# Media coverage of environmental pollution in the People's Republic of China: responsibility, cover-up and state control

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On 13 November 2005, an explosion rocked the Jilin Petrochemical Company, a subsidiary of the state-owned China National Petroleum Corporation (CNPC), spilling nearly 100 tons of benzene into the Songhua River. Six people were killed in the blast, and thousands of residents were forced to evacuate their homes. The explosion also resulted in an 80-kilometer slick of toxic benzene in the Songhua, which supplies the municipal water system of Harbin, a city of more than 5 million people in China's northeastern region of Manchuria. Benzene is a clear, colorless liquid that is used in industrial solvents and for making plastics, rubber, resins, nylon and polyester. Acute exposure to high levels of benzene causes dizziness, headaches, elevated heart rate, and possibly death. Long-term exposure to benzene, a known carcinogen, has been linked with immunological defects, cancers such as leukemia, and toxic effects on the blood, liver, kidney, lungs, heart and brain (ATSDR [Agency for Toxic Substances and Disease Registry], 2007). The Chinese Ministry of Environmental Protection (MEP), which conducts air- and water-quality monitoring, and sets national emissions standards, established a safety threshold of 5 micrograms of benzene per liter of drinking water (MEP, 1996); following the chemical plant explosion, benzene levels in the Songhua River exceeded that level by more than 100 times.

Government authorities avoided notifying the public for more than a week, shutting down the entire municipal water system of Harbin for several days under the guise of conducting 'routine repairs'. However, China Central Television (CCTV), which operates under state control but exercises some editorial autonomy, reported on the story immediately. Panicked residents,

sensing the seriousness of the situation but lacking much detailed information, snapped up 16,000 tons of bottled drinking water in a single day, an amount equal to a 100-day supply under normal market conditions (Li et al., 2005). People crowded into bus stations, train stations and the airport in an attempt to escape the city, and the People's Liberation Army was called in to restore order and to deliver safe drinking water to the city's residents. News of the incident, and the subsequent attempt of government authorities to cover it up, spread throughout China and around the world.

While this environmental incident, one of the most high-profile in recent memory, was significant in its own right, it also serves as a window into the role of the media in political life and civil society in contemporary China. We have three goals in this article. Our first goal is to provide descriptive information on the content of media reports about the benzene spill in the Chinese media, in order to examine precisely what kinds of information were available to the Chinese public. China's economic rise, and its concomitant environmental crisis, is one of the most significant developments in recent years. While much scholarship has explored the severity and scale of the environmental crisis (Day, 2005; Economy, 2004; Smil, 2004), comparatively little is known about Chinese perceptions and attitudes toward environmental hazards such as industrial pollution (Tilt, 2006). A necessary component in this research agenda is to assess the kinds of information people receive from the news media about environmental pollution incidents.

Our second goal is to analyse and compare several very different news sources in China and abroad. Specifically, we compare the intensity of media coverage between Xinhua News Agency, which is the official voice of the Chinese Communist Party; CCTV, which is also under the control of the central government but has more editorial autonomy and reaches a broader public audience; and the *New York Times*, one of the world's most prominent newspapers and the 'paper of record' in the United States. How did these different media sources, which are positioned differently in relation to the central government and in terms of audience, vary in their coverage of the incident?

Our third goal is to examine whether there were qualitative differences among the news sources in terms of phrasing, tone or the expression of normative (value-laden) judgments. Our study design thus features both quantitative content analysis (Neuendorf, 2001), which allowed us to measure the intensity of media coverage on various themes between the three media sources, and qualitative, or ethnographic, content analysis (Altheide, 1996; Miles and Huberman, 1994), which allowed us to understand how these sources differ in terms of the qualitative aspects of reporting.

After several decades of unchecked industrial growth, China currently faces a mounting environmental crisis. While a substantial environmental protection bureaucracy exists under the direction of the Ministry of Environmental Protection, a solid regime of environmental protection requires public awareness of the seriousness of the problems. This awareness

in turn requires reliable and open media coverage of environmental issues. At present, scholars know extremely little about the kinds of information available to the Chinese public regarding environmental pollution; one recent study even found that two-thirds of respondents in a rural county had never even heard the term 'environmental protection' (*huanjing baohu*) (Alford et al., 2002). Media coverage of environmental issues thus carries important consequences for the long-term future of environmental protection in China. It also allows us to examine the role of the media as one component of China's environmental protection regime.

## Economic development and environmental crisis

Rapid economic development has been the singular goal of top Chinese political leaders since the founding of the People's Republic in 1949, although the means through which they sought to achieve this goal differed markedly during different historical moments. While Mao Zedong, the enigmatic leader of the socialist revolution, envisioned industrial development with collective ownership of the means of production – rooted in Marxist principles and modeled on Stalin's central planning system in the Soviet Union – his successor, Deng Xiaoping, initiated liberal economic policies known as Reform and Opening, or *gaige kaifang*, beginning in 1978.

Three decades of gradual reform have brought sweeping social and economic changes to China, including the return of small-scale, private agriculture under the Household Responsibility System, central policy favoring foreign trade and direct investment, the privatization of industrial production, and the rise of an urban consumer class. China's annual increase in gross domestic product has hovered near double digits for the last three decades. The skylines of its cities are dotted with steel and glass skyscrapers, and the streets of cities and towns alike are full of people who are vastly better off economically than they were during the socialist past.

While China's industrial rise has unquestionably produced great wealth, it has also wrought environmental havoc. Water quality in most major rivers is so terrible that half of the river sections which undergo routine monitoring earn a class 5 rating, the lowest on the nation's environmental quality standards for surface water. The World Bank reported in 2001 that 16 of the world's 20 most polluted cities were in China (Economy, 2004). In major cities such as Beijing, annual average concentrations of particulate matter frequently surpass safety thresholds recommended by the World Health Organization for a single daily average (Smil, 2004: 17). Sulfur dioxide emissions, mostly from coal-fired industrial plants, cause acid rain across much of the country. In 2007, China surpassed the United States to become officially the world's largest producer of carbon dioxide, emitting 6.2 billion tons of the key pollutant responsible for global climate change (Vidal and Adam, 2007).

Most unsettling for political leaders, environmental degradation has the potential to cut short China's economic ambitions: even conservative estimates suggest that pollution cuts 4–5 percent from China's GDP each year in the form of premature deaths, health care costs and lost productivity (Liu and Zhou, 2001).[1]

Contrary to the perceptions of many in the West, China's seemingly intractable environmental problems are not due to an absence of environmental law and policy. The Ministry of Environmental Protection, or MEP, is an agency analogous to the United States Environmental Protection Agency.[2] From its modest beginnings in the late 1970s, the agency has grown into a powerful institution with a broad mandate to set scientifically based environmental quality standards, and to monitor and enforce national emissions standards for the protection of human health and environmental safety. The key problem in China's environmental oversight bureaucracy is enforcement of existing regulations (Ma and Ortolano, 2000; Tilt, 2007). Within the MEP, about 2500 Environmental Protection Bureaus (EPBs) serve as the frontline enforcers of emissions standards. But EPB officials, who are stationed within provincial, municipal or county governments, often experience conflicting loyalties in the course of carrying out their duties: they must weigh the environmental and health consequences of industrial pollution against the economic and fiscal benefits of industrial production. There is growing evidence that the Chinese public is concerned about environmental pollution (Mol and Carter, 2006; Tilt, 2006), but to date there has been no systematic examination of the news and information offered to the public about their nation's most serious environmental incidents.

## Study design

### Media sources

Media in China have long been torn between disparate and often conflicting obligations: representing the official voice of the Chinese Communist Party; maintaining a unitary political tone; and controlling the political discourse and public opinion throughout the country (Xin, 2006: 49).[3] All Chinese media remain under the control of the government, whether at the central or provincial levels. However, since the 1980s, China's news and information sector has undergone remarkable changes, with a general trend toward marketization and consolidation (Zhao, 1998). Paradoxically, major media outlets remain under the control of the Party while also increasingly catering to audience demands and consumer choices.

We conducted a content analysis of all coverage related to the Songhua River benzene spill for two prominent Chinese media outlets and one major

international newspaper: Xinhua News Agency, CCTV and the *New York Times*. Xinhua News Agency is the official, state-owned news agency and the largest news gathering and dissemination center in China, with headquarters in Beijing. Under the direction of the State Council, China's chief legislative body, Xinhua is considered the official mouthpiece of the Chinese Communist Party. Each day its staff of 13,000 releases a total of 400,000 words of news information in eight languages, covering current affairs in politics, sports, finance, economics, and society and culture in China and around the world. In the present era of liberal economic reform, Xinhua still receives government subsidies but also must provide more than 60 percent of its own operating revenues through advertising income and the sale of news services to subscribing media outlets (Xin, 2006: 53). Over the past decade, the relationship between Xinhua and other Chinese news outlets has gone from one of complete dependence to more of an agency–client relationship (Xin, 2006), where foreign and domestic news outlets pay a subscription fee to gain access to Xinhua's news dispatches.

Data for CCTV were collected from six of its television news programs: *Focus Interview* (*Jiaodian Fangtan*), *Oriental Horizon* (*Dongfang Shikong*), *Law and Policy Online* (*Fazhi Zaixian*), *Thirty Minute News* (*Xinwen Sanshi Fen*), *China Newsweek* (*Zhongguo Xinwen Zhoukan*) and *News Broadcast* (*Xinwen Lianbo*). With the exception of *China Newsweek*, all of these programs feature daily reporting with a broadcasting time range from 25 minutes to 150 minutes. CCTV is the major television broadcast network in mainland China. Similar to Xinhua, it is a state-owned entity operated under the direction of the State Council, via the State Administration of Radio, Film and Television (SARFT). CCTV currently has a staff of 10,000 and an annual revenue flow of 12.4 billion yuan (US $1.9 billion). Unlike Xinhua, however, CCTV enjoys the farthest reach of any medium in contemporary China: in the National Television Audience Sampling Survey conducted in 2007, 95 percent of Chinese reported watching television 'every day' or 'almost every day'. Since the early 1980s, when television first entered large numbers of Chinese homes, sitting in front of the TV with friends and family members has become a common leisure activity for both urban and rural residents.

The *New York Times* is the largest metropolitan newspaper in the United States and is considered a key newspaper of record. Its Beijing Bureau staff reports on major news stories in China for an American audience via its newspaper circulation of more than 1 million and its prominent on-line presence. This sample allowed us to compare these three quite different media sources: one official Chinese Communist Party media outlet (Xinhua News Agency), one Chinese state-sponsored television news station with a measure of editorial autonomy and a large public audience (CCTV), and one prominent international news source (the *New York Times*).

*Data collection and analysis*

We obtained transcripts from the media sources through a two-step process. First, we accessed the CCTV webpage[4] and used the key terms 'Songhua River' (*Songhua Jiang*), 'pollution' (*wuran*) and 'benzene' (*ben*) for an initial search in the Chinese language. Second, we visited a CCTV internet site dedicated specifically to the benzene spill incident.[5] This site collected all news reports regarding the benzene spill from various other media outlets, including Xinhua News Agency, and each report contained pertinent information such as the date, source and byline. We set our search parameters for one calendar year following the benzene spill, from 13 November 2005 to 12 November 2006. The search process yielded 84 reports from Xinhua News Agency and 24 reports from CCTV. We performed a similar keyword search for the *New York Times* during the same time period, which yielded 10 reports for a total sample from all media sources of 118 reports. A brief description of the data set is shown in Table 1.

Our analysis proceeded in several phases. During Phase One, we analysed and coded each transcript line by line, grouping the transcript material into themes. Themes can be seen as 'tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study' (Miles and Huberman, 1994: 56; see also Altheide, 1996). We constructed the themes inductively through multiple close readings of each transcript, with each researcher developing a coding scheme independently (Miles and Huberman, 1994: 55–66; Patton, 2002: 464–5). We then compared and discussed similarities and differences before settling on a final coding scheme, which we formalized in a codebook spreadsheet. Finally, we conducted a final, comprehensive coding of each transcript using the codebook, which comprised 13 themes.

During Phase Two of the analysis, we set out to examine whether and how reporting intensity on the 13 themes differed across media sources. How much coverage did each media source dedicate to each of the themes? How frequently did the themes appear in Xinhua News Agency, CCTV and the *New York Times*' reporting on the incident? How did the intensity of media coverage on these themes change through time? We used a simple nonparametric statistical procedure, described below in more detail, to facilitate the comparison of reporting intensity across media sources.

**TABLE 1**
**Basic information on the three media sources used in the study**

| Media source | Reports (N) | Words | Average report length (words) |
|---|---|---|---|
| Xinhua News Agency | 84 | 42,787 | 509 |
| China Central Television | 24 | 23,788 | 991 |
| *New York Times* | 10 | 6,365 | 637 |
| **Total** | 118 | 72,940 | 712 |

The goal of Phase Three of the analysis was to assess whether there were qualitative differences among the news sources in terms of phrasing, tone or the expression of normative judgments. How did each media source choose to portray the incident and its aftermath? To answer this question, we conducted another in-depth reading of each transcript with the goal of understanding the messages conveyed, their context and nuance (Altheide, 1996). Insights gained from this qualitative analysis greatly enrich the quantitative results of the study.

## Findings

### *Themes of media coverage related to the benzene spill*

Analysis of the coded transcripts revealed that news coverage of the benzene spill focused on 13 themes (shown in Table 2). Overall, these 13 themes represent a diverse set of issues and angles covered by the three media sources in regards to the incident, from the immediate effects of the benzene spill, to its implications for international relations, and to deeper and more politicized issues such as blame, responsibility and governmental transparency.

### *Reporting intensity*

Our next question was: how do the three media sources differ in terms of reporting intensity (frequency) on the 13 themes? We searched the archives of each news source over a one-year period following the benzene spill. However, we found that the actual span of reporting covered only 60 days, from 13 November 2005 to 11 January 2006. During that 60-day period, there were 12 days on which no reporting related to the spill occurred at all, which gave us a total of 48 days on which reporting occurred. For each news source, we aggregated the reports that occurred on the same day and calculated the frequency with which each theme occurred per 1000 words of reportage. This allowed us to compare reporting intensity across the three media sources.[6]

Because the frequencies we calculated for each theme were not normally distributed, we used a simple non-parametric statistical procedure to compare reporting intensity across the three media sources. First, we calculated the rankings of the three media sources' reporting frequencies for each theme. Then, for each theme, we conducted a Kruskal-Wallis test to evaluate whether these rankings distributions were significantly different across the three news sources. We also conducted follow-up tests to evaluate pairwise differences among the three media sources, using the Mann-Whitney U-test (Freund and Simon, 1997: 570–1; Green et al., 2000: 361–71). This method allowed us to assess whether the three news sources showed significantly

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**TABLE 2**
**Themes included in media coverage of the Songhua River benzene spill**

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| Theme | Description |
|---|---|
| (1) Effects on infrastructure | Contains reporting on how the incident affected the physical infrastructure of Harbin city and surrounding areas, including the municipal water supply, schools, hospitals and transportation. |
| (2) Effects on community and society | Contains reporting on how the incident affected the lives of people in the area, including forced and voluntary evacuation, availability of water and other key resources, and commodity pricing. |
| (3) Psychological effects | Contains reporting on how the incident, and the actions of authorities, affected the psychological state of residents, including widespread panic, rumors, and decreased trust in government and media reports. |
| (4) Incident description or update | Contains reporting on the basic status of the incident, including the amount of benzene spilled into the river, and the size, position and velocity of the toxic plume as it traveled toward Harbin and beyond. |
| (5) Responsibility or blame | Contains reporting that assigns responsibility, blame or culpability, including inadequate government oversight and enforcement of environmental standards, a lack of environmental mitigation technology, malfeasance on the part of oil company officials, and a national development policy framework that privileges industrial growth over environmental quality. |
| (6) Sino-Russian relations | Contains reporting on the effects of the benzene spill on China's bilateral relationship with Russia, including the government's responsibility to disclose information about the spill, formal apologies issued by the Chinese government, and national embarrassment over the incident. |
| (7) International assistance | Contains reporting on technical or other assistance provided by the international community or multilateral agencies. |
| (8) Clean-up strategies | Contains reporting on the specific actions taken by environmental protection authorities to monitor, clean up, or otherwise mitigate the effects of the benzene spill. |
| (9) Prevention strategies | Contains reporting on government plans to prevent future large-scale environmental incidents, both on the Songhua River and throughout China, including plans to invest in environmental protection projects, increase waste management facilities, and sanction polluting factories. |

*(Continued)*

**TABLE 2**
**(Continued)**

| Theme | Description |
|---|---|
| (10) Government handling of information | Contains reporting on how government officials at the national, provincial and municipal levels handled information regarding the benzene spill, including official cooperation with the media, attempts to cover up the incident, and attempts to downplay the seriousness of the incident or otherwise reassure the public. |
| (11) Government management of the crisis | Contains reporting on how government officials at the national, provincial and municipal levels responded to the crisis, including controlling price gouging, establishing emergency information hotlines, coordinating between government agencies,and investigating the incident. |
| (12) Scientific analysis | Contains reporting on monitoring benzene levels, toxic effects on human health, and effects on environmental quality. |
| (13) Water resources and water pollution | Contains reporting about the general status of water resources in the Songhua River region and throughout China, as well as information about the extent and severity of China's water pollution problems. |

different reporting intensities (as measured by the frequency rankings) for each theme. It also allowed us to create a chronological profile for each news source to see how reporting patterns changed over time.

The results of the Kruskal-Wallis test showed that reporting intensity was statistically different between the three news sources on five themes: 'effects on infrastructure', 'responsibility or blame for the incident', 'government handling of information', 'science and water resources' and 'water pollution'. For the final two themes ('science and water resources' and 'water pollution') reporting in the two Chinese media sources was either absent altogether or very minimal. This left us with three themes for which the media sources displayed significantly different reporting intensities. The results of these comparisons are shown in Table 3.

The results indicate that for all three of these themes, reporting intensities follow a pattern: intensity is greatest for the *New York Times*, as illustrated by the fact that its mean frequency ranking is highest across all three themes. By contrast, Xinhua News Agency consistently shows the lowest mean frequency ranking for these three themes and CCTV is consistently in the middle. Interestingly, we found that CCTV was not statistically different from the *New York Times* on any of these three themes in terms of reporting intensity. The *responsibility or blame* theme represented the most dramatic point of departure: CCTV and the *New York Times* did not have significantly

**TABLE 3**
**Comparison of reporting intensity between the three media sources for selected themes (Kruskal-Wallis test)**

| Source | Theme: effects on infrastructure | | | Theme: responsibility or blame | | | Theme: government handling of information | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean Rank | Chi-Square | Sig. | Mean Rank | Chi-Square | Sig. | Mean Rank | Chi-Square | Sig. |
| XNA (N = 27) | 20.56 (a) | 10.983 | 0.004 | 19.91 (a) | 12.636 | 0.002 | 20.89 (a) | 8.903 | 0.012 |
| CCTV (N = 13) | 25.54 (a, b) | | | 26.81 (b) | | | 24.85 (a, b) | | |
| *NYT* (N = 8) | 36.13 (b) | | | 36.25 (b) | | | 36.13 (b) | | |

*Note:* All levels of significance (p-values) are for two-tailed significance in the Kruskal-Wallis test. The letters assigned to the mean ranks (a or b) indicate pairwise differences in the follow-up analysis (Mann–Whitney U-test). For each theme, mean ranks with the same letter indicate that these rankings distributions were not statistically different from one another. Mean ranks with different letters indicate that these rankings distributions were significantly different at the $p < .05$ level of significance.

different rankings distributions, but Xinhua News Agency differed from both of the other media sources. Xinhua's reporting intensity on the *responsibility or blame* theme was markedly lower than the other two sources, suggesting that its reporters and editorial staff were reluctant to assign blame or culpability for the incident. These differences are supported by some of the qualitative findings reported below.

*Chronological profiles*

In order to examine, in a more visually accessible fashion, how reporting intensity on these three significant themes changed over time, we charted chronological profiles of the coverage for all three media sources. The chronological profiles (shown in Figures 1–3), display the frequency with which a given theme appeared in media coverage on a specific day for a specific news source.

**FIGURE 1**
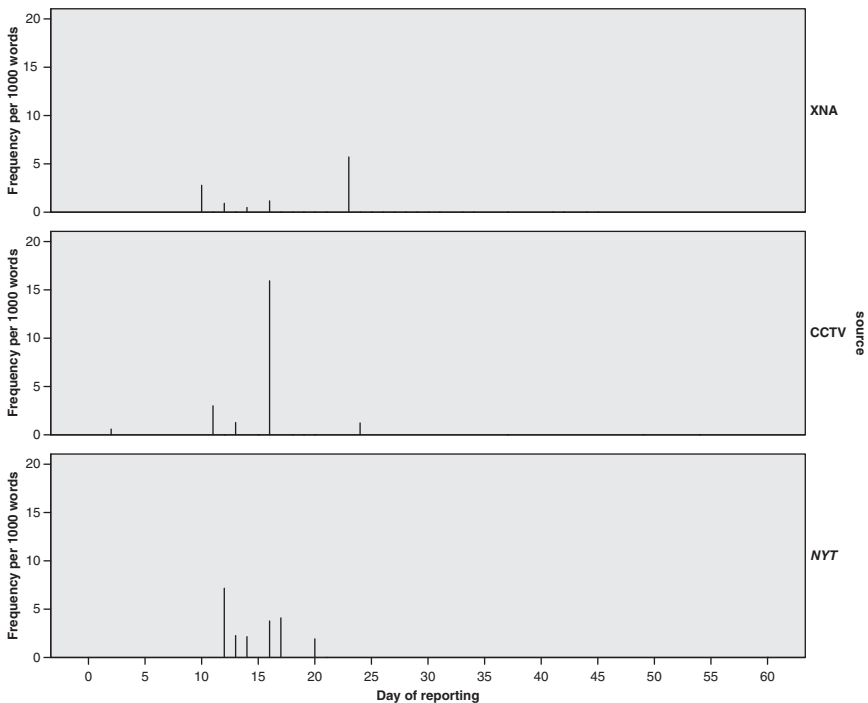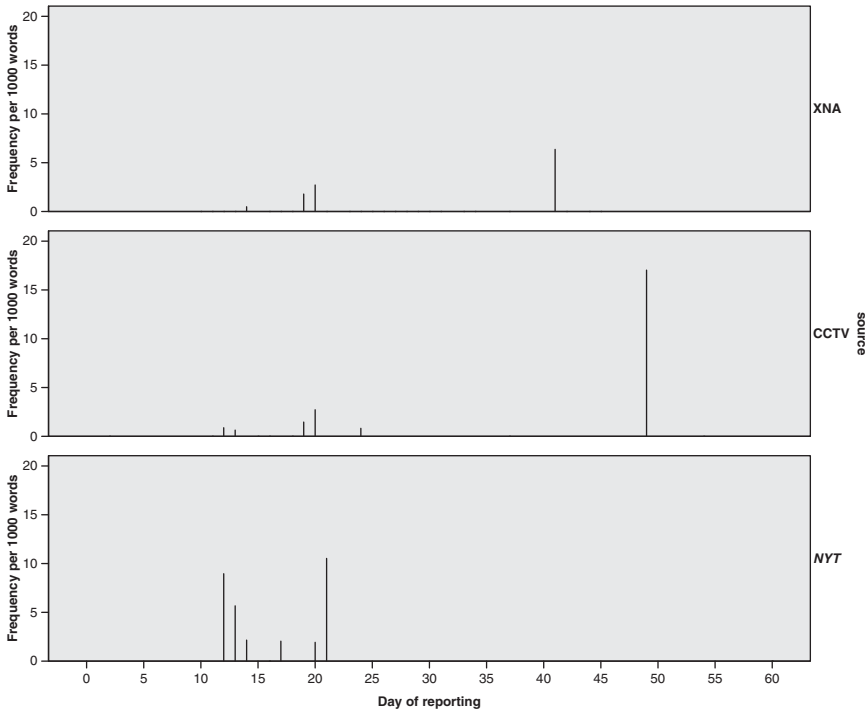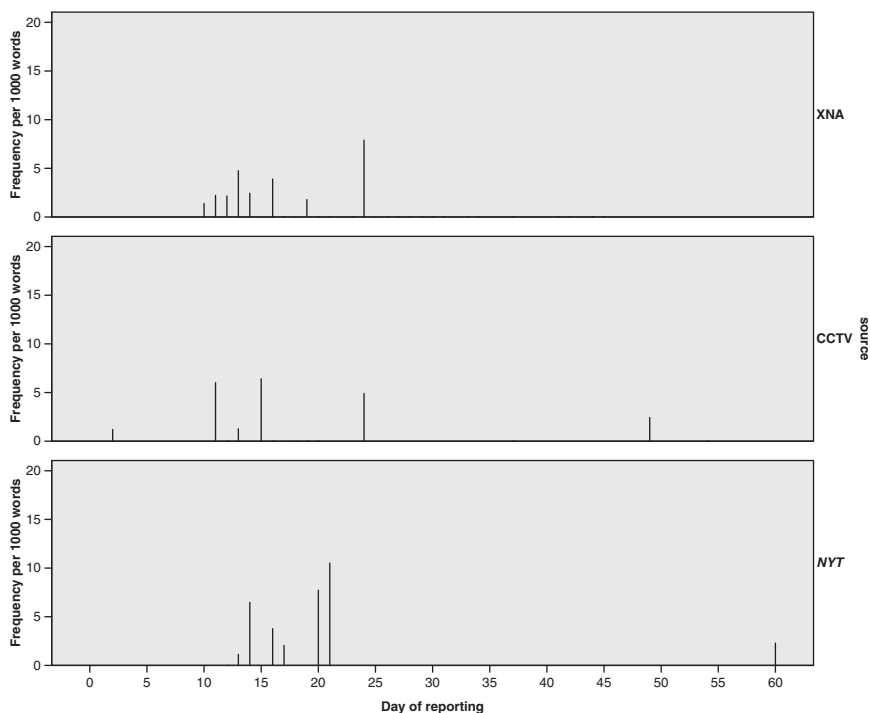**Chronological profile of media coverage for the 'effects on infrastructure' theme**

**FIGURE 2**
**Chronological profile of media coverage for the 'responsibility or blame' theme**



Several interesting patterns emerge in the chronological profiles. The first relates to the timing of reporting. For two of the themes ('effects on infrastructure' and 'government handling of information'), CCTV coverage precedes that of Xinhua News Agency by about ten days, suggesting that the television station did not wait for Xinhua to cover those aspects of the story first. Rather than rely on the official Communist Party news feed, CCTV made its own editorial decisions about what aspects of the story were important to cover. This is particularly significant for the 'government handling of information' theme, which represents one of the most politically sensitive aspects of the benzene spill story. Furthermore, while Xinhua News Agency coverage tended to be tightly clustered over the course of a few days or weeks, CCTV covered these themes across a broader time spectrum, over the course of many weeks. The *New York Times* generally lagged slightly behind both Chinese media sources in its coverage of these themes, which might be expected since foreign correspondents often must rely on wire feeds or domestic media reports before covering a story. The span of *New York Times* reporting also tended to be shorter than the Chinese media sources.

**FIGURE 3**
**Chronological profile of media coverage for the 'government handling of information' theme**



A second interesting pattern illustrated by the chronological profiles is the unevenness of CCTV reporting on these themes. In two cases ('effects on infrastructure' and 'responsibility or blame'), its mean frequency ranking was strongly affected by a spike in coverage on those themes on a single day. For the 'effects on infrastructure' theme, this spike occurred on 28 November 2005 (day 16 of the coverage period). For the 'responsibility or blame' theme, the spike occurred on 31 December 2005 (day 49 of the coverage period). We examine the content of these reports below.

*Qualitative differences in media portrayal of the incident*

Our final goal in this study was to examine whether there were qualitative differences among the news sources in terms of phrasing, tone or the expression of normative (value-laden) judgments. How did each media source choose to portray the incident and its aftermath? To answer these questions,

we conducted another in-depth reading of each transcript with the goal of understanding the messages conveyed, their context and nuance. (Altheide, 1996). In what follows, we characterize these qualitative aspects for the two most contentious and politically sensitive themes: 'responsibility or blame' and 'government handling of information'.

*Responsibility or blame*
Reporting content that was coded under the 'responsibility or blame' theme assigned responsibility, blame or culpability for the Songhua River benzene spill to a range of actors. All three media sources indicated in their reporting that there was enough blame to go around. Both Xinhua News Agency and CCTV assigned initial culpability for the accident to corporate officials at CNPC for failing to follow proper safety procedures and subsequently failing to notify authorities in a timely fashion. CCTV (2005) reported that: 'There is no doubt that Jilin Petrochemical Company should take full responsibility for the pollution incident.' In a similar vein, although several weeks later, Xinhua News Agency quoted Li Yizhong, then Chief Executive of CNPC, as stating that: 'the explosion accident at Jilin Petrochemical Company was due to the violation of operation regulations' (Liu and Lei, 2005).

It soon became clear, however, that corporate irresponsibility was only one part of the equation and had in fact been compounded by lax environmental monitoring and enforcement. Xinhua News Agency assigned a measure of blame to the MEP, the central government agency which sets environmental standards and enforces compliance. By early December 2005, Xie Zhenhua, the Minister of the MEP, was released from his post over the incident, receiving the dubious distinction of being the highest-ranking official ever to lose his job over an environmental accident. The semantics of Mr Xie's fate were interesting in their own right: while both Chinese media sources indicated that he resigned his post willingly, the *New York Times* ran a brief story under the headline, 'China Fires Water Monitor' (2005b). Mr Xie's second-in-command, Wang Yuqing, however, quickly downshifted the blame to provincial and local-level environmental protection bureaus which, he told Xinhua News Agency reporters, 'do not pay sufficient attention to the task of preventing pollution accidents, and lack the capacity to deal with severe environmental accidents and to monitor and report properly in an environmental emergency' (Xinhua News Agency, 2005).

The rhetoric used by the two Chinese media sources differed from one another in fundamental ways on the 'responsibility or blame' theme. While Xinhua News Agency's coverage of the theme was somewhat vague and formulaic, CCTV's coverage was specific, pointed and often scathingly critical of the national environmental protection bureaucracy. In an extensive interview for CCTV's *Law and Policy Online* program on 31 December 2005, Professor Zhou Ke of Renmin University Law School was quoted as saying: 'All local enterprises, along with government departments, agree that economic

development is the priority. When it comes to industrial pollution, they are simply "one eye open, one eye closed"' (*Law and Policy Online*, 2005). These remarks point to what many scholars and policymakers have identified as one of China's key environmental challenges: the incompetence, neglect and sometimes overt corruption of regulatory officials.

In the same report on CCTV, which is part of the spike shown in the chronological profile for the 'responsibility or blame' theme, the network excoriated the national environmental protection bureaucracy for its impotence: 'China has never lacked relevant laws and regulations.… But environmental protection laws have become "tofu laws" devoid of any real administrative power.' The use of tofu – a common food item with a flaccid texture and bland taste – was used as a metaphor to evoke an image of a relatively hapless and powerless environmental regulatory system.

The *New York Times*' treatment of the 'responsibility or blame' theme is also telling. In contrast to the Chinese sources, which assigned blame to specific government agencies or corporations, the *New York Times* tended to frame the incident as part of a larger, systemic pattern of neglect toward the environment in the name of economic development: 'Specialists say China has some of the best environmental laws in the world, but the sheer scale of development, inadequate planning, corruption and poor enforcement often result in uncontrolled pollution' (Lague, 2005).

*Government handling of information*
In regards to the 'government handling of information' theme, both corporate representatives and government officials in Jilin Province initially denied any pollution problems and waited for nearly a week to inform officials from Heilongjiang Province, where Harbin is located. Once Heilongjiang officials became aware of the incident, they waited several more days before informing the public. All the while, they faced a dilemma: how to protect city residents properly from the dangerous levels of benzene without inciting widespread panic. Their solution was effective, if duplicitous: on 23 November, they shut off the municipal water supply for four days under the guise of routine repairs, closing schools and other public facilities and putting hospitals on standby to handle potential poisoning cases. City residents questioned the logic of shutting down the municipal water supply to all districts in the city simultaneously and the lack of information caused widespread panic.

As the voice of the Chinese Communist Party, Xinhua News Agency reflected in its reporting the Party's fear that the cover-up had the potential to seriously undermine public trust in the Chinese government. It immediately assumed a reassuring tone in its coverage of the 'government handling of information' theme, stating outright in one report that: 'We should trust our people, we should trust our Party' (Hou and Wang, 2005). Xinhua also devoted a fair amount of coverage to alerting panicked residents to some of the

public services provided by the government in the wake of the spill: 'In order to relieve residents' panic and frustration, and to stabilize society, the Harbin Association of Psychological Consultants have launched a consulting hotline' (Liang, 2005). Another important objective of Xinhua was to reassure frightened Harbin residents about the safety of their water supply. Toward this end, the state news agency quoted Zhang Zuoji, governor of Heilongjiang Province, in a hyperbolic statement: 'Four days from now [when the water is turned back on], I will drink the first cup of water' (Li et al., 2005).

CCTV, by contrast, seemed to consider the government cover-up a worthy story in its own right and attempted to conduct some investigative journalism on the subject. On the day after the explosion, CCTV reporters interviewed a company official at Jilin Petrochemical, who referenced an environmental monitoring report which showed acceptable air-quality levels. No reference was made to the fact that water and soil contamination can be much more serious concerns than air pollution in the wake of a benzene spill. As the events played out, CCTV reporters' investigations into government secrecy were met by stonewalling. This is hardly remarkable, but what is noteworthy is CCTV's frank and open reporting about how their investigative attempts were stymied by both corporate representatives and government officials. In one in-depth report, CCTV noted:

> Meanwhile, some correspondents went to Jilin to report on whether the explosion has caused water pollution. Not only did they receive ambiguous answers, but their requests for formal interviews were firmly declined.… The government should project an image of being responsible and trustworthy. With such an image, the government will gain support from the public, and any subsequent efforts [to manage an environmental crisis] will be more effective. (*China Newsweek*, 2005)

Significantly, the *New York Times* did not even cover the benzene spill until 11 days after it happened. When it commenced reporting, the *New York Times* focused heavily on the government cover-up and what it signaled about government accountability and transparency in China:

> The official cover-up came undone after dead fish began appearing in the Songhua River, and local environmentalists and journalists began sounding alarms. Chinese citizens still have very little opportunity to operate independently of the government, and do so at their own great peril.… An equally important question is why, for almost 10 days, China's government did not think the people of Harbin deserved to share its knowledge of the cancer-causing chemicals that were streaming their way. (*New York Times*, 2005a)

## Discussion and conclusions

In this article, we have used a high-profile pollution incident to examine media reporting on environmental issues in China. Media coverage in China's official

Xinhua News Agency, on CCTV and in the *New York Times* focused on a broad range of themes, from the immediate effects of the benzene spill, to its implications for international relations, and to deeper and more politicized issues such as blame, responsibility and governmental transparency. The results of our quantitative analysis show that these three media sources differed quite markedly in the intensity of coverage on three themes: 'effects on infrastructure', 'responsibility or blame' and 'government handling of information', the last two of which center on the most contentious and politically sensitive aspects of the incident. Our analysis also shows a pattern of reporting intensity on these themes, with the *New York Times* showing the greatest intensity, followed by CCTV, and with Xinhua News Agency showing the lowest intensity. Surprisingly, CCTV and the *New York Times* were statistically similar in their reporting intensities on these themes.

The results of qualitative content analysis help us to gain better insight into how these disparate media sources handled their coverage of the incident. In this regard, we found stark differences between the two Chinese sources in terms of language, tone and normative content. Xinhua News Agency used its platform as the official mouthpiece of the Chinese Communist Party to reassure the public and to urge trust in the government. CCTV, by contrast, was sharply critical of the government, placing partial blame for the incident on lax monitoring by MEP officials, dispatching investigative reporters, and describing quite openly to viewers the consistent attempts of government officials to cover up the incident. Bias and censorship – whether by reporters, editorial staff or government overseers – is undoubtedly still a major issue in China. But in this case bias was likely not limited to the Chinese media: the *New York Times*' reporting, which commenced at just the moment when the government cover-up emerged as a major story, suggests an effort on the part of the newspaper to heavily emphasize an angle that is now all too familiar to a Western audience: that of the negligent, incompetent and corrupt Chinese government exercising its heavy hand over the citizenry.

Article 35 of China's Constitution states that 'citizens of the People's Republic of China enjoy freedom of speech, of the press, of assembly, of association, of procession and of demonstration'. Yet many Chinese citizens and foreign observers alike question the accuracy and reliability of the state-controlled media, a trend that is in line with other countries where the government has a firm grip on news and information (Meyen and Schwer, 2007). Our evidence, admittedly limited to one environmental incident and several media sources, underscores the fact that Chinese media are not homogeneous. We were quite surprised to find CCTV, a huge news organization that is technically still owned and operated by the central government, airing news segments that exposed and condemned a major government cover-up. Indeed, the varied and insightful reporting of CCTV in this case provides some basis for understanding the great popularity of its programs in China. Driven in part by a mandate to fund a growing share of its own operations, CCTV increasingly strives to provide accurate and satisfying content to its audience.

This growing financial independence, in line with China's liberal economic reforms, likely contributes to CCTV's ability to control the content of its reporting. As the Chinese Communist Party has liberalized the nation's economy over the past three decades, it has also gradually reduced the scope of its administrative power, increasing the space within which civil society organizations may operate (Chan, 2005; Weller, 2005). In using the term 'civil society', we are referring to an intermediate realm between the family and the state characterized by collective action around shared values, interests and goals. There is mounting evidence to suggest that Chinese media outlets such as CCTV, although officially state-controlled, inhabit this growing realm. On 12 May 2008, for example, when a massive 8.0-magnitude earthquake devastated parts of Sichuan Province, the central government issued a moratorium on press coverage of the incident. But after a multitude of print and broadcast media disobeyed the order, the government rescinded it and allowed relatively open media coverage. The subsequent public outpouring of financial, logistical and emotional support for the earthquake survivors is one of the most spontaneous and significant illustrations of civil society in modern Chinese history.

Our analysis raises a final, important question for consideration: regardless of how much the Chinese public knows about pollution, what can it do about the problem? Despite the growth of civil society in recent years, the current evidence is mixed with regard to the efficacy of citizen efforts to improve environmental quality. Environmental non-governmental organizations (NGOs) now number in the hundreds, and citizen protests over environmental contamination have become routine (Mol and Carter, 2006: 161). Media coverage of environmental contamination is also on the rise; in one recent case, investigative journalism on the part of a provincial television news crew helped precipitate the closure of several heavily polluting factories (Tilt, 2007). Nevertheless, citizens and organizations concerned about China's deteriorating environment face difficult barriers, including corrupt officials, lack of precedent for environmental litigation and a national development strategy that privileges industrial growth above all else (Alford et al., 2002).

The media will likely play an increasingly important role in China's environmental affairs. More dynamic information technologies such as the internet will undoubtedly facilitate the public's ability to gain information about environmental issues, although currently only about 5 percent of the Chinese populace – mostly well-off, educated, urban people – have regular access to the internet (Yang, 2005). Nevertheless, there is clearly a growing desire, and a growing market, for transparent and reliable news coverage on environmental issues as China seeks a balance between economic development and environmental protection.

## Notes

1. Estimates of economic losses from pollution vary widely. A World Bank study, for example, which considered such factors as health care costs, lost work time, pollution remediation costs, infrastructural damage and decreased productivity of forest resources, estimated that pollution cuts 7.7 percent from China's GDP every year.

2. Prior to 2008, the MEP was known as the State Environmental Protection Administration (SEPA).

3. The state-controlled media in China has done an admirable job constraining public discourse. A key illustration of this is the way in which sensitive matters such as Tibetan autonomy are discussed. In almost any context throughout the country, one discusses Tibet by referencing the 'peaceful liberation of Tibet' (*Xizang heping jiefang*), which is the state-sanctioned terminology used in the Chinese media.

4. At www.cctv.com

5. At http://www.cctv.com/news/special/C14973/index.shtml

6. We calculated the frequency of theme appearance per 1000 words of reporting in order to control for the fact that the three media sources differed in terms of average story length and total number of stories. An additional challenge was that the English news source (*New York Times*) used a word count while the Chinese news sources (Xinhua News Agency and CCTV) used character counts. The written Chinese language is comprised of ideographic characters, and a given word may consist of one or more characters. We converted character counts for the Chinese sources to word counts by randomly selecting three news reports from Xinhua News Agency and three reports from CCTV, counting the average number of characters per word for these reports (2.3), and multiplying all Chinese character counts by 2.3 so that we could equivalently compare Chinese words to English words.

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