

Relationships between Government and Media in S&T Crisis Communication: A Study Based on Cases of S&T Crisis in China

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Abstract—Since the beginning of the Industrial Revolution, science and technology have been making a profound impact on every aspect of human society. While scientific and technological progress has provided various modern conveniences, it has also brought negative effects on human life. People have become increasingly aware of the role science and technology play in environmental pollution, ecological damage and weakened social morality, and their questioning of science and technology per se has led to what is termed the crisis in science and technology. The government, media and public are three basic elements for S&T crisis communication. They interact and game with each other and yet are so close to each other as to form a whole system. In S&T crisis communication, therefore, information transfer between the government and public is equally as important as communication between the government and media. The government is the source of information. In resolving crisis, it should use the platform and communication channel offered by the media to provide the public with adequate scientific information in a timely manner, as this is crucial to reassuring the public, mobilizing its strength, building popular trust in the government, and raising the credibility of the media. This paper defines S&T crisis as well as its causes and categories, analyzes the interaction among the government, media and public, and addresses the following issues: the separate functions and the interrelationship of the government, public and media in S&T crisis communication; their interactive behaviors as reflected by media coverage; how to help create a positive pattern of S&T crisis communication involving the government, public and media.

I. INTRODUCTION

One prominent feature that distinguishes modern society from ancient society is that modern society has a bidirectional dynamic loop structure, namely "Life - Science - Technology - Life". This structure began to take shape with the birth of modern science, which means life is both the origin and the destination of science and technology. The maintenance of its dynamic equilibrium has become indispensable to the positive operation of modern society, for its internal imbalance will lead to, among other things, crisis in science and technology, a phenomenon that is specific to modern society. In the 21st century, human society has entered another great revolutionary era in which a new technological revolution is profoundly changing the mode of life and production as well as reshaping the social structure throughout the globe. Therefore, a careful reflection on the relationship between life and science and technology seems to be more urgent today than at any time in history.

A. The characteristic of S&T crisis

(a) *Sudden unexpectedness*. As a general rule, S&T crisis occurs suddenly and unexpectedly so that it is virtually impossible to get prepared for it or make a timely response. Just as we cannot yet accurately forecast tsunamis, volcanic eruptions, earthquakes and some other natural disasters or prevent outbreaks of new types of bird flu and BSE, so we cannot avoid getting caught off guard by S&T crisis. As modern communication and transportation have sped up information transmission, S&T crisis-related incidents tend to propagate faster and their impact becomes more severe.

(b) *Destructiveness*. People will be frightened and even traumatized by the critical incidents that disrupt the normal order of life, threaten their health and lives or take a heavy toll on society at large. Hence, we define S&T crisis-related incidents as being destructive. Whenever there is a sign of such an incident, an effort should be made to make a correct forecast, provide early warning, and conduct a timely intervention and handling so as to effectively control the spread of damaging rumors and prevent the incident from becoming an event that affects national security and social stability.

(c) *Relevance*. An S&T crisis is also a social one. It occurs in a particular social context rather than in isolation." The butterfly" - in this case an error in communication—generated amplifying effects that had unexpected outcomes leading to a crisis and creating "problems for the space agency ... that still linger today. [2] The SARS epidemic of 2003 was one of the most serious public health crises of our times. The event, which lasted only a few months, is best seen as a warning shot, a wake-up call for public health professionals, security officials, press releasing mechanism, economic planners, and policy makers everywhere. [1] Furthermore, the related issue of SARS led to corresponding changes in political, economy and culture territory in China.

(d) *Publicness*. Publicness is a hallmark of a crisis-related incident. At first, the impact of such an incident may be limited in scope, involving only a particular field or a particular social group, but eventually it will extend to the common interests of the general public by virtue of the continued propagation of the incident. The 2008 Chinese milk scandal was a food safety incident in China, involving milk and infant formula, and other food materials and components, adulterated with melamine. Milk scandal finally evolved into a national wide S&T crisis in China. Followed up by publicity of crisis, legislation, regulatory system, supervisory system approaches to systemic risk, and corporate social responsibility awareness. [8]

(e) *Stimulation*. The destructive in S&T crisis bring strong stimulation into human spirit, even though overwhelm our senses. There is a saying in media “Dogs bites men cannot be recognized as news whereas dogs are bites by men can be”. Public would rather pay attention to abnormal incident than normal one. From the beginning of crisis to its development, the whole society is under the disorderly operational situation while the expression of crisis is hard to public to accept so that crisis absorbs much attention from public.

B. The Classification of S&T crisis

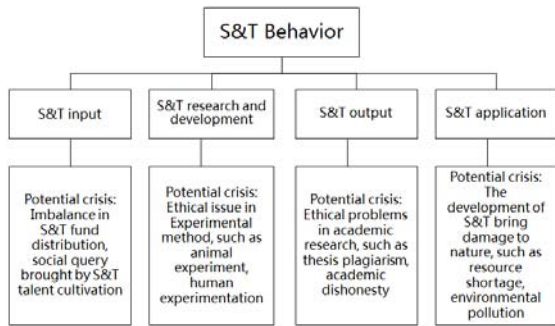


Figure1: the classification of S&T crisis

C. The definition of S&T crisis communication

In its most basic form, S&T crisis is the absence of certainty. If we are absolutely certain of the results and action will produce, that action has no crisis. In reality, we rarely, if ever, have the luxury of absolute certainty. The ultimate purpose of crisis communication is to avoid crises in the development of S&T. S&T crisis communication happens during and in the wake of the real crisis event. Crisis responders focus their communication on the events at hand and on what must be done immediately to resolve or contain the crisis. Once the crisis has passed, communication shifts back to understanding what went wrong and how the risk of future crises can be limited. In short, crisis communication focuses on containing and recovering from a dangerous event. [6] From the review of analysis based on S&T crisis, the paper defined S&T crisis communication as the communication centered around specific scientific incident which has occurred and produced harm. The messages regarding current state or condition involving the magnitude of S&T disaster, immediacy, the duration of its influence, remediation from government, S&T area, media and NGO, the cause, whom is to blame and the consequences after crisis. The content of communication based on what is known and what is not known. The main function to mediate is to use press conferences, press releases, speeches, Web sites.

D. Government in S&T crisis communication

Government agencies have a long history of a “public information model of communication that stresses the one-way dissemination of information”. [4] From its birth, a

government has a dual role to play: a country’s governing body that has public administration power and performs public services and an institution that represents the fundamental interests of the economically dominant class in the country. In China, the government departments involved in S&T crisis communication include the Ministry of Science and Technology, the Ministry of Education and organizations like the National Natural Science Foundation of China which subsidize major scientific projects. It should be noted that research and higher education institutions that receive state appropriations are also on the side of the government in S&T crisis communication. The government plays a major part in S&T crisis communication. It is the source of information and controls the content of communication. For its vital interests, it balances costs against benefits based on its internal and external environments and chooses the most profitable plan from numerous options for implementing S&T crisis management in order to safeguard its own legitimacy and economic interest. In this case, the government may act in a way that is contrary to public expectations.

E. Media in S&T crisis communication

As science communication is created and disseminated about S&T crisis, it’s meaning changes: perceptions of crisis may be amplified by mass media. Social amplification of risk also can compound the problem by creating even more variance in perceptions of risk. Such amplification, for example, may occur through media reports or through casual social conversations. In China, the media is the most important channel of information in S&T crisis communication, connecting the government with the public. Generally speaking, the media can have two different types of relationships to the government. One is a subordinate relationship. This occurs when the state monopolizes all social resources and the public can only be exposed to the media through government-controlled channels of communication. In this case, the media is identified as an official mouthpiece and depends on governments at all levels for its existence with no autonomy and no subjectivity. In S&T crisis communication, it can be regarded as part of the government. The other type of relationship the media can have to the government is an autonomous one. Here the media has the nature of an independent industry with economic independence and the ability to play an independent role in social affairs. In S&T crisis communication, it functions on its own and may even game with the government for benefits.

The media referred to in this article includes not only traditional media, such as newspapers, radio and television, but also various kinds of Internet-based new media. As globalization proceeds, overseas media is playing an increasingly noticeable role in S&T crisis communication. With a widening range of exposure to the media, the public now has increasingly diversified information channels. In S&T crisis communication, the media is also viewed as a

source of information because it is a route of communication with the right to choose the content of communication.

F. The interaction between government and media

With the increasing emergence and development of new media, the media will play a more and more important role in S&T crisis communication. In S&T crisis events, there is a big difference between the media and the government in terms of how and from what standpoint to deal with crisis information. During the process of S&T crisis communication, the media can ask for help from third-party NGOs. Sources of S&T information for the media can include not only scientists or related scholars but also non-governmental profit-making organizations that communicate science, such as Science Squirrels, which originated from a popular science blog and won the Best of Blogs Public Awards by Deutsche Welle in November 2008. With the help of new media, the public has become a newly emerging and fast-growing force in S&T crisis communication.

In this age of new media, the public has gradually gained a dominant position in S&T crisis communication, breaking the previous pattern in which the government controlled all crisis information and moderating government control of crisis information dissemination.

From the following figure2, where S&T crisis communication includes both cooperation and game playing between the government and the media, the government cannot act arbitrarily, though it has its own communication

channels that are distinct from the ones used by other organizations or individuals. Instead, it needs to collaborate with the media and fully integrate media resources in order to conduct more effective S&T crisis communication. Indeed, it is crucial that the government interact and share information with the public. Only then can the government fully engage the public's voice and contribution in S&T crisis communication, manage to become the dominant voice amid conflict and compromise in the current double discourse space, and finally resolve the crisis by communicating and consulting with the public in the process of collecting and guiding public opinion and reaching decisions.

II. THE CASE STUDY AND DICUSSTION

For a long time, the logic of the Chinese media's operation has been set by politics. The logic of the media is determined by that of politics. Since Chinese media system is state-owned, all the mass media are state property. For instance, China Central Television (CCTV), the main state broadcaster, is directly controlled by the Chinese Communist Party and the government. Other media belong to either such major media, and government organs, or organizations led by the Party. [10] For a long time, therefore, the Chinese media have served as the mouthpiece of the Party and government. Their performance depends largely on the governance style of the government. [7] In the past, the guiding ideology for the release of information about crisis incidents in China went as

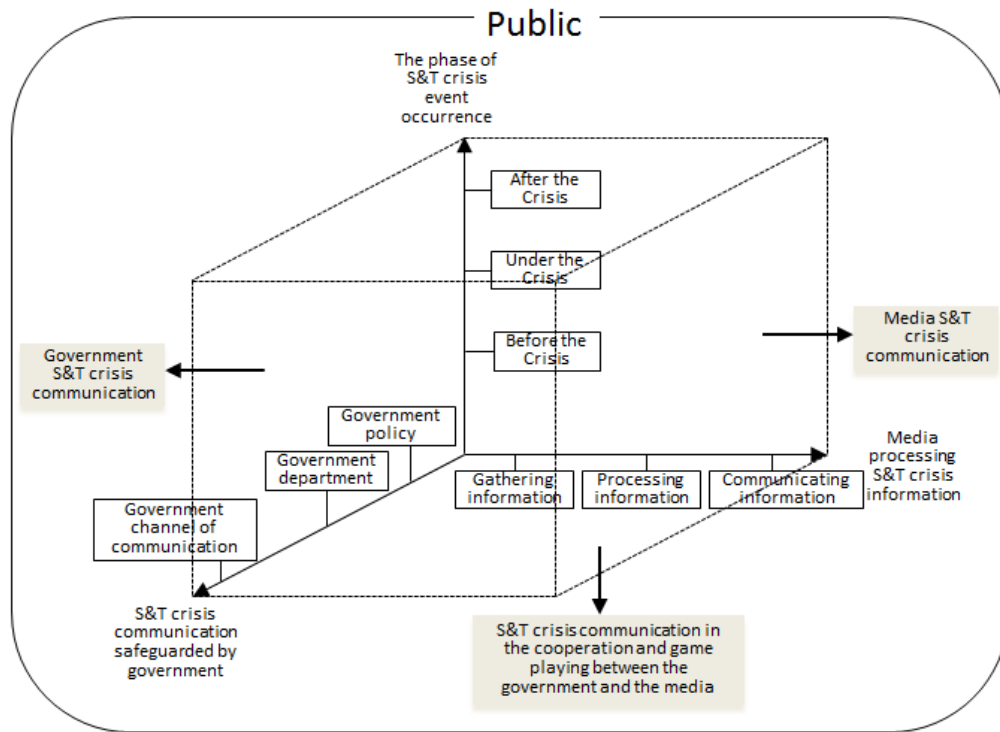


Figure2: Diagram of relationship among government, media and public in S&T crisis communication

follows: to avoid creating social panic and chaos, a responsible government should refrain from releasing any news casually before finding out the cause and effect of such an incident, otherwise it would fail to perform its responsibility towards the people. This outdated idea of controlling information was based on a traditional system known as “omnipotent government”¹. After the founding of the People's Republic of China (PRC), the State wanted to take care of its people in terms of birth, old age, sickness and death. There were no clear boundaries defining such subjects as government, individuals and the market. When faced with a hot potato, the government still assumed that it could resolve everything. Once it failed to do so, the media could not disclose the fact for fear that the image of the party and government might be affected.

In the era of globalization, with the frequent movement of the population and the wide use of new communication technologies in the whole society, the forms of media have also diversified. You can refuse to report a story, but you cannot prevent other countries from reporting it, nor can you completely stop it from being spread via the Internet, telephone, mobile phone, mail or other forms of interpersonal communication. On May 1, 2008, the Act of Government Information Openness was enacted in China. To date, it has been in force for over 3 years. The concept of information openness has turned into reality in China. Openness is the norm and concealment can only be an exception. If the authoritative organ of power fails to publish the truth as soon as possible, information will most likely be distorted and disintegrated though multi-level communication, thereby destabilizing society. Under the circumstances of globalization and marketization, the system of management and control which used to seem valid will become useless. Therefore, one of the responsibilities that the current government must undertake is to provide objective information to the public immediately instead of waiting till things are properly handled.

A. Rational and professional media coverage leads to positive social effect

In 2010 the Chinese government launched a national “Intensified Measles Immunization Campaign” that included cooperation with the media by organizing news events, press briefings and training for journalists. [3] The Chinese Health Ministry’s decision to launch the nationwide intensified measles vaccination campaign in Sep, 2010 was based on the incidence of measles in recent years in China, experience in measles control and elimination both at home and abroad, the scientific verification by domestic and foreign experts, as well as article 31 of Vaccine Circulation

and Vaccination Regulations, which says that nationwide or trans-provincial, trans-autonomous regional or trans-municipal mass vaccination is subject to approval from the competent department of health of the State Council. When the nationwide intensified measles vaccination campaign was underway, there appeared challenges to it on the Internet. The government did not take an evasive attitude towards this. Instead, it made efforts to ensure the transparency and openness of information so as to let the public know the truth.

B. How did the Chinese government cooperate with media in the 2010 vaccination against measles?

On January 6th, 2010 Health News published an article entitled “The Focus of This Year’s Health Work”. According to the article, Chinese Health Minister Chen Zhu pointed out that it was essential to accomplish the important tasks in health care reform in this pivotal year. He demanded that in order to achieve the ultimate goal of measles elimination, every effort be made to implement the action plan for eliminating measles this year, carrying on the vaccination campaign to the end throughout the country.

On February 12th, 2010 “Chen Zhu’s Work Report at the National Health Work Conference in 2010” was posted on China’s Ministry of Health Website. In the report, Health Minister Chen Zhu pointed out that “the action plan for eliminating measles” was a very important health task in 2010 as it was related to the people’s livelihood

On April 8th, 2010 “The 2010 Inoculation Work Notice” issued on China’s Ministry of Health Website pointed out that the 2010 inoculation work would focus on continuing to implement the Expanded Program on Immunization (EPI) and carrying out a nationwide measles immunization campaign.

On April 15th, 2010 “The 2010 Inoculation Publicity Week Notice from the General Office of the Ministry of Health”, which was issued on China’s Ministry of Health Website, calls on the departments concerned to successfully stage the Publicity Week, whose theme is, “You and Me Together - Measles Elimination and Hepatitis B Control”.

On April 22, 2010 China’s Ministry of Health and WHO held a joint news conference whose theme was “measles elimination and hepatitis B control”. At the conference they gave an account of related working plans.

On July 16-17, 2010 China’s Ministry of Health held a training course for media in policy knowledge about immunization, the trainees being reporters on the beat and editors in the principal news entities of the central government.

On July 26, 2010 “Knowledge Points of Intensified Measles Immunization” was issued on China’s Ministry of Health Website to provide the knowledge of measles vaccine and strengthened immunity to the public.

On July 29, 2010 China’s Ministry of Health issued “The National Measles Elimination Action Plan for 2010-2012” and “FAQ Concerning the National Measles Elimination

¹ The speech made on Dec. 25, 2009 by Chen Lidan, a professor from Research Center of Journalism and Social Development of People’s University of China, at a forum on how central state organs guide public opinion through the Internet.

Action Plan for 2010-2012” on its website and arranged for media coverage.

On July 29,2010 National Working Conference on Measles and Malaria Elimination was held in Guiyang, the capital city of Guizhou province. After the meeting, Chinese Health Minister Chen Zhu and WHO Director-General Margaret Chan met the press and answered reporters’ related questions.

On August 2,2010 ”The 2010 National Measles Elimination Action Plan” was issued on China’s Ministry of Health Website to give a briefing on this national intensified measles immunization campaign.

At the beginning of August of 2010,China’s Ministry of Health Website and Chinese Center for Disease Control and Prevention Website set up a special website for the intensified measles immunization campaign and put special personnel in charge of its update and maintenance.

“The Notice from the General Office of the Ministry of Health on Press Publicity for the Intensified Measles Immunization Campaign”, which was issued on August 26/2010, calls on various regions across China to do a good job in press publicity work, carry out health education energetically, and guide public opinion correctly. On the same day, a training course called press publicity and risk communication regarding the intensified measles immunization campaign was held in Cheng Du, the capital city of SiChuan province, for the leaders of the provincial health administrative department and the press publicity heads of other relevant departments, in which the press publicity and risk communication work was deployed.A media briefing on the intensification of measles immunization was held on September 1, inviting relevant leading officials and experts to detail what the intensified measles immunization campaign entailed and answer journalists’ questions.

On September 2, 2010 “Q&A about the National Intensified Measles Immunization Campaign” was issued on China’s Ministry of Health Website. It was designed to explain the objective and importance of the national intensified measles immunization campaign and provide such information as cautions in vaccination and vaccine safety.

On their blogs, 2010 Someone wrote respectively that “I am urgently appealing to parents to carefully consider the requirement that 100 million children receive additional vaccination soon, for the vaccines to be used in this mass immunization campaign were manufactured in the United States and poisonous” and that “I hope it will immediately be clarified whether Chinese children have the right to reject mysterious vaccination. To promptly clear away the confusion that was caused by such untrue blog articles, China’s Ministry of Health Website issued an FAQ concerning related hot-spot issues on September 5.

On September 6,2010 “6 Hot Questions About Intensified Measles Immunization” was issued on China’s Ministry of Health Website. It included a Q&A about such matters of public concern as the significance of the campaign, the source

of the vaccines, the policy regarding intensified measles immunization, repeated vaccination and the effect of vaccination.

On September 7, 2010 the Chinese Center for Disease Control and Prevention organized domestic and overseas experts to conduct an online interview. The News Office of China’s Ministry of Health arranged for major state and Beijing media to join in an expert Q&A session after the interview and requested various major websites to carry the interview.

On September 8,2010 experts from the Chinese Center for Disease Control and Prevention participated in CCTV’ s program “News 1+1 ”, answering hot questions about matters of public concern.

On September 9, 2010 CCTV’s program “Topics in Focus” featured measles vaccination, introducing the audience to the arrangements for intensified measles immunization and related knowledge.

On September 9, 2010 “6 Hot Questions About Intensified Measles Immunization” was reissued on China's Ministry of Health Website. It also included a Q&A about such matters of public concern as vaccine transportation, the age bracket, consultation channels, repeated vaccination, adverse reactions, and international comparison.

On September 10, 2010 China's Ministry of Health by means of opened regular press conference once again answering hot questions about matters of public concern of intensified measles immunization.

On September 10, 2010 China's Ministry of Health took advantage of a regular news conference to make answers again to hot questions about matters of public concern in relation to the upcoming intensified measles immunization campaign.

On September 10,2010 Health News carried the articles entitled “Nationwide Concerted Action for Measles Elimination” and“ Vaccine Safety and Emergency Measures Are Ensured” in its page 8 column “Weekly Watch”, along with information about relevant links such as “Q&A about Vaccination”.

On September 14,2010 Health News published the article “National Intensified Measles Immunization Work Proceeds Safely and Orderly” reporting on the national teleconference held by China’s Ministry of Health on the afternoon of September, 13,2010. At the conference, Chen Zhu and Zhang Mao made further work arrangements and requirements concerning vaccination, according to which, various regions shall put special personnel on round- the-clock duty over the course of measles vaccination, keep information unobstructed, and report on the progress of the work on a daily basis as required.

On September 16, 2010 Health News published its commentator ’s article “The Safety of intensified Measles Immunization Is beyond Doubt” on the front page and some related articles such as“ Further Expert Help in Clearing Up Doubts about Intensified Measles Immunization” in other prominent positions.

On September 16, 2010 Health news re-published headline article commentator article "Necessity of intensified Measles Immunization was beyond controversy". At the same day, Health news 8 version "weekly watch "re-attention "intensified Measles Immunization"

On September 17, 2010 Health News' front page carried its commentator's other article "Necessity of Intensified Measles Immunization Is beyond Controversy" and its page 8 column "Weekly Watch "concerned itself again with "Intensified Measles Immunization".

C. Irrational and unprofessional media coverage leads to negative social effect

When an S&T crisis breaks out, the government's instinctive reaction is often to take passive measures such as avoiding media inquiries as it will investigate and collect evidence before issuing its response. This can lead to a chain reaction, part of which is the rapid breeding and spread of rumors. If so, the government can be said to have voluntarily given up the opportunity to form its first line of defense. The 2008 Chinese milk scandal is a case in point. The scandal broke when melamine-tainted baby milk powder produced by Sanlu was found to have caused the deaths of at least six children and sickened some 300,000 children. Due to the deficiency of media coverage in crisis communication of milk powder, the milk powder crisis made a very negative effect on the whole society. Given the lack of legal regulations to follow, after a serious food safety issue occurs, the government can only tackle it by ad hoc administrative measures, instead of jurisdiction. [8] In the said milk scandal, the government failed to promptly verify through scientific evidence that there were toxic elements in the milk powder and failed to take immediate action, so that there was a significant delay for media coverage. As a result, in the following months, the toxic milk powder continued to harm the health of a large number of infants, resulting in a sharp increase in the number of "kidney stone babies" and even graver consequences.

It is crucial that the mass media maintain its proper relationship with the public. The media has been entrusted by the public with a role as a public opinion supervision instrument. However, once it becomes a toy for business and entertainment, life and health will be just easy-getting accompanied discourse. Such low-standard media will find itself incompetent to cover stories in advanced science sectors like bioscience, which require a high level of accumulated knowledge and professional ethics of their institutions and personnel. In fact, there are already numerous cases that can illustrate this.

Many Chinese people know Zhang Wuben as "Beijing's most expensive traditional Chinese medicine doctor". His lectures on "diet therapy" have been broadcast by several TV stations and sold on DVDs at 200 RMB apiece. His book, a verbatim transcript of the lectures, entitled *Eat Away the Diseases You Get from Eating* has topped the bestseller lists for weeks on end. Nationwide sales of his book, including

DVDs, have surpassed 3 million RMB. However, Officials with the Ministry of Health confirmed that the nutritionist qualification of Zhang, a retired textile worker from Beijing, had been faked. The announcement came a day after an urgent inspection by health, industrial and commercial watchdogs of Zhang's clinic in the city, leading to the closure of his clinic, Wubentang. A medical expert with the China Health Education Center said that the media should raise the threshold of publishing health-related information to the public. They need to make sure the medical experts they've invited have real qualifications, and the health-related content they publish should also be assessed carefully².

One would think that media reports with little or no scientific basis like these could be easily seen through by the sharp-eyed media community, but the truth is that although such reports have repeatedly prove false, they are still highly sought after within this community and that is the core of the problem. With the rapid growth of China's economy, the Chinese public is becoming more interested in scientific and technological knowledge year by year. If the media merely acts out of self-interest and covers stories based on pseudoscience, there will be more and more S&T crises.

III. CONCLUSION

According to the table1, of the major state institutions in China, the military is most trusted by the public and the science and technology community comes second.

In the view of case study and the public's rating of the credibility, we can figure out that media plays a key role in the perception, management and even creation of crisis. More recently, with the adding of new media, including the Internet and mobile phone, as the major source of information for many people, the interrelations between media and crisis are becoming even intricate. [5] Government should realize the mutual influence between the media and crisis. The reason why many S&T crisis events evolved into something that created a social panic, disrupted normal social order or even endanger society is just because the government either failed to issue the news releases it should have issued, or issued them too late or inadequately.

News releases are designed not only to disclose and make public some information, but also to help realize the public's right to know, to participate, to express, and to supervise. By making an effective effort to release news in the process of handling a S&T crisis, the government to some extent defines its power boundary. And the clear-cut definition of this boundary not only helps build a sunshine government but also promotes the public's supervision of the power operation of the government. The best practical S&T crisis communication concerns how government interacts with media. When considering any S&T crisis, scientists as well researchers or other scientific groups will likely serve as sources of information. Openness can help build trust and

² http://www.globaltimes.cn/china/society/2010-05/536844_2.html

TABLE1: THE PUBLIC'S RATING OF THE CREDIBILITY OF STATE INSTITUTIONS OR DEPARTMENT [9]

Survey respondent	Number of people in survey	Credibility rating	Ranking
Military	909	7.88	1
ScienceandTechnology community	905	7.50	2
Media	969	6.78	3
Education community	982	6.78	4
Academiccommunity	799	6.72	5
People's congress	902	6.63	6
Large enterprise	894	6.60	7
Courtofjustice	912	6.44	8
Procuratorial organ	901	6.42	9
TheChinesePeople'sPoliticalConsul tativeConference	836	6.37	10
Medical community	987	6.13	11
Public security organ	964	6.13	12
Religiouscommunity	733	6.07	13
Government agency	977	5.82	14
Average	—	6.59	—

promote a sense of collaboration and risk partnership between government and public. As a best approach, meeting the needs of the public and remaining open and accessible serves a variety of goals including promoting self-efficacy, building trust, and ultimately facilitating convergence.

S&T crisis communication makes demands on the government. How can the government guide public opinion and avoid rumors if there is no dissemination of information and media coverage? Given the governmental media management mechanism in China, the country's government can guide public opinion via the media. In the process, consideration should also be given to choosing the most effective media types and guiding methods. From past experience in S&T crisis management, the best course of action is for the government to promptly issue effective news releases, and even after an S&T crisis event has caused some harm and panic in society, remedial news releases can be effective in removing the negative effects of the event. In short, public disclosure of information in the form of news releases is necessary for the government to handle an S&T crisis. Only by issuing news releases and disclosing information, can the government guide public opinion and build a harmonious social environment with the result that effective management of the crisis is achieved.

REFERENCES

- [1] Arthur Kleinman&James Watson. *SARS in China: Prelude to Pandemic?* [R]Stanford University Press, 2005
- [2] Dignum V, Dignum F. *Task & Social Coordination in Agent Organizations* [R]. Utrecht University, 2005
- [3] Jie Ren, Hans Peter Peters, Joachim Allgaier, Yin-Yueh Lo. Similar challenges but different responses: Media coverage of measles vaccination in the UK and China. *Public Understanding of Science and technology*. Published online before print May 10, 2012, doi: 10.1177/0963662512445012,2012
- [4] McComas, K. A. Citizen satisfaction with public meetings used for risk communication. *Journal of Applied Communication Research*, 31, 164–184, 2003
- [5] Ringo Ma. Media, Crisis, and SARS: An Introduction. *Asian Journal of Communication*. Volume 15, Issue 3, 2005
- [6] Robert R. Ulmer, Matthew W. Seeger, Robert S. Littlefield, *Effective Risk Communication: A Message-Centered Approach*, Springer Science+Bussiness media,LLC,pp5,2009,
- [7] Shao Peiren& Pan Xianghui. Crisis Communication Driving the Transition of
- [8] ShumeiChen. Sham or shame: Rethinking the China's milk powder scandal from a legal perspective. *Journal of Risk Research*, Volume 12, Issue 6, pp726, 2009,
- [9] Zhengmao,Jin Yi and Cheng Xiaoqing. *Annual Report on Science Communication of China(2010–2011)*.Beijing:Socail Science academic press,2001
- [10] Zhu Wenfeng. “Beneficial Interaction under Media Supervision—An Analysis of Supervision by Public Opinion in the Sun Zhigang Incident”, *Journalism Knowledge*, Issue 8, pp.4,2003