

Environmental Risks in Newspaper Coverage: A Framing Analysis of Investigative Reports on Environmental Problems in Ten Chinese Newspapers

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This is the final version submitted before publication.

To cite:

Tong, Jingrong (2014) 'Environmental Risks in Newspaper Coverage: A Framing Analysis of Investigative Reports on Environmental Problems in 10 Chinese Newspapers', in *Environmental Communication*, 8(3): 345-367.

Abstract

Economic modernisation has been China's national priority since the establishment of the People's Republic. Since the authorities retain control over the media, which is also now subject to commercial influences, it might be expected that the Chinese news media would construct a discourse of assurance, endorsing economic modernisation. A framing analysis of newspaper investigative reports on environmental problems in this article, however, shows that these reports have portrayed environmental problems in a manner that opposes rather than supports the national priority for economic growth. It challenges rather than reinforces the current institutional discourse of development, and criticises rather than contributes to the present structure of the capitalist mode of production in China. In this case, the prominence of the critical reflective discourse demonstrates the critical role investigative journalism potentially plays in arousing the public's awareness of risks in order to create a society in which such risks can be minimised. Factors in the wider social context contribute to our understanding of the critical discourse of environmental problems.

Keywords: *Environmental problems; Framing analysis; Environmental risks; Investigative journalism; Modernisation; China*

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Introduction

People's consciousness of risks and reflections on the consequences of their activities can potentially lead to subsequent social changes, in order to minimise such risks (Beck, 1992). Journalism has been regarded as fundamental to the creation of an awareness of risk (Beck, 1992; Wimmer & Quandt, 2006). The crucial role of journalism lies first in public exposure of such risks and then in interpreting them for the public (Wimmer & Quandt, 2006; Waisbord & Peruzzotti, 2009; Hansen, 1991). Such exposure and interpretation produces social knowledge of risks as well as illuminating their causes and consequences. Though the aim of exposing risks may be to achieve changes in policy, thereby diminishing these risks, it may actually reveal the limited capacity of the government to resolve such problems on its own. In some cases, it may even imply the failure of certain government policies, challenge the current social structure, and threaten the interests of those social groups that are benefitting from the current situation. Therefore, it is difficult for journalism to raise public awareness of risks, particularly in a social context where journalism practice is constrained by political control.

This article examines the role of investigative journalism in response to the growth of environmental problems in China, through a framing analysis of Chinese newspaper investigative reports on the environment from 2008-2011. Environmental

problems are one of the major risks threatening Chinese society. The ruling Chinese Communist Party is very careful about environmental discourse for two reasons. First, previous experience in other socialist countries, such as Eastern Europe, has shown that the existence and exposure of environmental problems has the potential to lead to movements of social resistance (Ho, 2001). Second, the occurrence of environmental problems has accompanied China's economic modernisation. To assess the risks posed by environmental problems means to reflect on the consequences of economic modernisation, which has always been Beijing's first priority since the establishment of the People's Republic of China in 1949. Therefore, it may seem unlikely that Chinese investigative journalists would portray environmental problems in a critically reflexive way, although such critical reflections are crucial for Chinese society to change toward one in which risks can be reduced. It seems far more likely in the circumstances that journalists will construct a discourse of assurance to endorse economic modernisation.

Nevertheless, the framing analysis in this study reveals an unexpected picture. Chinese newspaper investigative reports represent environmental problems in a way that tends to oppose rather than support the national priority for economic growth, challenge rather than reinforce the current institutional discourse of development, and criticise rather than uphold the present structure of the capitalist mode of production

in China. Through the linking of environmental problems to social injustice, a dichotomy is constructed between socio-economically advantaged and disadvantaged groups- with the former benefitting and the latter excluded from economic reform. The latter suffer from the exploitation of resources by the former. The journalistic definition and interpretation of risks thus takes the side of disadvantaged social groups in disapproval of national priorities or profit making. Environmental problems are interpreted as resulting from the national priority for capitalist development. This constructs a reflexive discourse of environmental risks in newspaper coverage, in which critical reflections and urges for change are initiated from the bottom up, targeting the economic priorities of the government and pushing the country in a positive direction.

Modernisation, Environmental Problems and Chinese Society

Environmental problems in China are greatly relevant to China's economic modernisation. This process has transformed China from a planned to a market economy, from an agrarian to an industrial country, and from a country that stresses social equality to one that is experiencing considerable and accelerating social inequality. Contradictory attitudes toward environment and nature underlie modernisation. On the one hand, the national policy for controlling population growth

reflects fears over resource scarcity. This fits the survivalism discourse of environmentalism that sees resources as finite. Elite groups, such as government, need to deal with conflicts in struggles over resources (Dryzek, 2005). On the other hand, the Great Leap Forward¹ and subsequently the economic reforms² mirror the Maoist view of humanity's capability and destiny to conquer nature (Shapiro, 2001). This Promethean development discourse gives a justification for the political system to guarantee capitalist economic growth (Dryzek, 2005). The survivalism discourse however also serves the development discourse, as after all population growth is being controlled for the sake of development (Shapiro, 2001).

China's economic modernisation, starting from 1949, has led to industrialisation, urbanisation and latterly, an intimate embrace of the capitalist market (Ho, 2006). The Eastern and Southern regions first and then the Western and Midland regions have joined in the economic reform program launched from the 1980s. This national priority for economic growth has also stimulated the enthusiasm of local governments to pursue the growth of GDP, as something that reflects their political achievements. One prominent result of this, for instance, is the construction of numerous dams and hydropower projects that have inevitably changed nature by human force. To enhance its economic growth, China encourages domestic and international capital investment and extensive use of resources, such as land, oil, water and minerals. Meanwhile, the

global expansion of capitalism in the post-industrial era has turned China into a world factory. The indefinite exploitation of resources, the pursuit of profits and wealth and the ignorance of environmental protection inevitably cost the environment dear (Zhang, Mol, & Sonnenfeld, 2007).

There have been increasing environmental problems since the 1990s and thereby a growth in the occurrence of natural disasters and health crises. The Western and rural regions are thought of as the waste depot of the urban and developed regions (Jahiel, 1996). This not only threatens the health and safety of human beings but also that of wild animals (Sanders, 1999). An instance of the threat to human health is that, at the time of writing, a list of hundreds of ‘cancer villages’ resulting from environmental pollution was circulated widely on the Internet (Liu & Wang, 2013). An example of damage to wildlife was the discovery of twelve dead finless porpoises within 44 days from March 3rd - April 15th 2012 in Dongting Lake, Hunan Province. Experts suspected their deaths were caused by food shortages, water pollution and damage to the lakebed as a result of unsustainable development in the local area (Xu, 2012).

Beijing has reflected on the priority it has placed on economic growth and adjusted its environmental governance in order to try to tackle the problems. Changes in environmental policies and the promotion of the idea of ecological modernisation

are identifiable in the process (Ho, 2001). For example, the release of the *China Modernization Report 2007: Study on Ecological Modernization* in 2007 officially articulated the idea of ecological modernisation for the first time and was seen as a symbol of China's 'reflexive modernisation' (Zhang, Mol, & Sonnenfeld, 2007). In recent years, scholars (e.g. Stalley & Yang, 2006; Ho, 2001) found a rising awareness of environmental problems and grass roots environmental NGOs³ and movements, accompanying the greening tendency of the Chinese state in the late 1990s. They even hailed the rise of the 'green public sphere' (e.g. Yang & Calhoun, 2007).

The environmental situation, however, has not fundamentally improved and there are five principal reasons for this. First, the overall aim of economic modernisation has not changed. Second, the decentralisation of government undermines the central government's ability to stop local governments from unsustainably pursuing profits while ignoring environmental consequences. Third, public participation and NGOs are still weak. The influence of environmental NGOs and movements is far from being powerful enough to make fundamental changes in the environmental situation at present (Stalley & Yang, 2006). Fourth, social dynamics and conditions, such as political control over civil organisations, exert a contradictory force for China's environmental protection efforts and governance (Jahiel, 1997; Ho, 2001). And, finally, the Chinese people's perception of and behaviours toward environmental

problems vary from region to region and as such environmental damage is likely to continue (Harris, 2006). Environmental problems have thus become more severe rather than being mitigated⁴.

Environmental Problems, Chinese media and Investigative Journalism

Preventing and minimising risks requires the construction of a social understanding of the nature of risk, such as its causes, consequences, and solutions and whether a risk issue is actually a crisis (Davidson & Bogdan, 2010; Beck, 1992). Media become primary actors in negotiating the definition of a risk issue as well as the principal source of information for the public to gain knowledge of risk (Beck, 1992). However, the role of Chinese media and journalism in constructing the discourse of environmental problems is a precarious one.

It is precarious because of the state and market interference in media performance. The party-state generally continues to control and manipulate the media. The introduction of the market has turned out not to be a liberalising force, but instead to a certain degree has become an alternative constraining force. Scholars even argue that the Chinese media function as ‘Party Publicity Inc.’ and contribute to polishing up the image of the ruling party and legitimising the policies and rule of the party (Lee, He, & Huang, 2006). The collaboration between local governments and interest

groups tightens the control over media content (Tong, 2010). Newsrooms receive bans that forbid reporting on politically sensitive issues. Self-censorship is practiced to pursue the maintenance of a good relationship with political and economic institutions.

Nevertheless, environmental problems as a topic are not a complete taboo for journalism in China. This is for two main reasons. First, media commercialisation has led to a diversity of outlets and generated certain manoeuvring space for journalism practice (Chen & Chan, 1998; Pan, 2000). The decentralised media-government relationship has further added paradoxes to the situation and produced lacunae where journalists can gain certain autonomy, since the central government and local governments hold varying attitudes toward the function of news media in specific circumstances (Tong, 2010). Second, the central government welcomes media coverage of environmental problems to a certain degree. While social problems, such as pollution and other environmental problems, have emerged since the 1990s, accompanying doubts about the justification of the economic reforms worry Beijing (Tong, 2011). The central government needs to communicate to the public about its determination and ability to tackle those problems. Media exposure of environmental problems, especially stories about punishing those who are responsible for those problems, achieves this aim. The logic behind this is that of the Promethean

discourse- having a faith in the government's capability to solve environmental problems by stopping individuals and institutions from harming the environment.

The 1990s saw a rise of commercial non-Party media that became great outlets for investigative reports on environmental issues. Chinese investigative journalism was born with an instrumental function to maintain “inter-party purity” and reinforce the legitimacy of the party's rule (Zhao, 2000). The commercial media developed editorial policies to make space for investigative journalism in order to gain an edge in the competitive media market. The readership of commercial media includes environmental victims and those who are aware of, and worried about, environmental problems⁵. Sand storms, pollution, desertification, deforestation, cancer villages and the destruction of the eco-system by large-scale human interventions, such as dams and hydropower projects, are among the environmental problems that have captured the attention of investigative journalists (Yang & Calhoun, 2007). Investigative reports on environmental problems that are often local may also be welcomed by the central government. For example, the central government and officials supported and praised reports on environmental problems, such as deforestation and illegal logging, by investigative media such as *Focus* and *Southern Weekend*, in the 1990s.

However, the situation is not always so promising. While encouraging critical reporting, the central government worries too much exposure of social problems may

lead to social instability (Tong, 2010). Apart from the central government's paradoxical attitude toward critical investigative reporting, local governments hate to see local environmental problems being revealed. Therefore, it is a tricky question for the Chinese media as to how to present environmental problems. Are they predominantly about local issues? Are they interpreted as caused by economic development or local interesting groups? Are they portrayed as a warning signal for the public or something that endorses the government's development plan? Who suffers from environmental problems? Such questions remain unanswered in the existing literature but are important to consider if we are to understand the role of investigative journalism in China's modernisation. The present study aims to fill the gap by conducting a framing analysis of investigative reports on environmental problems in ten Chinese newspapers from 2008-2011, and specifically to answer the following research questions:

RQ1: What have been framed as environmental problems in newspaper investigative reports?

RQ2: Do these investigative reports place their emphasis on the causes and consequences of environmental problems?

RQ3: Is economic development - the national priority - portrayed as the main cause of environmental problems?

RQ4: Do the press frame politically and materially disadvantaged people as the main victims of environmental problems?

RQ5: Do the interpretations of environmental problems change significantly over the years?

RQ6: Does *People's Daily* frame environmental problems in a significantly different way to other newspapers?

In seeking to address the above research questions the study aims to contribute to the general pool of knowledge about how the media portray environmental problems.

Method

Research Design

Framing analysis is a common method that can be used to examine how issues are presented and interpreted in the news (de Vreese, Peter, & Semetko, 2001). Framing is a process in which news media construct reality for their readers. Through a framing process, “some aspects of a perceived reality” are selected, emphasised and made prominent but others are excluded. This is a way to “promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendations” (Entman, 1993: 52-53; Gamson, 1992).

Scholars have adopted two approaches to conducting framing analysis. The

deductive approach usually predefines certain frames, and examines the occurrence of these frames in the news, while the inductive approach includes “loosely defined presuppositions of the frames” with an aim of identifying all possible frames (Semetko & Valkenburg, 2000; Tian & Stewart, 2005). For the deductive approach, scholars suggest there are some ‘generic frames’ that journalists use across time, place and subject (Dirikx & Gelders, 2010). In order to answer the research questions outlined above, the present study will combine both approaches to test the predefined “generic frames” as well as to find the specific media frames of environmental problems that have been used in investigative reports. In doing so, the present study is able to minimise the potential bias which could be brought in by predefined frames (Tankard, 2001) but meanwhile ensure that the research purposes are served.

Investigative reports⁶ on environmental problems that are covered in ten newspapers (**Error! Reference source not found.**) from 2008-2011 are collected and analysed. The 4-year sample offers a sound basis upon which we can understand the role of investigative journalism in modernisation during a period of time from the officially commencing of ‘ecological modernisation’ in 2007 until reaching a new level of public participation in environmental issues symbolised in a landmark event in late 2011. In this event, a nationwide appeal for the transparency of air pollution information initiated on Weibo (China’s equivalence of Twitter, launched in 2009,

with its unprecedented effects becoming prominent in 2011) has successfully pushed governments to monitor, set up standards for and publish the data of PM2.5. We are thus on the threshold of a new era in environmental reporting. In this new era, there is an urgent need for journalism to reinvent its practice as a response to both chances and challenges posed by networked public participation that is significantly influencing environmental debates in China⁷. While this new era calls for future research, this study only focuses on examining the stages that precede and lead up to it.

Table 1 Background information of the ten newspapers*

Newspapers	Types	Locations	Years of Publication	Circulation (daily)	Editorial policies (or slogans)
<i>People's Daily</i>	Party Organ	Beijing	1948	2.3 millions	To communicate the Party's policies and important information to the people
<i>Beijing News</i>	Commercial	Beijing	2003	776,000	To independently and objectively report current affairs and politics; to shoulder social responsibility
<i>Beijing Youth</i>	Commercial**	Beijing	1949	600,000	To report the world from a youth's perspective; to have opinions, depth, taste and social responsibility
<i>First Economic Daily</i>	Commercial	Shanghai	2003	800,000	To be responsible for the era; to provide authoritative, professional, rational, and responsible (financial) news
<i>Oriental Morning</i>	Commercial	Shanghai	2003	400,000	To objectively and independently communicate economic information in the Changjiang Delta area
<i>Southern Metro Daily</i>	Commercial	Guangdong	1997	1.83 millions	To record contemporary social development, nurture the emergency of modern society, and enlighten civil consciousness
<i>Southern Weekend</i>	Commercial (weekly)	Guangdong	1984	1.7 millions (weekly)	To provide an understanding of China and offer reports that reflect justice, conscience, love, and rationality
<i>Yunnan Info Daily</i>	Commercial	Yunnan	1985***	380,000	To report political and economic issues; to have international influences
<i>Xiaoxiang Morning</i>	Commercial	Hunan	2001	602,000	To give voice to the people, help maintain social justice and report the truth
<i>Dahe Daily</i>	Commercial	Henan	1995	700,000	To care for and serve the people and be close to people's life

*Data retrieved from the websites of these newspapers and that of the phoenix TV in March 2013

** *BY* is owned by Beijing Municipal Committee of China Communist Youth League, but is operated commercially and has a tradition of critical investigative reporting.

****Southern Daily Press Group* took over part of the ownership in 2007. Since then, the newspaper started practicing investigative journalism.

The ten newspapers are chosen for five reasons: 1) all of them are important outlets for investigative journalism. Although China has thousands of newspapers, only a few of them are widely known for practicing investigative reporting. These ten newspapers are among the most influential ones; 2) all of them are well known in covering environmental problems; 3) they have high circulations; 4) they are based in different geographical locations; and 5) they offer differences over time and across

media. All nine commercial newspapers⁸, which are located in different geographical areas, start practicing investigative journalism in three time periods: the 1980s, the 1990s and the 2000s. The non-commercial *People's Daily* is the most important party organ at the central level, which occasionally contains investigative reports in order to maintain “inner-party purity”.

The sample is collected through the Wisers database (<http://www.wisers.com>), which is the largest Chinese (Greater China) newspaper and magazine article database based in Hong Kong. Investigative reports on environmental problems do not necessarily include the key words of “environmental problems”. After several tests and carefully assessing the results, the combination of the following keywords⁹ has been used: any one word/phrase from the list ‘environment, environmental protection, ecology, or climate change’ and any one word from the list ‘rice, air, food, water, soil, health, oasis, grassland, desert, river, mountain, forest, cancer village, desertification, haze, heavy metals, pollution, problem, or crisis’ to search in the titles and main texts of articles published in news sections of the newspapers. Only articles that fit the criteria of investigative reports have been included in the sample. All these keywords are associated with environmental problems, but carry no personal predetermined judgement of environmental problems. The corpus comprises a total number of 258 investigative reports for coding and analysis.

This research follows the frame paradigm and functions suggested by Entman (1993) and the model of framing categorization and measurement, developed by Semetko & Valkenburg (2000) and recently used by Dirikx & Gelders (2010). This article examines the appearance of the five frames of investigative reports on environmental problems in the Chinese press: attribution of responsibility; human-interest frame; conflict frame; morality frame; and the (economic) consequences frame. A total of 16 questions have been developed for the five frames with the following possible responses: ‘Disagree (1)’, ‘Largely Agree (2)’, or ‘Agree (3)’. More open variables, such as “what environmental problems have been portrayed in the report?”, have also been included in the coding sheet (see **Error! Reference source not found.**) in order to identify other possible frames in these investigative reports. The unit of analysis is the whole investigative reports. The first coder coded the total sample and ten per cent of the sample was selected for reliability testing between the first and second coders.

The analysis seeks to discover the interpretations the investigative reports have given for environmental problems. The less predefined frames aim to find specific media frames of environmental problems. For the five “generic” frames, the responsibility frame tackles the question of who should be held responsible for or blamed for the environmental problem, especially the contribution of economic

reforms to environmental problems, and the question of who should be responsible for finding solutions. This frame is expected to be the most prominent among the five frames. The human-interest frame aims to capture the attempt of the Chinese press to personalise environmental problems, which is not often seen in the practice of Party journalism in China, the conflict frame addresses the different views and positions between different actors, such as individuals or organisations, and the morality frame examines the religious and moral perspective of interpretations of environmental problems. Given the present Chinese social context in which religions are not encouraged, this frame is not expected to be prominent¹⁰. Finally, the (economic) consequences frame focuses on examining how the investigative reports explain the influences of environmental problems on the life of ordinary people.

Specific frames are identified through a combination of examination of discursive features, such as the themes, intertextuality, and grammatical and lexical choices in the texts rather than relying on single words or phrases. The five deductive frames are judged in a continuum with ‘frame absent’ with a value of 1 at one end and ‘frame present’ with a value of 3 at the other. Cronbach’s Alpha has been calculated (in *SPSS*) to find the internal consistency of these frames, which test the reliability of frames. Frames are compared in different types of newspaper, by regions of publication and over time. Where appropriate, the correlation between variables has

been tested by conducting Spearman's rho, and Chi square tests have been performed to check the variables' statistical significance.

Findings: Framing Environmental Problems as Social Problems

On the whole, the investigative reports analysed portray environmental problems as social problems rather than as problems about nature. This section will start with an overall picture and then present four specific features of the content.

An Overall Image

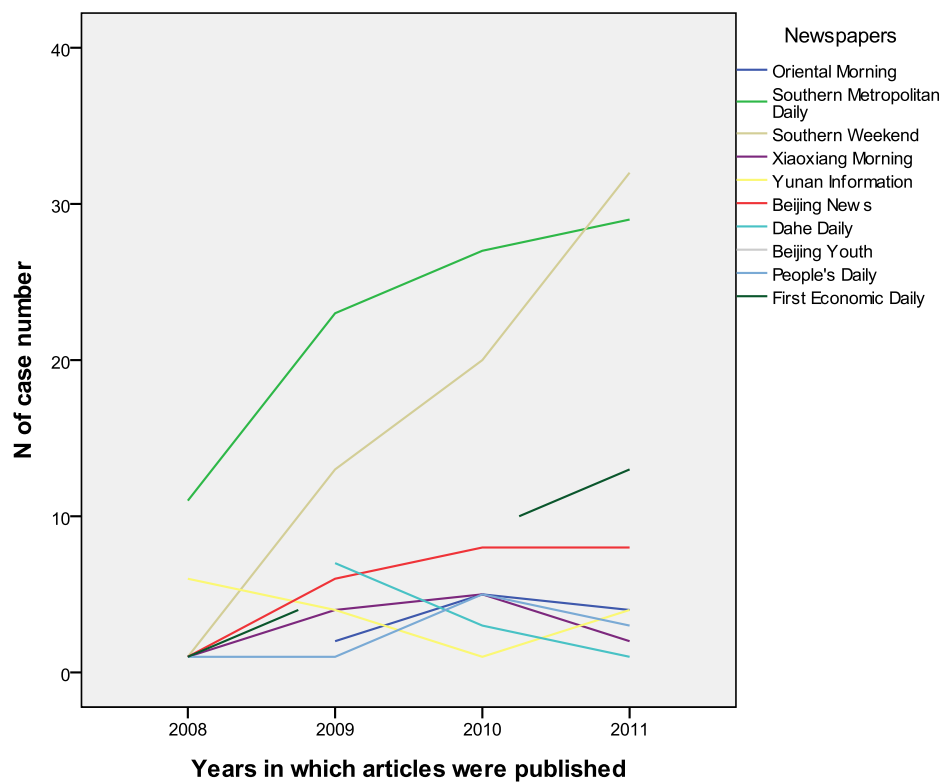
There is a continuing increase in newspapers' interest in environmental issues over these four years: the number of investigative reports published almost doubled in 2009 (60 reports, 23.26%) compared with 2008 (22 reports, 8.53%), while the number of investigative reports published in 2011 (102 reports, 39.53%) is more than four times the number in 2008. Figure 1 **Error! Reference source not found.Error!**

Error! Reference source not found.Error! Reference source not found.Error! Reference source not found.Error! Reference source not found.suggests that there is a trend toward increasing coverage over the period in the majority of the sampled newspapers.

Especially in *Southern Metropolitan Daily* and *Southern Weekend*, the number of investigative reports on environmental problems occupies more than half of the 258

reports, and dramatically increases from 2008-2011. In addition, more than 75% of reports are on environmental problems occurring outside the places where the newspapers are based.

Figure 1 The number of investigative reports on environmental problems published per newspaper over time

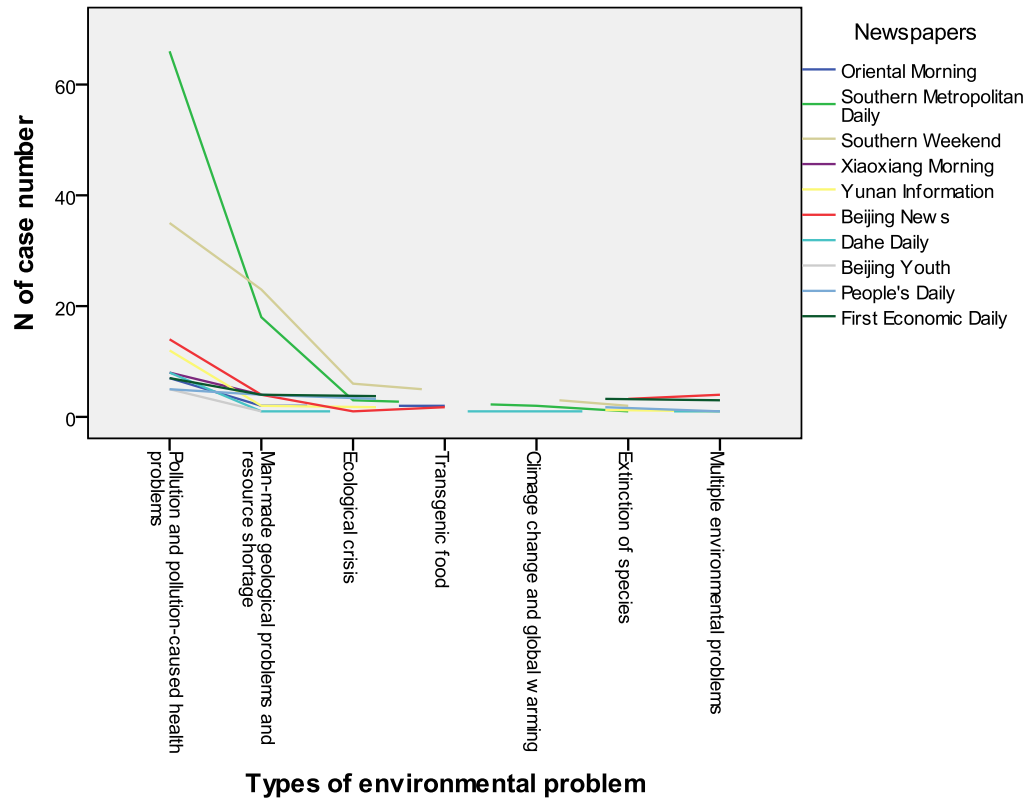


Environmental Problems as Anthropogenic Social Problems

Environmental problems are seen almost exclusively as anthropogenic problems associated with economic activities, which refer to problems that are consequences of human activities such as industrial production and distribution, mining and deforesting, rather than caused by nature, such as climate change and the explosion of

sunspots, judging from the seven types illustrated in Figure 2.

Figure 2 Types of environmental problems per newspaper

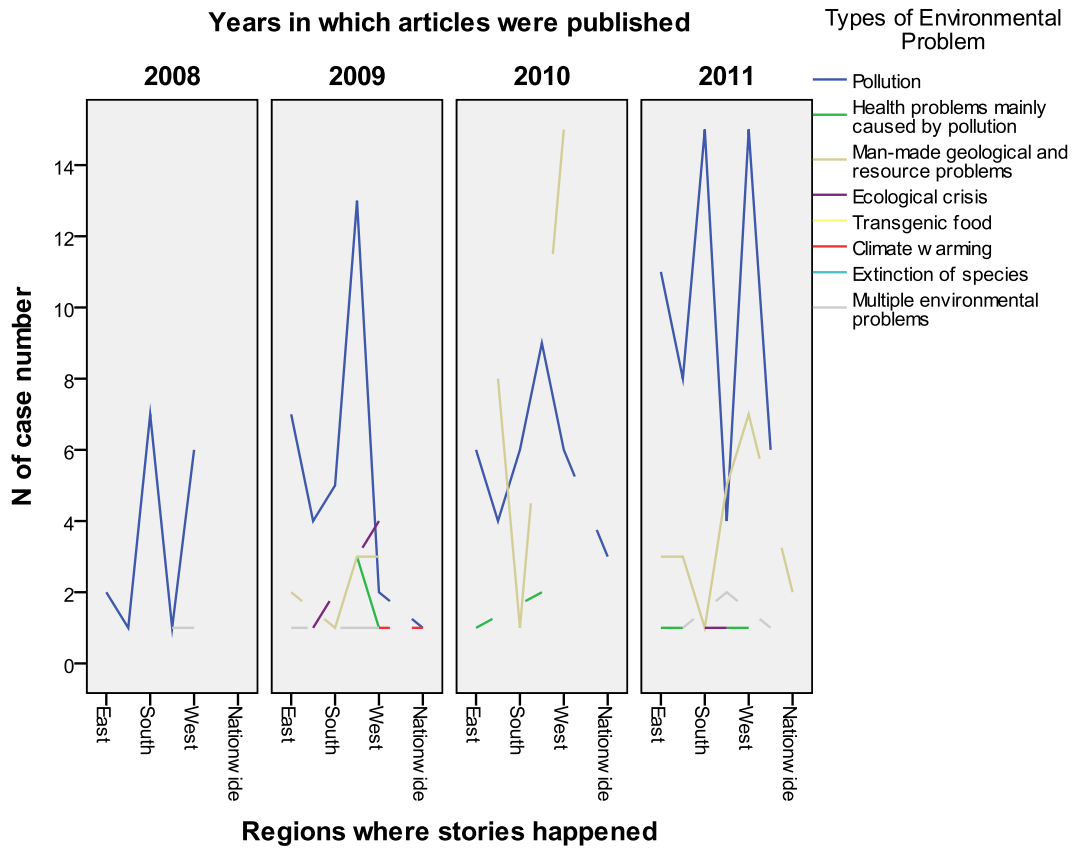


Pollution (e.g. river, soil, air pollution) and associated health problems (especially cancer and high levels of lead in blood) as well as geological problems and resources shortages (e.g. geological problems caused by the building of hydropower stations) are portrayed as the two biggest environmental problems caused by human activities that are faced by the Chinese population. Other types of environmental problems that are associated with nature, such as the extinction of species, are portrayed not only less prominently but also viewed as a result of the human induced crisis. Topics like climate change and global warming, however, are extremely marginalised in these

reports.

The topics covered within the category of environmental problems have varied over the years. Figure 3 reveals a more detailed picture of the discourse of environmental problems as constructed over time. In 2008, the coverage of environmental problems very simply comprised of two topics: pollution and health problems caused by pollution, and multiple environmental problems. From 2009 onwards, new types of environmental problems appear, such as human caused geological problems and resource shortages, and associated ecological crises. Over these years, while pollution remains the top identified environmental problem, geological problems and resource shortages as a result of economic activities increasingly become pressing topics that are seen as causing risks for the Chinese people.

Figure 3 The geographical distribution of coverage classified by the types of environmental problems over time



An Emphasis on Causes and Consequences

The investigative reports stress the causes and consequences of environmental problems. All the four frames (except the morality frame)¹¹ are used frequently and prominently. From ese years.

Table , we can see the average appearance of the four frames appears closer to the ‘frame present’ end of the continuum. The consequences and responsibility frames have been used slightly more often than the conflict and human-interest frames. Besides, little difference in average appearance of each frame per year from 2008-2011 indicates that the interpretations of environmental problems have not

changed significantly over these years.

Table 2 Average appearance of each frame

The consequence frame	2.76
The conflict frame	2.33
The responsibility frame	2.40
The human interest frame	2.27

Scale from 1.00 (frame absent) to 3.00 (frame present) (Dirikx and Gelders 2010)

For these four frames, the responsibility and human-interest frames are reflected in a more reliable way than the conflict and consequences frames. Alpha values are .294 for the consequence frame (2 items), .678 for the conflict frame (4 items), .765 for the responsibility frame (3 items) and .767 for the human-interest frame (6 items). An Alpha value of at least .70 is considered as a sign of internal consistency (Dirikx & Gelders, 2010). For the conflict frame, when the item “Does the story refer to winners and losers” is removed to test which item is not consistent with other two, the Alpha value for the conflict frame increases to .768. This is to say, in the frame of conflict, this particular item is less consistent with the other three. For the consequence frame, the low Alpha value suggests the consequence of financial loss does not necessary accompany that of social consequences. The frequent and prominent use of the four frames reflects the nature of the discourse of environmental problems in the investigative reports.

The detailed interpretations of the causes and consequences of environmental problems link them to social injustice and inequality. Such an interpretation constructs a dichotomy of politically and socially advantaged versus disadvantaged people or institutions, producing a crisis discourse of the current capitalist mode of production and relevant policies. Economic development is seen as principally to blame for causing the environmental problems, while disadvantaged people are the victims of them. The investigative reports mainly blame government policies (28.9%), the needs of industrialisation and modernisation (21.2%), and the activities of commercial organisations, such as chemical factories, and individuals such as coal mine owners (37.9%), for the deterioration of the environment. Climate change/ global warming (0.6%) is not portrayed as a major cause of environmental problems. Politically and economically disadvantaged people - especially workers, farmers, peasants, fishermen, and herdsmen (32.8%) and local residents (22.8%) - as well as the eco-system and nature itself: rivers, oceans, the soil etc. (32.1%) are seen as the main victims of environmental problems.

This emphasis on causes and consequences is also supported by the frames of conflict and human-interest. In these investigative reports, three types of conflicts - conflict between environmental problems and economic reform (41.4%), conflict between the victim(s) of environmental problems and commercial organisations

(19.6%), and conflict between officials/government and ordinary residents (16.5%) - are portrayed as the primary conflicts associated with environmental problems. The majority (76%) of investigative reports also describe how individuals have been affected by environmental problems. Adjectives have been used in the descriptions of the environment in most of the investigative reports (85.7%), with a potential to cause the readers to feel compassion over environmental deterioration and environmental victims' suffering.

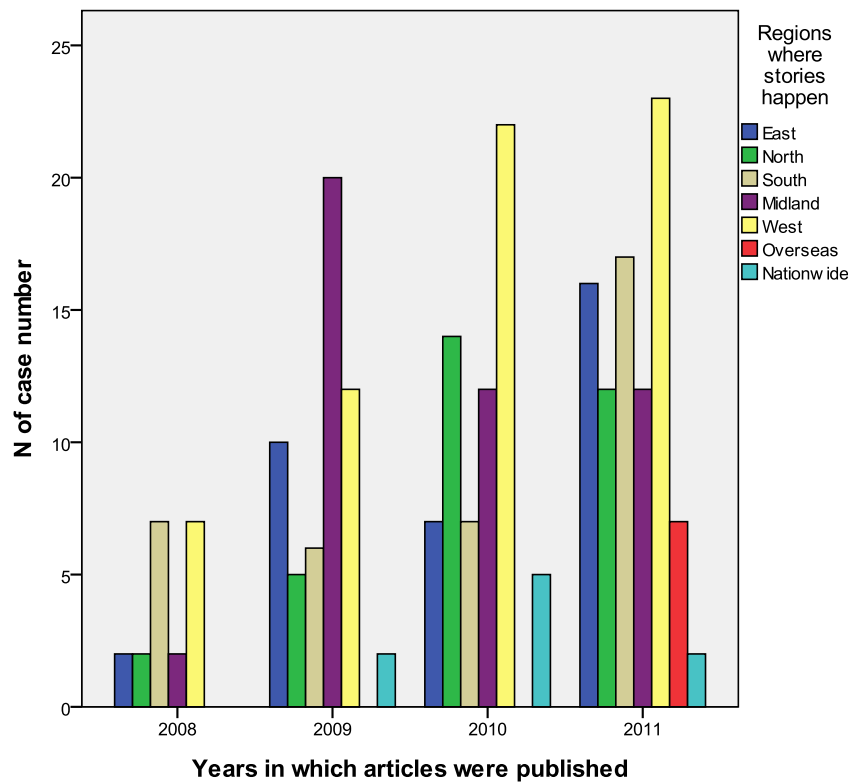
Apart from the specific definitions and interpretations, there is an interesting geographical distribution of environmental problems in the coverage, which provides more evidence for the link to social injustice and inequality – in this case, regional inequality. In fact, the Chi square value ($=.000$, significant at the 0.05 level) suggests a statistically significant relationship between the types of environmental problems and the regions which suffer from these problems. The Eastern and Southern regions that are the first to launch the economic reform programme and have benefitted most from economic development are not the areas that have suffered most from environmental problems. Only around 31% of investigative reports are about environmental problems happening in these regions. Instead, the Western, Midland and Northern regions that have lagged behind in terms of economic development are the regions that have seen the worst environmental problems. About 62% of the

coverage portrays environmental problems in these regions.

Figure 4 shows that investigative reports on environmental problems in the Western regions dramatically increase in 2010 and 2011. Similarly, the number of reports of environmental problems in the Midland regions suddenly becomes greater than before in 2009, though overtaken by attention focused on the Western regions from 2010.

The discourse of pollution as an environmental problem stretches over the four-year period, though different regions are highlighted as the most polluted in different years. Pollution is reported as the most pressing problem facing the Chinese population over the four years, except in 2009 when human caused geological problems and resource shortages emerge as the worst environmental problems. After 2008, the western region is depicted as facing pressing issues from anthropogenic geological problems and resource shortages.

Figure 4 The geographical distribution of environmental problems over time



Consistency over Time and Across Media

The media frames in investigative reports maintain cohesion over time and across media. The changes in the patterns over time have little relevance to the nature of the newspapers involved, i.e. party organ or commercial newspapers. Similarly, the differences in the degree of attention paid to environmental problems are not obvious between the two types of newspapers. Instead, it seems that it is the editorial policies and principles of different newspapers that do matter. For example, the trends reflected in **Error! Reference source not found.** Figure 1 distinguish the four most avant-garde newspapers - *Southern Metropolis Daily*, *Southern Weekend*, *Beijing News* and *First Economic Daily* - from the rest, rather than distinguishing *People's Daily* from the commercial newspapers.

The finding that the interpretations of environmental problems in *People's Daily* are not significantly different from those in commercial newspapers supports this conclusion. The low correlation between the variables of newspaper types and categories of environmental problems (Spearman's $Rho = .107$, high correlation at $> +/- 0.5$) suggests small newspaper differences between party and non-party newspapers. Specifically, the average appearance of each frame in *People's Daily* (2.75 for 'consequence frame', 2.47 for 'conflict frame', 2.35 for 'responsibility frame' and 2.05 for 'human interest frame' respectively) suggests that the way in which *People's Daily* has used the frames is only slightly different from the way all newspapers have used the frames. The responsibility, human interest and consequences frames appear in the coverage of *People's Daily* slightly less prominently than they appeared in all newspapers, while the conflict frame is slightly more prominent than in all newspapers. Overall, then, all the newspapers interpret environmental problems in a very similar way.

In terms of the coverage of particular topics within the broad category of environmental problems, all newspapers also share more similarities over the definition of an environmental problem than differences (see Figure 2). In spite of devoting different levels of attention to them, all newspapers have an interest in reporting on the topics of pollution, human caused geological problems and resource

shortages, and ecological crisis. Little attention has been paid to other environmental issues, such as climate change and global warming.

Changes in the patterns of coverage are more event-driven, matching the cycle of social events of China. There is a clear pattern of coverage along a timeline within the calendar year. Chi square test (value=.000) for variables of publication time and types of environmental problems suggests that changes in the types of environmental problems reported over time is statistically significant. Overall, March and the three months over the summer, (June, July and August) are months that see more investigative reports carried on environmental issues, while February, April and May are the least likely months to see the publication of such reports. Three main factors lead to these peaks in publication frequency. First refers to newspapers' special issues on environmental problems, such as *Yunnan Information*'s special reports on pollution in the Dian Chi Lake in July 2008 and *Southern Metropolis Daily*'s special issue on pollution in rivers in Guangdong in June 2011. Second is environmental events, such as the pollution of the Dasha River in March 2009, the Zijin Mine Company in July 2010, Liuyang in August 2009 and the oil leak in the Bohai Sea in August 2011 and third is natural phenomena and disasters, such as the repeated appearances of drought and haze in March every year and of Cyanobacteria during the period of time from June to August. This suggests little evidence of political or commercial interference

with media coverage on environmental problems.

In sum, investigative reports have been found to frame environmental problems in a way that criticises and opposes the national priority for economic growth, which is thought to have deepened social inequalities. Environmental problems, especially pollution, have been portrayed as a major risk, threatening not only the health of but also the wealth and human rights of ordinary people, especially those who are politically and materially disadvantaged. Governments and their prioritisation of economic growth are held to account for environmental problems. Although not directly proposing that local and central governments stop the economic development program, investigative reports have urged them to reflect on the consequences of the economic reform program and the current capitalist mode of production, and appealed to them to take responsibility to resolve these problems. The economic priority and policies of the Chinese government, such as the Great Development in the Western region, and the wave of construction of dams, hydro-electricity and other projects, have been reflected on and even criticised. Most environmental problems take place in local regions other than the places where these newspapers are based. Environmental problems are framed as social problems rather than problems about nature, and are seen as having resulted from China's economic modernisation. Environmental problems are linked to the social injustice and inequality that Chinese

society is experiencing. Sympathy has been expressed toward politically and materially disadvantaged people, especially those who live in rural and remote areas.

This discourse is consistently developed over the four-year time period and across all the sampled print outlets. The difference between *People's Daily* and the commercial newspapers is not significant. But all newspapers have spoken in one voice in interpreting the causes and consequences of environmental problems. Four out of the five frames developed by Semetko and Valkenburg (2000) have been found to be used very prominently in this case. This result does not differ very much from those in other previous studies, such as the British and Danish contexts (Semetko & Valkenburg, 2000; Dirikx & Gelders, 2010). Little evidence of political and commercial influences, which can usually be observed in China as a result of the structures of media control, has been found in this case. This, of course, may be influenced by the nature of the sample and thus future research is necessary to explore this further.

Discussion and Conclusion

The above analysis reveals a reflexive discourse constructed by newspaper investigative reports to portray environmental problems as a warning signal and to advocate the creation of a safe environment for humans and animals. Nature has been

portrayed neither as the “enemy” of human beings in Mao’s terms nor as infinite. Instead, nature is presented as vulnerable to human activities and opposite to development. The damage to nature in turn will have negative consequences for humanity and society. This is exemplified in the prominent conflict between economic development and environment constructed in these reports. Besides, the localness of environmental problems fades into the background when they are interpreted as problems caused by economic reform and modernisation.

Rather than singing a harmonious song with the current institutional discourse of development, these investigative reports thus have constructed a critically reflexive discourse of economic modernisation, potentially arousing the awareness of the public over environmental problems and their causes - the capitalist mode of production and current economic and social policies. Environmental problems pose a risk not only to the environment and human health but also to the society as a whole. Environmental problems are portrayed as linked to social problems such as social inequalities. Both of them result from economic growth and in turn are risks to Chinese society. In effect, the warning bell of environmental risk has been rung through media coverage. The prominence of the reflexive discourse in newspaper coverage is an indicator for reflection over economic development in Chinese society. Such reflexive considerations toward the current national priority for economic growth and the

current capitalist production mode could potentially lead Chinese society to transformation.

In this case, reflexivity manifested in newspaper coverage suggests an advocacy role for Chinese investigative journalism in portraying environmental problems in a reflexive manner that opposes and criticises China's national priorities. This reflexive discourse indicates investigative journalism serves as an agent that facilitates the potential for minimising the risk of economic development to Chinese society. Nevertheless, this neither means the Chinese government's media control is dysfunctional, nor represents the whole situation in China. This is what the ten newspapers that are well known for investigative journalism have portrayed. To understand why a discourse like this is constructed in newspaper coverage and whether we can find similar discourses in the coverage of other news media requires further research. For example, it will be helpful to conduct interviews with investigative journalists about their practice or a content analysis of different genres of environmental reports. Newspaper readers could also be interviewed in order to examine their perceptions of environmental issues and their responses to investigative reporting. The remainder of this article will only touch on some explanations for the occurrence of discourse of this kind, drawing from the implications of evidence in the social context.

It is important to acknowledge the limitation that this study is based upon an analysis of investigative reports in newspapers and the Internet is becoming an increasingly important source of news¹². From 2008 to 2011, the Internet-especially social media sites- has played an active role in China's political and public life. The rise of the Internet allows ordinary people to speak up critical or dissenting voices on social or environmental issues, as exemplified in the cases of "Collective Strolls" and Wenzhou high-speed train accident in 2011 (Goldkorn, 2012; Davies, 2012). Internet users can access information about environment online and discussions surrounding environmental problems put governments under pressure. For example, the case of PM2.5 discussed above is a prominent example of this. Thus more opportunities are created for environmental problems to be exposed.

As discussed already, environmental problems are an arena in which more journalistic autonomy is permitted than in other areas. It is not only because the central government has realised the importance of sustainable development and the irreversible consequences of environmental problems, but also because most environmental problems are local issues rather than national issues. The decentralisation of government relationships means that environmental reports of this kind can be embraced by the central government as a gesture of proactively dealing with local problems (de Burgh & Zeng, 2011). This explains why the majority of

reports are about environmental problems occurring outside the region where the publication is based. Obviously, investigative journalists have made good use of the contradictions existing in social logic about the environment and nature, the central government's paradoxical attitudes toward environmental problems, and the decentralised media-government relationship in China.

Besides, environmental problems are among topics the public care much about¹³. For this reason, news organisations encourage reporting on environmental problems to maintain their pro-people images. The judgement of readers' needs is exemplified in the marginalisation of the topic of climate change. That is, environmental problems on the international level are perhaps judged as not in the interest of local readers. The nine commercial newspapers are all well known for their critical investigative reporting. Their editorial policies recognise themselves as metropolitan newspapers and stress journalistic independence, social responsibility and the importance of speaking for the people. For example, the slogan of *Xiaoxiang Morning* indicates its endeavours to give voice to the people, help maintain social justice and report the truth. This editorial approval of populist ideologies is also a corollary of tuning in to the needs of the market. As the most important party organ, *People's Daily* needs to contribute to the construction of a self-reflexive image of the ruling party. However, it is noticeable that *People's Daily's* investigative reports represent a small proportion of

the sample while the majority of the sample is covered by non-party newspapers-especially *Southern Weekend* and *Southern Metropolitan Daily*. This may influence the findings to a certain extent.

Understanding the reflexive discourse also requires a consideration of the influence of the survivalism discourse of the environment, which China has developed alongside the dominant Promethean discourse of the environment associated with economic modernisation. Whereas fervent advocates of modernisation stick to a Promethean philosophy of ‘men conquer nature’, these investigative reports echo the survivalism view of finite resources and warn of negative consequences and repercussions of overheated enthusiasm for economic growth on the environment. In this sense, the discourse constructed in investigative reports has an origin in and gains some justification from the survivalism discourse of environmentalism. For this reason, it is relatively safe to report environmental problems in this particular way that has been described in this paper.

Acknowledgements

This research was funded by the British Academy (Ref: RV100029). The author would like to thank Barrie Gunter, Maria Touri, three anonymous reviewers and editors for their valuable comments.

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Notes

¹ This is a political and economic campaign in 1960s' China initiated from top-down with an aim of rapidly realizing industrialization and economic modernization.

² The economic reform was set off in the 1980s by Deng Xiaoping.

³ Since 1994 when the first environmental NGO, the Friend of Nature, was established more than 2000 environmental NGOs have been launched in China. See http://www.qstheory.cn/zz/yjzy/201108/t20110803_99296.htm (accessed 9 June 2012)

⁴ <http://www.nytimes.com/2007/08/26/world/asia/26china.html?pagewanted=all> (accessed 9 June 2012)

⁵ For example, in 2001, a survey with *Beijing Youth* readers revealed that environmental pollution most captured readers' attention (Zhang, 2004).

⁶ A report is classified as an investigative report, if 1) it involves an extensive investigation; 2) longer time and more money is needed to complete the investigation than in daily reporting; and 3) the investigation and findings will expose some information hidden from the public's eyes and arouse the awareness of the public on an issue that might be otherwise ignored.

⁷ See relevant discussions in news media, such as "Weibo alters China's environmental debate" in *Financial Times*, March 4th, 2013.

⁸ Commercial newspapers means these newspapers need advertising and subscription revenues to support their operation. With the exception of *First Economic Daily* and *Oriental Morning*, that focus on reporting on economic and financial issues, the other seven newspapers are metropolis newspapers that cover stories on all kinds of topics. In fact, both *FED* and *OM* have also reported on a lot of social issues. For example, *OM*'s investigative reports on Sanlu milk powder scandal in 2008, and the Wenzhou train crash accident in 2011, gained much publicity for this newspaper.

⁹ The reason to use the combination of keywords is to avoid the researchers' personal schema about environmental problems and to cover as many investigative reports on this topic as possible. For example, if "pollution" is used as the only keyword, more likely the sample will only obtain articles mentioning "pollution". However, environmental problems could be something else, as most reports would not include

the exact words “environmental problems”.

¹⁰ The reason to include the morality frame is that religions, such as Buddhism and Daoism, used to be dominant ideologies in Chinese history, though the present political leadership discourages religious practices and worship.

¹¹ The data show there were no confirmed answers to the three questions under the morality frame. In fact, no investigative reports contained moral messages at all. Therefore, this frame was deleted from further analysis.

¹² For example, over 80% of netizens in China regard the Internet as their main source of news, according to *The Internet in China Whitepaper* published by the State Council Information Office in 2010.

¹³ According to China’s Public Environmental Livelihood Index in 2006 published by Environmental Protection Bureau (now Ministry of Environmental Protection) of the People’s Republic of China.