<sup>th</sup> plan (2011-15) is currently being formulated and shows signs of continued progress *in principle* of moving in the direction of placing more focus on priorities that include social, health and environmental consequences of actions rather than on economic performance and growth targets. For example, the title of the 6<sup>th</sup> plan (1980-85) was changed from “Five-Year Plan for *Economic Development*” to “Five-Year Plan for *Economic and Social Development*.” Ever since the 7<sup>th</sup> plan, China has had a separate environmental protection plan (1986-90), even though environmental planning began in China after the first national conference on environmental planning in 1973, with more of an emphasis on individual enterprises rather than regional or national planning (1984, see above). In the last plan (2006-10), the word “plan” was replaced by “program”<sup>8</sup>, and overall the planning process is also becoming more open as well allowing for a greater regional and local input. Nonetheless, the realities of *continued* serious pollution arguably bring into question the efficacy of these procedures.

Preparations for the 12<sup>th</sup> plan included a “Call for Green China” a multi-city event that combined environmental awareness-raising with international dialogue on environmental planning and protection through cultural performances and conference activities held in succession in four cities: Shanghai and Nanjing in the east; Wuhan in central China, and Changsha in the south.<sup>9</sup> In those conferences, a history of environmental planning was discussed. The 6th and 7th Plans (1981-85, 1986-90), focused mainly on control of industrial pollution to keep pace with the great industrial growth. In the 8th Five-Year Plan (1991-1995), environmental protection planning targets were placed in the social development area, along with science, technology, education, etc. In the 9th and 10th Plans (1996-2000, and 2001-05) environmental protection targets were included among sustainable development targets. In the 11<sup>th</sup> Plan (2006-10), a shift was made to consider environmental protection from the perspective of a transition in the nature of economic growth. The 11th plan also contained several improvements/new features as compared to previous plans: it simplified pollution targets and made them mandatory. And, for the first time, climate change was added to the content of the plan. Nonetheless, despite planning thoroughness:

“The planning system is not complete; and implementation is weak. The history of environmental planning in China is the same as the history of environmental protection in

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<sup>8</sup> “plan”计划 -- “program” 规划 --- <http://pamlin.net/blog/China%2012th%20FIVE%20year%20plan.pdf>

<sup>9</sup> The conferences and performances were hosted the Ministry of Environmental Protection, the World Bank, and the Norwegian Embassy;

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENVIRONMENT/0,,contentMDK:22172079~pagePK:34004173~piPK:34003707~theSitePK:502886,00.html>; Overall objectives, scope and session descriptions:

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENVIRONMENT/0,,contentMDK:22171894~pagePK:34004173~piPK:34003707~theSitePK:502886,00.html>

Conference materials:

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENVIRONMENT/0,,contentMDK:22355662~pagePK:34004173~piPK:34003707~theSitePK:502886,00.html>

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China. Thus, the problems facing environmental planning reflect those institutional problems and problems of mechanisms facing environmental protection in China (e.g. institutions not fully developed, lack of capacity, etc.).”<sup>10</sup>

At the core of the discrepancy among policy, planning and performance, there seems to be a naiveté and a touch wishful thinking by relating future success to past experience, especially given that China is the world’s oldest continuous civilization. Again, the issue revolves around the stress on *growth*, however it is called. Authorities appear to think that they can grow economically to get the international respectability that China deserves and *then* correct the situation. It is almost as though they think they can build a structure quickly to make it available, then, afterwards, shore it up later to bring it up to standard. Environmental successes so far have not been sterling, especially when one considers the triumvirate of planning principles set at the second national environmental conference in 1983: “Three Simultaneous and the Three Unified,” *viz.* for economic development, urban/rural development, and environmental protection development to be planned and implemented at the same time and for economic benefits, social benefits, and environmental benefits to be considered in tandem.<sup>11</sup> Environmental policies essentially are impressive and comprehensive, but implementation is incomplete.<sup>12</sup>

Herein lies the key concept that places economic growth in conflict with environment and public health: planners estimate that, by 2020, the period of industrialization will be complete. China will be a middle income country. Until then, China’s economy and society will be in transition to industrialization during which resource development and the environment will be in conflict. Between 2020 and 2030, China will enter another transition period --- from industrialization to development of a knowledge economy. And after 2030, China will begin to realize the efforts toward modernization, with the service sector growing fastest. By 2050, urbanization in China will enter the mature stage; and China will join the group of the world’s high-income countries, perhaps even surpassing the US as the world’s largest economy. Environmentalists and other planners realize that environmental issues will be both the most important and the weakest links in China’s efforts to achieve a well-off society by 2020. By 2050, China will have entered a period of ecosystem and human health.<sup>13</sup>

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<sup>10</sup> “2. Review of China’s 11th Five-Year Environmental Protection Plan and Prospects for the 12th Five-Year Environmental Plan;” “Five-Year Planning Process: Summary of Presentations on May 14, 15, 18, and 20, 2009;” p.7; [http://siteresources.worldbank.org/CHINAEXTN/Resources/318949-1253778792190/Five-Year-Planning-Process\\_Summary-of-Presentations.pdf](http://siteresources.worldbank.org/CHINAEXTN/Resources/318949-1253778792190/Five-Year-Planning-Process_Summary-of-Presentations.pdf); Call for a Green China: Multi-City Environmental Event, <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENVIRONMENT/0,,contentMDK:22355662~pagePK:34004173~piPK:34003707~theSitePK:502886,00.html>

<sup>11</sup> “Review of National Eleventh Five-Year Environmental Protection Plan and Prospect of Twelfth Five-Year Plan;” Wu Shunze, Chinese Academy for Environmental Planning, slide 3, [http://siteresources.worldbank.org/CHINAEXTN/Resources/318949-1253778792190/Wu-Shunze\\_en.pdf](http://siteresources.worldbank.org/CHINAEXTN/Resources/318949-1253778792190/Wu-Shunze_en.pdf)

<sup>12</sup> “The Evolution of Environmental Policy and its Impact in the People’s Republic of China;” Maohong Bao, *Conservation & Society* 2006, Vol. 4, No. 1, 2006, pp. 36-54; <http://www.conservationandsociety.org/article.asp?issn=0972-4923;year=2006;volume=4;issue=1;spage=36;epage=54;aulast=Bao>

<sup>13</sup> “2. Review of China’s 11th Five-Year...” *op. cit.*; p. 8.

## Assessment

In summary, a look at the history of environmental regulations and China's historical successes and failures in dealing with environmental issues, most notably reducing pollution, make it difficult to infer that there is not a basic and inherent contradiction between principle and practice. Despite its ambitious and well-intentioned environmental aims and regulations, the guiding principles suggested for the 12th Five-Year Plan are:

- optimize economic development,
- improve environmental quality, and
- guarantee environmental security.

It is telling that the first guiding principle entails economic development, even though the plan nominally aims to address pollution and suggests:

- implementing double control on pollutants (both on the amounts generated and on the amounts discharged) so as to prevent pollution,
- striving to solve the disconnect between total pollution control and environmental quality experienced in the 11th Five-Year Plan and to solve the issue of total pollutant control targets not reflecting regional differences.<sup>14</sup>

In November 2009, The Wall Street Journal reported that China's top leaders pledged to continue focusing on economic recovery next year, a statement that will likely reassure domestic businesses and financial markets that the country's leadership supports continued growth.<sup>15</sup>

- "We will maintain the continuity and stability of macro-economic policy," the Politburo concluded in a meeting chaired by President Hu Jintao, according to a report on the state television Web site.
- "We will maintain our basic macro-economic policy stance, managing well the intensity, pace and focus of implementing policy...to increase the stability, balance and sustainability of economic growth."

Moreover, as occurs in virtually all countries, significant decisions affecting environment or health are made by other ministries, and inter-ministerial coordination is hardly a resounding success anywhere. In this case, those dealing with industry are crucial and in China many companies tend to re-invest profits instead of paying dividends, often leading to excessive investment, especially in heavy industry. Economic growth has been shown to rely heavily on

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<sup>14</sup> "2. Review of China's 11th ..." --- "Five Year Planning Process: Summary..." op. cit., p.10;  
[http://siteresources.worldbank.org/CHINAEXTN/Resources/318949-1253778792190/Five-Year-Planning-Process\\_Summary-of-Presentations.pdf](http://siteresources.worldbank.org/CHINAEXTN/Resources/318949-1253778792190/Five-Year-Planning-Process_Summary-of-Presentations.pdf)

<sup>15</sup> "3rd UPDATE: China Politburo Keeps Focus On Economic Growth;" The Wall Street Journal; 27 Nov. 2009,  
<http://online.wsj.com/article/BT-CO-20091127-704254.html>

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investment.<sup>16</sup> In addition, promotion for officials is based upon their ability to promote economic growth.<sup>17</sup>

In other words, China subscribes to the Kuznets curve --- the notion that economic inequality increases over time while a country is developing, then after a certain average income is attained, inequality begins to decrease --- for both environmental, health and economic factors.<sup>18</sup> In essence, for China environmental degradation is a “growing pain,” and will subside once it achieves status as a high income power.

## Legacy of the Olympics

Given the emphasis (and expense) on air quality prior to the Green Olympics, a look at current Beijing air quality, presumably, would be an indicator of the long and short term efficacy of Chinese environmental improvements. Bear in mind that much of Beijing’s air pollution emanates from industrial activity outside the city, even though most of the attention focused on reducing vehicular emissions, which account for about 40-50% of Beijing air pollution.<sup>19</sup> Curiously, in a Google search of “air quality in Beijing after Olympics” of the first 20 articles cited, *only two* referred to the period after the Olympics (8<sup>th</sup>, 9<sup>th</sup>). The remainder dealt with preparations. The situation was similar for “air quality in China after Olympics”, *only four* (1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 14<sup>th</sup>) were current. Whatever the case, one of the most important achievements of the Olympics was that it demonstrated to residents and to the world that Beijing actually has blue skies. (The Blue Sky program measures air quality in 84 Chinese cities.) Also, overall it also shows that the government *is* capable of positive environmental results in tandem with policies.

Bear in mind that, while traffic is perceived to be one of the main air pollution villains because of the terrible congestion associated with it, sources are multiple and need to be dealt with regionally and comprehensively. For example, 30 percent or more of Beijing’s particulate matter (PM<sub>2.5</sub>)<sup>20</sup> has been estimated to come from Hebei Province and Tianjin contributes about 10–20 percent. For ozone (O<sub>3</sub>), contributions are lower, with Hebei Province contributing about 10–20 percent in the eastern part of Beijing and Tianjin’s contribution being less than 10 percent for most of Beijing.<sup>21</sup> In another study, Chinese scientists found that emissions in Tianjin, China’s third largest city, contributed 10-33 percent of the smog, and that those in Hebei

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<sup>16</sup> “2. Review of China’s 11th ...” --- “Five Year Planning Process: Summary...”, *op cit.*, p. 2

<sup>17</sup> “The Evolution of Environmental Policy...” *op. cit.*

<sup>18</sup> “The Environmental Kuznets Curve,” David Stern, International Society for Ecological Economics Internet, Encyclopaedia of Ecological Economics, June 2003; <http://www.ecoeco.org/pdf/stern.pdf>

<sup>19</sup> China Energy News, 12 Dec. 2007; [http://beijing.usembassy-china.org.cn/uploads/images/WkB1L4Jewl7cvXRMu\\_IcuA/China\\_Energy\\_News\\_12DEC07.doc](http://beijing.usembassy-china.org.cn/uploads/images/WkB1L4Jewl7cvXRMu_IcuA/China_Energy_News_12DEC07.doc)

<sup>20</sup> PM<sub>2.5</sub> refers to particles that are 2.5 microns in size, as opposed to PM<sub>10</sub>, which are also commonly measured. PM<sub>2.5</sub> is significant because the particles can penetrate deeply into the lungs.

<sup>21</sup> “Air Quality during the 2008 Beijing Olympic Games;” David G. Streets, Joshua S. Fu, Carey J. Jang, Jiming Hao, Kebin He, Xiaoyan Tang, Yuanhang Zhang, Zifa Wang, Zuopan Lib, Qiang Zhang, Litao Wang, Binyu Wang, Carolyne Yu; Atmospheric Environment; Vol. 41, Issue 3, January 2007, p. 488-89. [http://www.anl.gov/Media\\_Center/News/2007/Beijing\\_report\\_final.pdf](http://www.anl.gov/Media_Center/News/2007/Beijing_report_final.pdf)

Province contributed 6-13 percent.<sup>22</sup> Besides, the mountains surrounding Beijing block air circulation and prevent the dispersion of pollutants. This merely confirms the importance of dealing with policies comprehensively and of addressing the potential conflicts between environmental and economic objectives.

In April 2009, the Beijing government announced that it would extend traffic restrictions for 12 months. During the Olympics, the government limited vehicular pollution by curtailing passage of half the vehicles (by even or odd license plates). After the Olympics, this was eased to limiting the cars one day a week, which is being extended, and tighter emissions control were imposed on older vehicles. The Xinhua news agency reported 24.3 more "blue sky days" in the first quarter of 2009 than the average for the last decade. But it is unclear if pollution reduction was due to the traffic restrictions, new emissions technology, air flows that dispersed the pollution or reduced demand for coal-fired power of the economic downturn.<sup>23</sup> Just after the Olympics, a Greenpeace China poll indicated that 54 percent of car owners wanted car restrictions to be retained and 93.8 percent wanted the city's public transport system to be expanded further.<sup>24</sup> The US Embassy website monitors Beijing air quality on an hourly basis.<sup>25</sup> The readings for the first week of Dec. 2009 covered all six of the monitoring classifications: hazardous, very unhealthy, unhealthy, unhealthy for sensitive groups, moderate and good.

Even with the positive results and public support, *it is essential to note that blue skies do not necessarily mean safe air.* A sampling of PM<sub>10</sub> and PM<sub>2.5</sub> collected at Peking University in Northwestern Beijing over six weeks around the Olympics (2 weeks during and 4 weeks after) showed some interesting results. These concentrations were 1.3 times higher than those measured by the Beijing Environmental Protection Bureau's at near-by sites because of differences in the measurement methods used. The mean PM<sub>2.5</sub> and PM<sub>10</sub> concentrations were about one-third lower during the Olympics compared with afterward. Accounting for air flows from the south and precipitation, the data suggest that meteorological parameters accounted for 40 percent of the total variation in PM<sub>10</sub> concentration, while control measures accounted for 16 percent. PM<sub>10</sub> concentrations in Beijing during the Olympic period, however, were 2.9, 3.5, and 1.9 times higher than those in the Olympics in Atlanta, Sydney, and Athens. In addition, concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> during the Olympics exceeded the WHO 24-hour guideline 100% and 81% of the time, respectively. Finally, PM<sub>10</sub> concentrations in October, November, and December 2008 were reduced by 9–27 percent compared to the same months in 2007, suggesting that the Olympic source control efforts (and possibly a down turn in the economy) produced positive results.<sup>26</sup> Clearly, the draconian measures imposed on traffic, business and industry just prior to and during the Olympics are not practicable over the long term, but they do

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<sup>22</sup> "Regional Pollution Could Overwhelm Beijing's Clean Air Efforts;" Environment News Service, Apr. 13, 2007; <http://www.ens-newswire.com/ens/apr2007/2007-04-13-04.asp>

<sup>23</sup> "Beijing keeps Olympic restrictions on cars after air quality improves," *The Guardian*, 6 Apr. 2009, <http://www.guardian.co.uk/environment/2009/apr/06/beijing-pollution-carbon-cars>

<sup>24</sup> "Beijing's car restrictions drive people mad," 30 Oct. 2008, <http://search1.china.com.cn/hlftiweb/search.jsp>

<sup>25</sup> <http://twitter.com/beijingair>; <http://beijing.usembassy-china.org.cn/070109air.html>

<sup>26</sup> "Atmospheric Particulate Matter Pollution during the 2008 Beijing Olympics;" *Environ. Sci. Technol.*, 2009, 43 (14), pp 5314–5320;

<http://pubs.acs.org/doi/abs/10.1021/es9007504>

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show that there *are* solutions that can be targeted toward separate, feasible objectives in sequence, e.g., the 300,000 highly polluting trucks that emit black carbon/soot and were barred from the roads before the Olympics.<sup>27</sup> The question revolves around government will, setting correct policies, and devising incentives that are appealing to the private sector to take action on its own given the role of the private sector and the government's current emphasis on growth.

Although restrictions on car use have gotten most of the attention, the Beijing government has also made enormous progress in getting older vehicles off the road in its own version of "cash for clunkers." Older vehicles are much more inefficient and notoriously polluting, a much as 10-20 times a new car. For example, a California study showed that about 30% of its vehicles were older than 12 years, accounted for about 25% of vehicles miles, but 75% of air pollution from cars.<sup>28</sup> By comparison, in Beijing, 10% of the cars, or 350,000, accounted for 50% of the pollution and the government is aiming to get them off the road.<sup>29</sup> Other estimates show that high-emission cars and trucks only make up 28 percent of all automobiles in China, but they are responsible for 75 percent of the pollutant emissions.<sup>30</sup>

China Daily reported that the number of vehicles in Beijing would reach 4 million in December 2009, with about 2,100 being added per day! The government, however, noted that this will not worsen pollution because they have been so successful in removing more than half of its 200,000 high-polluting vehicles last year, which contributed to a 25% reduction in total car emissions. On the day the report was issued, 25 out of 28 of the city's air pollution stations reported air quality as "unhealthy." The US embassy monitor reported "very unhealthy." The city also plans to add 500 electric taxis during the year.<sup>31</sup> Although less than 1%, the measure represents another step in the right direction, as well as the use of cleaner fuel that meets Euro IV standards since 2008. The classic question remains: are these provisions "too little, too late," given China's continuing emphasis on economic growth?

Different measurement techniques as well as locations have been the subject of considerable discussion. For example, US embassy measurements are conducted in a congested part of the city, whereas official city readings are scattered throughout. And "official" readings measure PM<sub>10</sub>, not the more harmful PM<sub>2.5</sub>. Without question, air quality has improved. In 1998, the city recorded 100 Blue Sky days; in 2007, the figure had risen to 246. One study points out, however, that in 2006, the Blue Sky program in Beijing dropped measurements in two stations from high traffic areas and replaced them with three stations in quieter areas. The study indicates that using data from the original 39 stations would have meant 36 fewer days in 2006

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<sup>27</sup> "Improved Air Quality During Beijing Olympics Could Inform Pollution-curbing Policies;" Science Daily, 5Aug. 2009; <http://www.sciencedaily.com/releases/2009/07/090724113548.htm>

<sup>28</sup> "Report to the California Legislature Accelerated Light-Duty Vehicle Retirement Program;" May 2004; p. iii; <http://www.arb.ca.gov/research/apr/reports/l2070.pdf>

<sup>29</sup> "Beijing's 'Yellow Label' Car Policy Aims to Reduce Vehicle Pollution;" Xya Zhang, May 14, 2009; NRDC, <http://www.greenlaw.org.cn/enblog/?p=1218>

<sup>30</sup> "Official urges early exit of high-emission vehicles;" China Daily; Aug. 14, 2009; [http://www.chinadaily.com.cn/bizchina/2009-08/14/content\\_8571327.htm](http://www.chinadaily.com.cn/bizchina/2009-08/14/content_8571327.htm)

<sup>31</sup> "Beijing has 'more room' for cars," Meng Jing & Cui Xiaohuo, China Daily, 27 Nov. 2009; [http://www.chinadaily.com.cn/bizchina/2009-11/27/content\\_9066562.htm](http://www.chinadaily.com.cn/bizchina/2009-11/27/content_9066562.htm)



and 55 fewer in 2007.<sup>32</sup> Besides “measurement”, “success” can also be a matter of definition. In addition to trying to phase out old, inefficient, or “yellow-label” vehicles, Beijing is encouraging the purchase of “green-label” vehicles through discount car loans of up to two years to public service driving contractors who purchase green label cars in 2009. As of June, 2009, Beijing had dispersed about 10 percent of the stock of green label cars. Many owners choose to sell their yellow-label cars to secondhand car dealerships, which then sell the cars to the neighboring cities with less stringent emission regulations. Thus, most high-polluting cars may not have been not traded in, but spread around the city and elsewhere.<sup>33</sup> Whatever the case, Beijing gets an A for effort in tackling vehicular pollution.

### Public Health and Safety

Again, China is a country full of contradictions. This section looks at public health and safety from two perspectives: tobacco control overall health care. And again, the issue revolves around the difference between policy and practice concerning economic growth.

#### Tobacco Control

In contrast to overall inconsistencies in air quality, it is important to note that China has made enormous efforts to reduce smoking, in part because of the Olympics. The Beijing Olympics were the first of its kind to take place after the world's WHO Framework Convention on Tobacco Control took effect in 2005<sup>34</sup>, and took effect in China in 2006. (In 1988, Calgary hosted the first smoke-free Olympics.) Nonetheless, in contrast, security guards beat up workers taking a cigarette break during construction of Olympic stadium. Tobacco is a government-run 160 billion dollar-a-year business that employs some 60 million people in productions, supply and sales.<sup>35</sup>

According to WHO (2007), 350 million Chinese smoke, 57.4 percent of men and 2.6 percent of women and 540 million are affected by second hand smoke. There are 1 million tobacco-related deaths and the economic cost of tobacco amounts to \$5 billion.<sup>36</sup> China is the world's leading consumer and producer of tobacco products, dominated by a government monopoly, China National Tobacco Corporation (CNTC). Their sales account for one-third of the global market, but most sales are within China. (China, the United States of America and India, are the world's largest tobacco producers.)<sup>37</sup> The Asia Times reported that in 2005 the company paid 31 billion dollars in taxes and profits to the central government, amounting to 7.5

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<sup>32</sup> “Consultant Questions Beijing’s Claim of Cleaner Air;” Jim Yardley, The New Times, Jan. 10, 2008; <http://www.nytimes.com/2008/01/10/world/asia/10china.html>

<sup>33</sup> “After Olympics, China Still Worried About Clean Air for Beijing;” Natural Resources Defense Council; Jun. 19, 2009; <http://www.opposingviews.com/articles/news-after-olympics-china-still-worried-about-clean-air-for-beijing>

<sup>34</sup> <http://www.who.int/fctc/en/>

<sup>35</sup> “China ignites tobacco wars with smoke-free Olympic Games;” Channel News Asia; 29 May 2007; [http://www.channelnewsasia.com/stories/afp\\_asiapacific/view/278997/1/.html](http://www.channelnewsasia.com/stories/afp_asiapacific/view/278997/1/.html)

<sup>36</sup> Tobacco-free Olympics - Q&As , WHO [http://www.wpro.who.int/china/sites/tfi/tfo\\_qas.htm](http://www.wpro.who.int/china/sites/tfi/tfo_qas.htm)

<sup>37</sup> “China joins the global war on smoking;” WHO press release; 30 Aug. 2005; [http://www.wpro.who.int/media\\_centre/press\\_releases/pr\\_20050830.htm](http://www.wpro.who.int/media_centre/press_releases/pr_20050830.htm)

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percent of revenue received by the finance ministry that year.<sup>38</sup> The same articles also cites a Peking University study that calculated the overall economic cost of smoking at \$31 billion in 2005, including medical bills, a shorter life span, lost work days, and fires started by errant cigarette butts. The annual death toll is expected to nearly double to 2.2 million people by 2020. Thus, the amount in taxes and profits equals the health costs. It is not clear that the authorities promoting growth have made the same link.

The power of the tobacco manufacturers is not surprising. Nor is it surprising that there is resistance to tobacco control, as demonstrated by a statement from the State Tobacco Monopoly Administration that tobacco control will cause social instability.<sup>39</sup> During preparations for the Olympics, anti-smoking proponents were accused of undermining the country's stability in a national parliament session. A senior official in the state-run tobacco industry said riots erupted when the former Soviet Union collapsed because smokers could no longer get cigarettes and that tobacco curbs could trigger similar unrest in China. The same article notes that the 31 billion dollars in taxes netted by tobacco for the government in 2005 was enough to pay for the running costs of the Beijing Olympics 15 times over, according to researchers at Beijing University.<sup>40</sup>

However, the government *is* making some headway in trying to offset the forces that appear to favor profit over public health. In 2006, the government declared a ban on construction of *new* cigarette factories. But the decision was based more on restructuring the industry because production capacity exceeded market demands rather than compliance with or promotion of any health goals. Prior to that, cigarette manufacturing had been growing at 4-5% per year with addition of new factories and an industry development center.<sup>41</sup> In addition, in 2007, the Chinese CDC (Center for Disease Control and Prevention) together with the Johns Hopkins School of Public Health launched a program "Towards a Smoke-Free China," focusing on reducing exposure to secondhand smoke.<sup>42</sup> Yet at the same time we read: "The national tobacco industry has entered its third development cycle since 2000, and it is now still growing fast. Taxes and profits contribution from the tobacco industry have grown from RMB 145 billion in 2002 to RMB 388 billion in 2007, an annual growth rate of 20%."<sup>43</sup>

It is not clear how influential the argument is to policy makers outside the health arena, *viz.*, that health costs considerably offset the economic benefits of tobacco production and use. For example, although the government got 105 billion yuan in revenue from tobacco taxes in

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<sup>38</sup> "Health-China: Olympic Planners Kick the Butt," Antoaneta Bezlova, Asia Times, 2 Jun. 2007; <http://www.atimes.com/atimes/China/IF02Ad01.html>

<sup>39</sup> "Opening address by Dr Henk Bekedam, WHO Representative in China Opening Ceremony, 'Towards a Smoke-free China,'" 6 April 2007; WHO; [http://www.wpro.who.int/china/media\\_centre/speeches/speech\\_20070406.htm](http://www.wpro.who.int/china/media_centre/speeches/speech_20070406.htm)

<sup>40</sup> "China ignites tobacco wars ...," *op. cit.*

<sup>41</sup> "JV Cigarette Factories Ruled out;" China Internet Information Center, China Daily, Jan. 13, 2005; [http://www.china.org.cn/business/2005-01/13/content\\_1117674.htm](http://www.china.org.cn/business/2005-01/13/content_1117674.htm)

<sup>42</sup> "Opening address...," *op. cit.*

<sup>43</sup> "Tobacco Industry in China: Better Money or Better Health?" ChinaBizIntel, Market Avenue: A Guide to your Business in China, 1/28/08; [http://www.marketavenue.cn/upload/articles/ARTICLES\\_1380.htm](http://www.marketavenue.cn/upload/articles/ARTICLES_1380.htm)

2000, the medical costs attributable to tobacco-related illness amounted to about 48.6 billion yuan, or 46.3% of total tax revenue. Since the First 5-Year Plan (1953-57) until 2003, the contribution of tobacco revenue to government revenue has ranged from 3.2% to 11.2%, with the figures from 2000 forward hovering around 7%. The tobacco industry is also one of the major sources of revenues for local governments in midwest provinces, which are the least developed provinces, where the tobacco industry contributes 40 to 80% of overall government revenue.<sup>44</sup> Thus, even though the National People's Congress ratified the WHO Framework Convention on Tobacco Control and the public health community is pushing ahead, major hurdles to tobacco control still exist. China's tax rate of cigarettes has been about 32-40% compared with an international average of 65-70%.<sup>45</sup> The government recently raised the tax to 43.7%, hoping to have 1 million people quite smoking.<sup>46</sup> With the tobacco industry continuing as a significant player in overall economic development, the debate between tobacco production and control will continue. Parallel with earlier comments on Chinese efforts to improve pollution control, China has already made significant efforts towards tobacco control, but it is still at the beginning of its "long march".

### Health Care

In October 2009, an article appeared on the front page of The Washington Post: "In China, too, a health-care system in disarray."<sup>47</sup> Prior to the reforms of the 1980s, Chinese were covered cradle-to-grave, but since then private enterprise has a different notion and some 300 million lack insurance. But even with insurance, coverage is uneven, e.g., with hospital bills paid partially, but not medications afterward. And, the article cites World Bank figures that in 1982, 71% had access to state health facilities, but 12 years later the figure had dropped to 21%. The worrisome issue for health care is the aging of the population and the growing *disparity* in services overall --- especially given the realities of continuing pollution. Research from 2005 showed that about 10.45 percent of Chinese children in urban areas have lead levels in their blood that exceed the acceptable maximum safe level standard. The study examined 17,141 children between ages 1 month to 6 years in 15 cities in China. Although the results indicate that lead levels may not be as high as may have been feared, they are still higher than those from the developed countries. WHO estimates 15-18 million children in developing countries are suffering from permanent brain damage due to lead poisoning. In China, the major sources of lead are coal combustion, paint, furniture and toys.<sup>48</sup>

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<sup>44</sup> "Tobacco control in China: the dilemma between economic development and health improvement;" Hong Wang, MD, Salud pública Méx; vol.48 suppl.1 Cuernavaca, 2006; [http://www.scielosp.org/scielo.php?pid=S0036-36342006000700017&script=sci\\_arttext](http://www.scielosp.org/scielo.php?pid=S0036-36342006000700017&script=sci_arttext)

<sup>45</sup> "Tobacco Taxation and Its Potential Impact in China;" Teh-wei Hu, Zhengzhong Mao, Jian Shi, Wendong Chen; Oct, 2008; [http://tobaccofreecenter.org/files/pdfs/en/China\\_Tobacco\\_Economics\\_full\\_en.pdf](http://tobaccofreecenter.org/files/pdfs/en/China_Tobacco_Economics_full_en.pdf)

<sup>46</sup> "Recent Tobacco Tax Rate Adjustment and Its Potential Impact on Tobacco Control in China;" Teh-wei Hu, Zhengzhong Mao, Jian Shi; Tobacco Control; 21 Oct. 2009; <http://tobaccocontrol.bmj.com/content/early/2009/10/21/tc.2009.032631.abstract>

<sup>47</sup> "In China, too, a health-care system in disarray", The Washington Post; Oct.. 29, 2009, p. A1, A9., <http://www.washingtonpost.com/wp-dyn/content/article/2009/10/28/AR2009102805081.html>

<sup>48</sup> "Elevated lead levels in some urban Chinese children;" ESTH Newsletter, November 2005; US Embassy, Beijing; <http://beijing.usembassy-china.org.cn/esth1105.html>

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In 2004, as part of its Greed GDP accounting system, the State Environmental Protection Administration (SEPA) estimated the economic losses from pollution amounted to a \$61.8 billion or 3.05 percent of total GDP, of which air pollution accounted for 42.9 percent or \$26.54 billion.<sup>49</sup> That is equivalent to roughly one third of China's impressive annual growth in GDP over the past decade. Other unofficial reports indicate the cost could be as much as 8-12 percent, which is roughly equivalent to the country's annual economic growth.<sup>50</sup> However, the *Financial Times* reported that the government has abandoned Green GDP accounting system.<sup>51</sup> The disparity in health services is exacerbated by China's one-child policy which has been in effect for 30 years and precludes reliance on support from children which is so common in other parts of the industrialized and developing countries.

In 2006, the WHO Country Cooperation Strategy reports that with annual growth rates averaging 8-9% since 1978, social and human development has not kept pace with economic growth. Industrial expansion and rising incomes have accelerated migration from rural areas to urban centers. It shows that China ranked 85<sup>th</sup> out of 177 countries on the Human Development Index (2003).<sup>52</sup> In the *Human Development Report* of 2007/2008, the year of the Olympics, China ranked 81<sup>st</sup>. However, the most recent (2009) shows China at 92<sup>nd</sup> out of 182 countries.<sup>53</sup> The Country Strategy notes four major health problems:

- Rapid economic growth has not been reflected in increased government investment in health. Health insurance coverage at the end of 2005 was approximately 40%. ... China faces major challenges to achieving the United Nations (UN) Millennium Development Goals (MDGs) on HIV/AIDS, gender and environmental sustainability. Targets on improving child and maternal health may be met if access to health can be improved. More than 12 ministries or agencies administer health.
- Communicable diseases and malnutrition have major impact on health, especially in less developed areas, and particularly among young children.

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<sup>49</sup> *Green GDP Accounting Study Report 2004*; Government of China, 21 Sept. 2006; [http://www.gov.cn/english/2006-09/11/content\\_384596.htm](http://www.gov.cn/english/2006-09/11/content_384596.htm)

<sup>50</sup> "Is Guangdong the Dark Horse in Addressing Ecological and Human Health Threats?" Kaleb Brownlow and Stephanie Renzi; China Environment Series 2007, Woodrow Wilson International Center for Scholars, [http://www.wilsoncenter.org/topics/pubs/brownlow\\_and\\_renzi\\_feature\\_ces9.pdf](http://www.wilsoncenter.org/topics/pubs/brownlow_and_renzi_feature_ces9.pdf)

<sup>51</sup> "China drops 'green' GDP index plan," Richard McGregor, the Financial Times May 10 2006; [http://www.ft.com/cms/s/0/844a3cee-dfc2-11da-afe4-0000779e2340.html?nclick\\_check=1](http://www.ft.com/cms/s/0/844a3cee-dfc2-11da-afe4-0000779e2340.html?nclick_check=1)

<sup>52</sup> Country Cooperation Strategy -- WHO China At a Glance; [http://www.who.int/countryfocus/cooperation\\_strategy/ccsbrief\\_chn\\_en.pdf](http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_chn_en.pdf); Country Cooperation Strategy -- WHO China

[http://www.wpro.who.int/NR/ronlyres/E8FE334A-BAF5-49ED-89CC-BFE163F63C02/0/CCSbook\\_eng.pdf](http://www.wpro.who.int/NR/ronlyres/E8FE334A-BAF5-49ED-89CC-BFE163F63C02/0/CCSbook_eng.pdf)

<sup>53</sup> 2005: [http://hdr.undp.org/en/media/HDR\\_2005\\_Presskit\\_EN.pdf](http://hdr.undp.org/en/media/HDR_2005_Presskit_EN.pdf); 2007/2008: [http://hdr.undp.org/en/media/HDR\\_20072008\\_Presskit.pdf](http://hdr.undp.org/en/media/HDR_20072008_Presskit.pdf); 2009: <http://hdr.undp.org/en/statistics/>; *Human Development Report 2009--- Overcoming barriers: Human mobility and development*; UNDP; p. 144; [http://hdr.undp.org/en/media/HDR\\_2009\\_EN\\_Complete.pdf](http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf).

- Infant and under-five mortality rates remain high where access to services is low, particularly due to communicable diseases and peri-natal conditions. Despite overall improvements in child mortality, inequalities persist with higher rates in western China and in rural areas.
- Non-communicable diseases and injuries account for over 80% of deaths. Leading causes of death in China include cerebrovascular disease (including stroke), heart disease and cancer (accounting for approximately more than 50% of all deaths). Road-traffic injuries, depression and suicide are also leading causes of mortality and morbidity, especially in the young and economically active age groups.

Obviously, this was before the Olympics, but it is readily apparent that high levels of pollution remain throughout China, despite whatever improvements may have been made to Beijing. (And it is not clear why China has dropped in rank on the Human Development Index.) The high death rate from non-communicable diseases is more typical of an industrialized country, and in this vein, China has clearly arrived. Among the challenges to resolve these issues, they see:

- Addressing the health impact of policies concerning economic reform, urbanization, infrastructure development, labor and enterprises and financial market reform
- Balancing economic and social development
- Need to implement the Framework Convention on Tobacco Control
- Need to align health priorities with changes in burden of disease.

## Conclusion

In March of 1999, Xie Zhenhua, director of the State Environmental Protection Agency, made a bold prediction that "China plans to stop environmental degradation... by 2010."<sup>54</sup> "The recognition that economic growth is not equal to economic development and that growth is not the final goal of development," was included in the 11th Five-Year Plan for the first time.<sup>55</sup> A Green GDP accounting system was started and a few years later abandoned. Again, we have the difference between policy and practice, and between the government and the people. For example, at the United Nations Climate Change Conference in Copenhagen, despite the Chinese government's strong stance that developing countries should not make any commitments to limit

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<sup>54</sup> "The Downside of Growth: Law, Policy and China's Environmental Crisis;" Perspectives, 2, No. 2, October 31, 2000;

[http://www.oycf.org/oycfold/httpdocs/Perspectives2/8\\_103100/downside\\_of\\_growth.htm](http://www.oycf.org/oycfold/httpdocs/Perspectives2/8_103100/downside_of_growth.htm)

<sup>55</sup> "New Five-Year Plan to see revolutionary changes," People's Daily Online, Oct. 12, 2005; [http://english.peopledaily.com.cn/200510/12/eng20051012\\_213909.html](http://english.peopledaily.com.cn/200510/12/eng20051012_213909.html)

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the emission of climate-changing gasses, the World Public Opinion Pulse reports that the Chinese public rejects this view.<sup>56</sup>

Undoubtedly China *has* taken positive steps to improve environmental and health conditions, and those working on these matters deserve credit and support, but the questions remains: are they enough to combat the continued emphasis on economic growth? Contradictions continue to abound. For example, the country launched its first national environmental health action plan (November 2007) to enable research in the environment and health sectors to be combined more effectively.<sup>57</sup> At the same time one reads that China's new research suggests that increasing air pollution has cut the light rainfall essential to the country's agriculture *over the last 50 years*, due largely to increasing fossil fuel consumption, particularly in big cities like Beijing.<sup>58</sup> (Because rain drops form around aerosol particles, increased levels of aerosols means smaller drops that are less likely to form rain clouds.) Negative factors which offset economic growth such as these appear to not be taken into consideration by government. Yet we also read that "If China's commitment to diversifying its energy supply and becoming a global leader in renewables manufacturing persists, renewable energy could provide over 30 percent of the nation's energy by 2050."<sup>59</sup> Contrasts abound. Were this an Olympic competition, China's public health and environmental teams clearly would deserve a gold medal for their efforts. But they might not get any for their successes given similar competitions and conflicts across the globe where the public health and environment teams have fared better. Nonetheless, perhaps one ought to defer the question of whether China is ready for the mantel of international leadership until 2050, after is has achieved its economic development.

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<sup>56</sup> "Chinese Public Rejects Argument that China Should not be Obligated to Limit Emissions;" The Woodrow Wilson International Center for Scholars; Dec. 16, 2009; [http://www.wilsoncenter.org/index.cfm?topic\\_id=1421&fuseaction=topics.item&news\\_id=566954](http://www.wilsoncenter.org/index.cfm?topic_id=1421&fuseaction=topics.item&news_id=566954)

<sup>57</sup> "China moves to tackle pollution effects on health;" Taige Li, Science and Development Network; 26 Nov. 2007; <http://www.scidev.net/en/news/china-moves-to-tackle-pollution-effects-on-health.html>

<sup>58</sup> "Air pollution cutting China's 'vital' rain;" Chen Weixiao & Yidong Gong, Science and Development Network, Sep. 7, 2009; <http://www.scidev.net/en/news/air-pollution-cutting-china-s-vital-rain-1.html>

<sup>59</sup> "China on Pace to Become Global Leader in Renewable Energy;" Worldwatch Institute, 14 Nov. 2007, <http://www.worldwatch.org/node/5497>