



THE ROAR OF GROWTH: HOW WILL CHINA FACE ITS HAZARDOUS POLLUTION LEVELS?

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Even the Chinese government cannot censor the hazardous smog that's become part and parcel of daily Chinese life. As the Middle Kingdom grows economically and militarily at impressive rates in the 21st Century, it faces setbacks on its own home ground in the form of its deteriorating natural environment. Recent news on Dec 6, this month highlighted the repressed issue when record smog levels in Shanghai forced the Shanghai government to issue its severest health warning as the city's pollution index ranged between 23 times and 31 times the levels recommended by international health officialsⁱ. Hundreds of flights were delayed or cancelled due to the dangerously low visibility in one of China's biggest commercial hubs. Heavy pollution may undermine plans for Shanghai, the nation's commercial hub, to attract foreign investment and multinational firms, as the city implements a free-trade zone as part of a broader goal to become a global financial and logistics center by 2020ⁱⁱ

Earlier last month on Nov 9 there were reports of Harbin, capital city of Heilongjiang province in China's northeast region and China's tenth largest city where government officials shut down roads, schools, and the airport when air pollution levels hit 40 times the safe limit set by the World Health Organization. During the "airpocalypse" in Beijing earlier in January this year, the density of small, lung-penetrating particles reached 993



micrograms per cubic meter, a concentration normally not seen outside of forest fires. The US Environmental Protection Agency considers anything above 300 dangerous, and maxes out its scale at 500. The smog was so thick in Beijing, which English-speaking residents call "Greyjng" that a factory building burned for

three hours before anyone even noticed that it was in flames. On the streets of Beijing, it's strange to see someone not wearing a mask nowadaysⁱⁱⁱ.

What is interesting is however the pollution is getting headline treatment on local news bulletins and in the domestic media unlike previous years, when pollution was rarely acknowledged or let alone reported. Since the beginning of the year, the government has been releasing hourly pollution readings for 74 Chinese cities, almost half of which are now showing severe pollution. The transparency by the government and media is truly striking but what is more important is the willingness of the government to treat the growing pollution levels as a major national issue. One can also see the pressure for more disclosure driven by the fact that the US Embassy in Beijing operates its own pollution monitor and releases hourly figures by Twitter. In the past two years, citizens noticed large discrepancies between the official Chinese figures and the US ones, and began to question whether the Chinese statistics had been fudged or falsified. However with foreign monitors present, the falsification or cheating the data is harder which has definitely led to greater transparency on the part of the Chinese government^{iv}.

In November, the World Health Organization's International Agency for Research on Cancer (IARC) classified air pollution as carcinogenic. It stated that there is "sufficient evidence" that exposure to outdoor air pollution causes lung cancer and also linked it with an increased risk of bladder cancer. It said that exposure has increased significantly particularly in "rapidly industrializing countries with large populations" such as China. A study by Greenpeace and Beijing University focusing on four Chinese cities estimates the number of people dying prematurely from air pollution is close to three times that killed by traffic accidents. Earlier this year it was announced that cancer is the leading cause of death

in the capital Beijing. While in Shanghai it was reported that the number of cases of tumors had risen. According to figures from the Health and Family Planning Commission 36,000 people in Shanghai die of cancer every year^v.

But it is not just China's big cities that are affected by pollution-linked health problems. A report by the Ministry of Environmental Protection in early 2013 linked pollution in rivers to cancer in some villages located close to factories or heavy industry. These are often referred to as 'cancer villages' and it is thought this is the first time they had been officially recognized. In late September, Xinhua reported on a village in Henan where the groundwater has been badly polluted. The news agency said that locals claimed the deaths of 48 villagers from cancer are linked to the pollution. Research carried out by Yang Gonghuan, a professor of public health at the Chinese Academy of Medical Sciences has also linked high rates of cancer to polluted river water in Henan, Anhui and Shangdong provinces^{vi}.

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According to a document released by the China Meteorological Administration, from 2015, local weather authorities will be permitted to use cloud seeding, the dispersal of substances into the air to change its composition, to disperse the country's smog. The process of 'cloud seeding' involves firing rockets containing silver iodide into clouds, instigating the formation of ice crystals from super-cooled liquids. Particles then fall as rain or snow, with the artificially induced precipitation clearing the pollution and smog below, if all goes according to plan. While there have been programs in place since the 1950s to generate artificial rain, the idea is gaining new acceptance. China has previously employed the practice to disperse bad weather on important public holidays, for example, to ensure that there would be clear skies for the opening of the Beijing Olympics in 2008. Cloud seeding comes as a part of the government's scheme to spend 1.7 trillion yuan (\$277 billion) solving the air pollution problem^{vii}.

Environmental crisis risks dragging down Chinese economic growth, and given growing public dissatisfaction, that cleaning up the environment has become critical to maintaining social and political stability. Also the airpocalypse may be damaging China's international reputation. According to UN World Tourism Organization report released last month, a total of nearly 58 million international tourists visited China in 2012, making it the third most popular destination in the world after France and the United States. The state media reported earlier this month that foreign tourist arrivals fell by a whopping 14.3 percent over the first six months of 2013, despite a new policy allowing travelers from 45 countries to stop in Beijing for 72 hours visa-free on account of the poisonous air environment in China^{viii}. Many Chinese have taken to the Chinese social media site Weibo to voice their concerns on the sensibility of pursuing high-speed development when it's creating havoc with the lives and health of Chinese nationals. References to "feed people with smog" have become popular on Weibo and is a sarcastic play on the expression "serve the people" as the two have a similar pronunciation^{ix}.

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The dissatisfaction has given rise to a growing environmental movement, with 30,000 to 50,000 "mass incidents" of protest every year, according to former Communist Party official Chen Jiping. World's factory is home to 16 of the 20 cities with the most polluted air. Roughly one-third of the nation's land area is exposed to acid rain. Acidification now affects some 30 percent of China's cropland, and the estimated damage to farms, forests, and human health is US \$13 billion. China is already the world's second largest producer of greenhouse gas emissions^x. Despite making large investments in renewable energy, China still depends on coal to meet nearly 70 percent of its power needs and burns almost as much coal as the rest of the world combined^{xi}.

At a time when any environmental issues including climate change are way down the political agenda for many countries due to economic concerns, in China the

environment is top of the agenda as smog and water pollution are taking a toll on the health of its citizens. The Chinese government has been under pressure internally to take firm action on air pollution and in September introduced a plan to bring improvements in air quality in key areas by 2017. The measures planned include closing polluting factories, and improving fuel quality. But more importantly, the plan also aims to reduce the country's reliance on coal. China has also become the world's largest automotive market, with sales expected to top 17 million this year – roughly two million more vehicles than in the US. But that surge has been linked to the country's worsening air quality. Beijing, which saw the first burst of activity in China's booming automotive market, already has limited the number of vehicles that can be registered in the city to 240,000 annually. But according to the Beijing government website, that will now be slashed to just 150,000 annually^{xii}.

Isabel Hilton, a long time China watcher put it very succinctly “There was a time, maybe ten years ago, when people were almost proud of smog because it meant ‘we’re industrializing, we’re becoming a real country, we have the problems of modernity rather than the problems of the middle ages.’ So this was regarded as progress.” But, Hilton said, “that moment has definitely passed, and these very serious episodes have brought terrific pressure on the government. If you are the only power, you also are the only people to blame, and they know that.”^{xiii}

Endnotes:

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies CAPS)

ⁱ China pollution grounds hundreds of flights, prompts severe health warning, Dec 6,2013, at <http://worldnews.nbcnews.com/news/2013/12/06/21789954-china-pollution-grounds-hundreds-of-flights-prompts-severe-health-warning>

ⁱⁱ Shanghai Pollution ‘Huge Health Risk’ as Smog Engulfs City (1), Dec 9, 2013 at <http://www.businessweek.com/news/2013-12-08/shanghai-reports-pm2-dot-5-pollutants-13-times-who-recommended-level>

ⁱⁱⁱ ibid

^{iv} Beijing's 'Airpocalypse' Spurs Pollution Controls, Public Pressure, Jan 14, 2013 at <http://www.npr.org/2013/01/14/169305324/beijings-air-quality-reaches-hazardous-levels>

^v China hit by another airpocalypse as air pollution cancer link confirmed, Oct 24, 2013 at <http://www.theguardian.com/environment/chinas-choice/2013/oct/24/china-airpocalypse-harbin-air-pollution-cancer>

^{vi} ibid

^{vii} Schools close in fog as China eyes artificial rain to fight pollution, Dec 5, 2013 at <http://rt.com/news/schools-close-cloud-seeding-china-768/>

^{viii} China Admits Its Smog Problem Is Deterring Foreign Visitors, Aug 14, 2013 at <http://www.ibtimes.com/china-admits-its-smog-problem-deterring-foreign-visitors-1384329>

^{ix} China hit by another airpocalypse as air pollution cancer link confirmed, Oct 24, 2013 at <http://www.theguardian.com/environment/chinas-choice/2013/oct/24/china-airpocalypse-harbin-air-pollution-cancer>

^x Filthy Air Choking China's Growth, Olympic Goals, at <http://www.worldwatch.org/filthy-air-choking-chinas-growth-olympic-goals>

^{xi} China's massive pollution problem, Nov 10, 2013 at <http://chinhdangvu.blogspot.in/2013/11/chinas-massive-pollution-problem.html>

^{xii} Paul A. Eisenstein, China, choking on auto fumes, cuts new car sales quotas, Nov 5, 2013 at <http://www.nbcnews.com/business/china-choking-auto-fumes-cuts-new-car-sales-quotas-8C11535556>

^{xiii} China does a "180" on air pollution policy to combat its deadly smog, Nov 11, 2013 at <http://www.pri.org/stories/2013-11-11/china-does-180-air-pollution-policy-combat-its-deadly-smog>

