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OPINION

The Important Role of Popular Science Activities for Emergency in Response to Focal Events in China

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ABSTRACT

In recent years, sporadic events that attracted public attention have occurred in China. Public opinion formed in the aftermath of such occurrences cannot be controlled due to proliferation of media. It is also difficult to ensure the accuracy of the content that is communicated during the period that follows a phenomenon of high potential-public-interest. It is important for the managers of science popularization to devise strategies for such emergent situations. The contents of this paper are divided into two parts. The first deals with introduction of popular science activities that need to be taken up during emergent situations and the second analyses the role and impact of such activities.

KEYWORDS: Popular Science, Public Interest, Focal Events, Science Communication, Social Emergencies

In recent years, man made as well as natural visitations have occurred quite frequently in China. Events such as the earthquake in Wenchuan and Yushu in Sichuan Province, large-scale distribution of Melamine contaminated milk powder and other food items, the debate around genetically modified food, nuclear pollution, bird flu, fog and haze and so on, have attracted media and public attention. These events often have had intense impact on people's livelihood[1]. The coverage, the timeliness and the intensity of media have increased many folds in recent times, especially with the advent of the new media. However, its expansion has not ensured the accuracy of information content.

[1] The earthquake in Wenchuan in 2008 led to nearly seven million deaths and huge loss of life and property.

In other words the noise in the signal conveyed to the public, construed as dumb receiver, is more amplified than the signal itself. Therefore, for both, the state and the public it has become imperative to popularize science that is based on the latest scientific discoveries. In the event of man-made or natural disaster, it becomes exceedingly important for science popularization to step in and convey the scientific information to the affected public. National or regional emergencies call for emergent actions by all, science popularisers are no exception.

Popular Science Activities for Emergency in China

For the purpose of discussion let us call the information dissemination required for dealing with emergent situations as Popular Science for Emergency (PSE). Such situations require special actions and focussed information dissemination. The nature, the expanse and intensity with which an emergency strikes, determines the required response, including the selection of channels of information. However, since disasters tend to disrupt the existing communication channels, it is important for the science communicators to establish permanent and long lasting live contact with people. In China, conscious efforts have been made to institutionalise science popularisation programmes. Among these, the most popular are 'Scientists and Media Face to Face', 'Xinmin Science Café', 'Science Meeting Room', and 'Capital Science Lecture'. Through these programmes scientists and science communicators keep in constant touch with the public. In any eventuality of a disaster the community of science popularizers can react timely, cull out required scientific information and convey it to the affected public.

Scientists and Media Face to Face

In order to fill in the gap between the scientists and media, the China Association for Science and Technology (CAST), initiated a programme under the banner of 'Scientists and Media Face to Face'[2]. The platform provides an opportunity for intense dialogue between scientists and media persons. The aim of this programme is to shape and transform public opinion on scientific

[2] http://www.cast.org.cn/n35081/n12655473/index.html.

issues, improve communication skills of both scientists and media workers and react timely in case of a disaster or controversy that affects peoples' life. In other words, the objective of the programme is to improve the efficacy of the entire communication channel vis-à-vis scientific issues, especially in case of emergencies.

This activity started in 2011, and till May 2014, 40 interactions have been held. Each interaction was woven around a 'hot topic' that touched the social consciousness and public discourse. For selecting the appropriate theme of the discussion 2-4 experts in the appropriate field and about 30 media persons were invited for interaction. During the past three years, through experimentation and learning, 'Scientists and Media Face to Face' has gained maturity and today the sessions are far better planned. It can be said with confidence that, now the activity which was initiated three years back has transformed into a 'rapid response mechanism' which focuses on 'hot topics'. At the same time, the internal dynamics is so designed that it continually seeks breakthroughs and innovative methods to achieve better communication.

There were 11 activities aimed at emergency out of total 40 activities that had been held. The list of 11 activities is given in Table 1.

Table 1 — 'Scientists and Media Face to Face' list of PSE programmes

No.		Activity and focus	Time
1	Second	Nuclear· Safety and Health	March 19, 2011
2	Third	Recognizing nuclear pollution	April 20, 2011
3	Fifth	Food Safety and Food Additives	June 23, 2011
4	Sixth	Recognizing super bacteria	July 5, 2011
5	Seventh	Analysis of extreme weather	August 29, 2011
6	Seventeenth	Scientific response to floods	August 6, 2012
7	Twenty-third	Talking about haze	January 15, 2013
8	Twenty-fourth	Science faces flu	April 9, 2013
9	Twenty-ninth	The future development of transgenic technology	July 11, 2013
10	Thirtieth	How to understand aviation safety	July 24, 2013
11	Thirty-first	Facing weather disasters of medium and small cities and towns	August 8, 2013

Xinmin Science Café

The programme 'Xinmin Science Café' was launched in 2005 by Shanghai Association for Science and Technology in collaboration with 'Xinmin Evening News'. All the activities undertaken were directed towards raising issues that dealt with emergent and complex problems. The objective was to provide a platform where academicians, scholars working in related fields, entrepreneurs and government officials can interact with the lay public in a relaxed, casual atmosphere, over a cup of coffee.

'Xinmin Science Café' over the past nine years had organised 180 sessions. In each session, one or two experts were invited to interact with dozens of citizens. The programme turned out to be an effective form of science communication. For these interactive sessions, 30 themes were carefully selected from broad disciplines of biology, medicine, environment, meteorology, energy, marine sciences, astronomy, aviation, aerospace and information technology.

Science Meeting Room

This popular science programme was launched in 2010. The office of 'Scientific Literacy Outline' of Zhejiang Province, Zhejiang Association for Science and Technology, 'Qianjiang Evening News' and 'Zhejiang Online' came together to conceive and organise science popularization among party cadres and government officials, science and technology workers, retirees, and the youth. Famous academicians and technology experts from across the country were invited to report and share the latest progress in their area of expertise and discuss issues of immediate interest and hotspots with the audience. The format of 'Science Meeting Room' was also interactive and the communication was deliberately kept bi-directional instead of unidirectional as is the case with a lecture delivered by an expert.

Capital (Beijing) Science Lecture

In order to implement *The Plan Outline of the National Scientific Knowledge Quality Action*, Beijing Association for Science and Technology initiated 'Capital Science Lecture' series. The implementing agencies for the programme are 'Beijing

Development Center of Popular Science' and 'Jiaxing Family'. Under the broad umbrella of 'Capital Science Lecture' renowned, national and international experts through lectures discussions and interviews popularise science among the lay citizens. During the past few years about 340 such events have been organised in Beijing. The programme has gained momentum and is now a symbol of science communication in the city.

Important Role of Popular Science Activities in case of Emergency

Building a Platform for Scientists, Media and the Public

China, in recent years, has experienced natural disasters, quite frequently. These visitations and a few anthropogenic controversies have generated intense debate, which is essentially scientific in nature. Such eventualities call upon scientists to communicate science and pass on relevant information often to save lives. In order to cope up with these emergent situations the public has also grown relatively more receptive to science popularization efforts. A common citizen today sees the relevant scientific information as 'life saver'.

Recent initiatives such as 'Scientists and Media Face to Face' 'Xinmin Science Café', 'Science Meeting Room', and 'Capital Science Lecture' mentioned above, provide stable and long-lasting platforms for discussion on scientific issues. The regular interaction between scientists, media persons and citizens, gradually, starts operating as an effective structured channel of scientific information. In an eventuality, which demands urgent intervention by scientists, the existing platform for interaction can be invoked for achieving a specific objective. For example, in case of an earthquake, the community of geologists, architects, environmental scientists or health workers could be asked to communicate, with media and the public, on urgent basis. A lecture of this nature by an expert will also have a domino effect. Media person who may face problems in accessing the expert otherwise could disseminate the information provided by the expert during the lecture, at a larger level, through various channels of mass communication.

Urgent, Correct and Authentic Information

The reach and efficacy of media has increased many fold during the past two decades. Science communicators cannot remain oblivious to these developments. They should take note of the radical transformation, which is the hallmark of the 21st century. Rapid proliferation of electronic media and Internet has empowered a common citizen to be a receiver as well as generator of information. During crisis, a common citizen is overwhelmed by the information. This information, often, is generated by non-experts and for those who are intensely affected, cannot sift useful from useless or rational from irrational. In extreme situations the useless information could endanger life. Live platforms such as 'Scientist and Media Face to Face', at the time of crisis, could be used for communicating informed scientific voices that could help people face the visitation.

The Fukushima Daiichi nuclear accident in Japan raised serious concerns among the Chinese public and realising this, during the programme 'Scientist and Media Face to Face' discussions on 'Recognizing nuclear pollution' and 'Nuclear Safety and Health' were organised. The programmes generated a healthy informed debate among the public catalysed by the media. Similarly, in the aftermath of the extreme weather conditions, 'Scientific response to floods' and 'Talking about haze' were two broad topics chosen for generating a public debate. In order to respond within the crucial time period the above mentioned programmes have proved to be of vital significance.

Guiding Public Opinion

In order to manage and deal with emergencies, two factors play important role. Firstly, the level of scientific awareness about the nature of emergency among people is of vital importance. Secondly, citizens should know how the governmental agencies are likely to respond and what plans have been chalked out for meeting the emergent situations. When visitation hits a society, it causes individual as well as social disturbance. In such eventualities, the public seeks relevant information about the

nature and scale of occurrence, the intensity of emergency, the degree of damage, preventative and curative measures that could be taken by an individual and the actions that the society and government are taking.

If authentic information is not available through bonafide sources, people turn towards other channels of information and more often than not, in the absence of information, start speculating. Lack of authentic information provides space for rumours and hearsay, which propagate with faster pace. The discussion forums that regularly popularize science could be used as fire fighting agencies in case of emergency and satisfy the societal needs that arise in the aftermath of a visitation. A well-oiled structure for propagating authentic information may be used timely for imparting the required topical information. The emergent situation arises suddenly and requires expedient response. If a structure where experts media and public meet regularly does not exist, gathering information, contacting experts, putting them in contact with media and reaching the public, becomes difficult. The affected public also does not know how and where to access the correct and authentic scientific information. The precious time within which intervention should be done and public opinion is to be guided, is lost. 'Food Safety and Food Additives' and 'The development of transgenic technology in future' of 'Scientists and Media Face to Face', and 'Earthquake resistance and hazard mitigation, technology first' and 'Disease prevention' of 'Xinmin Science Café' have served not only as timely interventions but have also built confidence among people where authentic information is available in times of crises, which they can depend on.

Psycho-social Treatment

An affliction, a scourge or catastrophe may result in loss of life and property and therefore disrupts the normal life causing distress among the affected people. It thereby influences the peoples' psychological state adversely, which is manifested in fear, helplessness, hopelessness, depression, mania, and other negative emotions at individual level. However, it also often manifests in negative collective response such as group anxiety, panic, distrust for government agencies, non-cooperative

behaviour, etc. Catastrophe may last for a short period but its adverse impact persists for long. The timely intervention of experts and media can reduce or dampen the adverse physiological impacts on individual as well as collectives. For example, after nuclear radiation in Japan, Chinese people became extremely sensitive to radiation pollution. Two events were organised by "Scientists and Media Face to Face", and when the experts gave a comprehensive and detailed explanation of the nuclear radiation problem, the public tension and individual fear was reduced considerably.

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