

On Liquid Ground: Contesting facts and responsibilities on Weibo during the Shouguang Flood

Lixiong Chen

Department of Sociology
Lancaster University
c.lixiong@lancaster.ac.uk

Monika Buscher

Department of Sociology
Lancaster University
m.buscher@lancaster.ac.uk

Yang Hu

Department of Sociology
Lancaster University
yang.hu@lancaster.ac.uk

ABSTRACT

As one of the most well-known social media platforms in China, Weibo provides an online public sphere. During the 2018 Shouguang flood, many people who were affected converged on the platform to discuss the disaster. The government – the highest emergency management authority – was accused of using censorship and other measures to suppress the coverage of the disaster. Based on an analysis of 34 qualitative interviews with Weibo users, of which nine directly address the Shouguang floods, this paper examines how three major actors contested facts and responsibilities during the disaster. Focusing on the state-censored, market-moderated social media context in China, our ongoing study provides new insights into a universal challenge of managing diverging interpretations and expectations in risk communication. We show that the establishing and framing of facts is inherently ethical and political. Time, time-space compression, liability and scales of risk responsibility emerge as critical points of friction. We draw on theories of risk governance, public discourse, computer supported collaborative work, and media studies for analysis and to articulate avenues for design.

KEYWORDS

Chinese social media, fact contestation, transparency, authenticity, trust

INTRODUCTION

My parents are farmers in Shouguang, their farmland was flooded, ... the crops yielded no harvest, their hard work this year has been wasted. In the two or three days after the flood, some villages, such as my parents' village, did not receive relief assistance and the serious situation was not reported on state media. ... My parents do not use Weibo, so I had to send a weibo¹ to ... let more people know the real situation in the disaster area, with a hope that people can donate rescue resources. My post was pushed on the trending list, I received a lot of emotional support, and some people also helped me forward the weibo to underscore the severity of the disaster. However, my post was quickly taken down. I wanted to access some disaster response information from the government Weibo [account], but I didn't see any information. I felt depressed and very helpless.'

This story was told by Binqi (pseudonym), whose family were affected by the flood. Binqi was not alone, as many Weibo users posted information about the disaster on the platform. Their accounts differed from facts posted by the official Shandong provincial government Weibo account, and some of their posts were removed.

Our investigation takes the fact of conflicting accounts as its phenomenon. We are not on an investigative

¹ Sending a weibo is similar to sending a tweet.

mission to ‘reveal’ what was censored, but refer to literature on risk governance and urban environmental politics where the framing of disaster risk and disasters like Bhopal has been shown to be a social, political, and ethical process where capacities to contest facts are subject to power struggles (Jasanoff 2003, Fortun 2011, Swyngedouw 2015). There is no one truth about any disaster and our interest lies in the practices and ‘infrastructures’ for contestation that information systems can provide. Some are more suited to afford diverse information ecologies and democratic contestation than others (Jasanoff, 2003, Turner, Bowker, Gasser, and Zacklad, 2006; Baker and Bowker 2007; Karasti, Baker and Millerand, 2010). A deeper understanding of practices of contesting facts and responsibilities in disaster risk management can inform the design of information systems or infrastructures that can help the diverse parties involved to bring different perspectives into dialogue and develop a more democratic framing of risks, responsibilities and ‘response-abilities’.

Sina Weibo is similar to Twitter in its design (Ramzy, 2011). As one of the most well-known social media platforms in China, it is used widely in emergency management by both the Chinese government and the public. Its features allow for the rapid spread of information. Therefore, Weibo provides a key platform for disaster relief and communication between the government and the public (Rigby, 2008; Ma, Zhang and Liu, 2014). The emergence and widespread adoption of Weibo also helped create an online public sphere (Xu, 2012), which enables civilians to debate social issues such as disasters by generating and posting evidence, examining and debating different versions of facts.

This paper draws on 34 qualitative interviews with people affected by disasters, of which nine directly discuss the Shouguang flood. Shouguang, an area famous for its fruit and vegetable produce in Shandong province, was hit by a serious flood from the Mi river between August 19 to 21, 2018. The flood caused thirteen deaths, three missing people, and an economic loss of 9.2 billion RMB (1.05 billion GBP), making it the worst flood Shouguang has seen since 1974 (Sina News, 2018). In this paper, we identify three major parties who constructed and contested facts around the disaster on Weibo:

- (1) Official fact providers: The local Shandong government, the central government of China, disaster management agencies;
- (2) Informal online fact providers: Weibo users who describe themselves as victims or who had family and friends affected by the disaster;
- (3) Online onlookers: Weibo users who were interested in the Shouguang flood, but not directly or indirectly affected by the disaster. They participated by sending weibos, or commenting on posts.

A grounded theory analysis of the interviews has allowed us to draw out key practices of contesting facts. Asking ‘what is the process of fact contestation of the public when a government version of disaster report is different from the public version?’ and ‘what is the impact of this process on future disaster response actions?’, we aim to enable a deeper understanding of these practices and dimensions, supported by a discussion that draws on literature from risk governance, public discourse, computer supported collaborative work, and media studies. The aim is to inform the design of better disaster risk management sense-making practices and tools.

We found that the temporality of information release, the time-place nexus in witnessing and mediating the unfolding disaster, the liability and scales of responsibility are points of friction, which are contested by different actors on the Weibo platform. Overall, the paper not only demonstrates the process of fact contestation on Sina Weibo, it also suggests that the divergent constructions of facts could be a resource for better collective risk governance to promote a better cooperation between different disaster responders in the future.

BACKGROUND: THE RISE OF CHINESE SOCIAL MEDIA AS A STATE-CENSORED AND MARKET-BROKERED PUBLIC SPHERE IN DISASTERS

Thanks to the evolution of digital technologies, the public sphere has expanded into online space. This is a global phenomenon, and one that is highly contested. From Egypt’s shut-down of the Internet during the Arab spring to concerns about voter manipulation during the 2016 US elections and UK Brexit Referendum, and debates about Internet control in Russia, governments, public safety services, commercial platform operators, regulators and citizens struggle over how common information spaces should be inhabited and governed (Millian, 2011; Bright, 2017; Ball, 2019). The online public sphere is a space in which a wide range of voices can be expressed due to the ‘low barrier of entry’ and interactivity (Edgerly, Vraga, Fung, Moon, and Yoo, 2010). In controlled information environments such as China, positive effects of social media on reducing state control of information and encouraging the development of civic engagement have been identified (Herold and Marolt, 2011; Tufekci and Wilson, 2012; Kaur, 2015), and a semi-managed online public sphere for Chinese citizens is emerging. However, the transformations and effects for crisis response and management are complex.

Writing in a Western European context, Habermas (1989, p.52) defined the public sphere as a ‘society engaged

in critical public debate', which lies between the Private Realm (the personal domain) and the Sphere of Public Authority (the state, the police, the ruling classes). In this realm, private individuals assemble as a public body, and public opinion forms. In Habermas' theory, freedom of assembly and association, and freedom to express and publish their opinions, allows citizens to behave as a public body to discuss matters of general interest. In democratic societies, access to this domain is 'open in principle to all citizens' (Habermas, 1989, p.231).

Social media can be seen to open up an independent space online for individuals to engage in political communications (e.g. Yang, 2003). However, researchers are also observing opposing trends, such as the foreclosure of political debate through 'communicative capitalism' where online participants merely vent observations or views with no true dialogue (Dean, 2005). This interplay of contradictory forces also applies to China. Weibo is increasingly used by individuals 'as a new battlefield where the state and social groups fight for power and interest' (Wu, 2015, p.204). Following the 2011 train crash in China, Weibo users expressed concerns that the government had attempted to conceal evidence instead of supporting the rescue (Ma, Yuan, Zhang and Liu, 2012). In the 2015 Tianjin explosion, Weibo users believed that the Tianjin government shirked its responsibility and concealed the cause of the explosion and the accountability of local government. Weibo users succeeded in attracting the public's attention, which forced the government to respond to these perceptions of disaster response. By facilitating political debate and organising collective civic activities, the online public sphere that has emerged on Weibo enables the 'articulation of social problems and has shown some potential to play a supervisory role in Chinese politics' (Yang, 2003, p.474).

However, the model of the public sphere in Chinese society differs from Habermas' theory (Tong, 2015; Rauchfleisch and Schäfer, 2015). A number of factors undermine the applicability of classic public sphere theory in the Chinese context. The most significant factor is that the Chinese public sphere is not free from government control, as the Chinese government has devised a series of supervision and censorship mechanisms that restrict the communication of information and speech in certain topic areas by deleting weibos posted by individual users and by removing weibo threads from the Trending List.

Yet, although the government regulates, manages and limits communications, it also has to maintain 'the stability of the online public mood' (Li, 2010). The public can engage in debates online, but the topics they can discuss and the opinions they can express are severely restricted as a result of government censorship. At the same time, the social media public has the power to influence public opinion. This has led to a semi-managed online public sphere, which is a state-censored, market-moderated social media environment. In this paper we ask 'How is this organized and experienced?' and 'What are consequences and opportunities for disaster risk management?'. We proceed with a short discussion of our methodology and then turn to a presentation of qualitative data. From this, we draw out and discuss key themes and implications for the design of information systems for crisis response and management.

METHODS

The analysis is built on a case study of the 2018 Shouguang flood, which is part of a bigger ongoing study on the transformation of disaster communication in China via social media, focusing on Weibo. Qualitative methods were used to enable a deeper understanding of practices of disaster communications on Weibo. For the bigger project, 235 Weibo users were selected as potential candidates for interviews, the main criteria of recruitment being that different types of user candidates sent weibos during Chinese natural disasters to ensure their use of Weibo in a disaster. In addition, the type of Weibo user is further divided the sample into several subgroups. Weibo requires users to provide phone number, birth date, gender and location upon registration, and it enforces a hierarchy of 'unverified' and 'verified' users. The most common categories of 'verified users' are:

- Individual users
 - 'Red Verified Users' who have posted >20 articles/videos and earn >1,000,000 reads per month
 - 'Yellow Verified Users' who have >10,000 reads per month and support 2 Verified users
- Organisations who pay a fee or use the business license as the organisational identification, such as news organisations and government sectors.

For the ongoing research project, so far 37 interviews were conducted. These participants have been recruited through Sina Weibo private message (22) and snowball sampling (15). Three participants withdrew from the interview. Our research ethics means that they were not requested to provide a reason. The research overall is thus based on 34 interviews (5 Blue, 5 Yellow Verified Users, 24 Unverified Individual Users).

All interviews were conducted between October and December 2018. Before the interview, background information about participants was collected, including gender, age, employment status, disaster concerns and

reasons for concern. The 34 participants' reasons for engaging on Weibo during disasters fall into four categories: (1) interest in the disaster, including disputes over causes and the response of the government; (2) the affected area is the respondents' hometown; (3) personal exposure to the disaster; (4) engagement in rescue-related work.

Semi-structured interviews were conducted online. Questions started with an exploration of the participants' knowledge of the disaster, followed by questions about their use of Weibo, such as 1) How did you use Weibo in the disaster? 2) Why did you choose Weibo to find or send disaster information? 3) What kind of information did the government Weibos publish when you used Weibo during the disaster? 4) What kind of information on Weibo do you think is appropriate in a natural disaster? How do you define 'appropriate'? 5) Could you explain the advantages and disadvantages of Weibo? All interviews were conducted in Chinese, transcribed and translated. We have anonymised all data.

Nine of the interviewees directly discussed encountering the issue of fact contestation as they participated in communications around the Shouguang floods. Therefore, in this article, we focus on the interviews with these nine respondents. In exploring how they made sense of fact contestation, an open-ended interview design was used to allow the respondents the space to construct their narratives. For example, the interviews started with the question, "could you please describe what you know about the disaster and how you got to know about it?". If respondents referred to the governmental report, they were then asked about whether the governmental report concurred with the information they received from Weibo. If the respondents mentioned that they had posted about the disaster online, they were asked the questions, 'What did you post? Why on Sina Weibo?' Simple and short questions were used to enable the respondents to clearly and fully understand the questions.

DATA ANALYSIS

Table 1 below provides an overview of the respondents' role, behaviour, and uses of Weibo. After this, we discuss key findings.

Table 1. List of interviewees

Participant	Age	Gender	Occupation	Location	Role	Activities	Sina Weibo Uses
<i>Yi</i>	27	Female	New Media Editor	Nanjing, Jiangsu	Onlooker	Accessed information; Forwarded	Sharing disaster information; Calling for relief efforts; Expressing emotions
<i>Penna</i>	26	Male	Student	Chengdu, Sichuan	Onlooker	Accessed information; Forwarded	Sharing disaster information; Calling for relief efforts; Discussing causes and relief power
<i>Stone</i>	24	Female	Student	Osaka, Japan	Onlooker	Accessed information; Forwarded	Sharing disaster information; Calling for relief efforts; Expressing emotions
<i>Weipin</i>	25	Female	Student	Shouguang, Shandong	Online fact provider	Accessed information; Sent weibos; Forwarded	Reporting the disaster information; Sending rescue request; Calling for relief efforts; Discussing causes and relief power; Sharing disaster information
<i>Binqi</i>	26	Female	Lawyer Assistant	Nanjing, Jiangsu	Online fact provider	Accessed information; Sent weibos;	Reporting the disaster information; Sending rescue request; Calling for relief efforts;

						Forwarded	Discussing causes and relief power; Sharing disaster information
<i>Clara</i>	21	Female	Fashion Brand PR	Xiamen, Fujian	Onlooker	Accessed information; Forwarded	Sharing disaster information; Calling for relief efforts; Expressing emotions
<i>Ming</i>	19	Female	Student	Shouguang, Shandong	Online fact provider	Accessed information; Sent weibos; Forwarded	Reporting the disaster information; Sending rescue request; Calling for relief efforts; Discussing causes and relief power; Sharing disaster information
<i>Yuhan</i>	21	Male	Actor	Shouguang, Shandong	Online fact provider	Accessed information; Sent weibos; Forwarded	Reporting the disaster information; Calling for relief efforts; Sharing disaster information
<i>Tian</i>	23	Female	Student	Harbin, Heilongjiang	Onlooker	Accessed information; Forwarded	Sharing disaster information; Calling for relief efforts; Expressing emotions

KEY FINDINGS

In the age of social media, the gap of trust between the authorities and the public in China has been widening. Despite an increase in the presence of government on Weibo and the government's tightening regulation of social media platforms, Weibo still constitutes a relatively open online public sphere in which members of the public can discuss various social issues. During the Shouguang flood, government Weibo accounts and individual Weibo users' accounts — both those from the affected area and those whose families and friends were affected by the flood — diverged significantly. This led to heated contestation over the authenticity and trustworthiness of distinct versions of facts on Weibo. In this process, government Weibo accounts were perceived to be the official fact provider, while individual Weibo users with first-hand experiences of the flood either themselves or through their family members and friends assumed the role of online fact providers. As news of the flood spread, onlookers began to voice their opinions and partake in the process of fact contestation.

Multiple practices of generating and consuming 'facts' on Weibo

Platforming disaster 'facts', Weibo fulfils two major functions of social media, as identified by Ma and colleagues (2014): Weibo supports multiple practices of generating 'facts' about disasters, and it also provides an avenue for users to learn about, and moderate the 'facts', from within and outside the disaster-stricken areas.

With an aim to draw attention from emergency departments and Weibo users outside the affected areas, online fact providers such as Weipin, Bingqi, Ming and Yuhan began to post about the flood from within the flooded areas. Given the large number of active users, the online fact providers believed that the Sina Weibo would enable them to spread information in a rapid manner to reach a wide-ranging audience. To depict situations in the flood-stricken areas, the online fact providers posted textual descriptions, photos and short video clips. To justify the authenticity of such posts, geotags were used.

For example, Binqi posted about the flood on behalf of her parents who do not know how to use Weibo. Explaining why she chose to use Weibo as a platform to present her version of facts, she said, 'Sina Weibo is a very mainstream social media platform right now, for all to see, for all to search, for all to access information'. Weipin, another online fact provider, is a student who uses Weibo on a daily basis. After receiving a Weibo

notification of the flood from the local neighbourhood committee, she immediately searched ‘Shouguang flood’ on Weibo and participated in providing civil news coverage on the flood. As she explained why she ‘[relied] on Weibo to follow the latest developments of the flood’, she said, ‘There are so many active users on Weibo, which allows Weibo to provide more comprehensive information (than some other platforms)’. Notably, online fact providers often provided ‘facts’ that differed from those published by the government.

Weibo not only enabled some users to generate facts about the flood at close quarters, it also allowed other users to follow and interact with news on the flood from afar. Yuhao is a young actor, some of his followers are also actors with a large number of followers on Weibo. As a celebrity, he thought that posting about the flood on Weibo would facilitate rapid dissemination information his followers re-post the facts. As onlookers (Yi, Penna, Stone, Clara and Tian), individual Weibo users outside the affected areas considered Weibo as a readily accessible platform to obtain any latest news about the flood. Yi is a social media editor who uses Weibo for her everyday work and relies on the ‘hot search’ function on Weibo to access the latest news. She explained how she actively retrieved information on the Shouguang flood from Weibo:

I heard about the flood from my friends. Then I searched the flood on Weibo. Weibo is my daily source of information. I am used to following events on Weibo because I can get real-time information from multiple sources. In Shouguang flood, I saw a lot of Weibo posts sent by people from the flood-stricken areas. The posts showed the dangerous situations in the flood zone. I also saw some videos posted by Yellow V Weibo users providing descriptive accounts of the disasters, such as interviews with local farmers from the flooded areas.

The use of Weibo in disasters is particularly prevalent among the younger generation. Tian, a 23-year-old student, indicated that almost all her peers relied on Weibo to consume news. She further noted that the interactive nature and diversified sources of information make Weibo a particularly attractive way of accessing the news. Tian compared Weibo with traditional media such as TV. She went on to criticise the latter as a slow and inefficient means to disseminate news. ‘I use Sina Weibo frequently. Browsing Weibo has become an everyday leisure activity for me. I came across (the news of) the flood while I was browsing on Weibo. Then I kept searching and following updates on the flood’, Tian said. And, as a Chinese student studying in Japan, Stone noted that Weibo helps break down geographic barriers for her to learn about domestic news such as the Shouguang flood in China. Onlookers such as Clara and Tian noted that the information from Weibo raised the public awareness of the flood, which helped attract disaster relief resources and donations.

What are the contested facts?

Contestation of facts about the Shouguang flood centred on three issues, namely the causes and severity of the flood and the government’s delivery of relief resources.

Description of the cause of the Shouguang floods and the situation

On August 20th, the CCTV released its official news of the Shouguang flood. Reporting from upper Mi river, the journalist stated that the flood situation was not serious. According to the news, the flood did not affect the villages downstream, and the local government had already dispatched rescue teams to the affected areas (CCTV, 2018). On August 23rd, the Weifang city government held the first flood control and relief news conference. Attributing the cause of flood to heavy rainfall, the spokesperson vaguely mentioned that Shouguang had been hit by a flood:

Under the influence of Typhoon Rumbia, heavy rain swept Weifang. Some cities and towns have been flooded...The heavy rainfall led to a rapid rise in the water level at three reservoirs. To prevent the dam from collapsing and for the safety of nearly one million people downstream, the municipal government released the floodwater downstream. However, Shouguang was still seriously flooded’ (Global Times, 2018).

At the news conference, no detail on the situation in Shouguang was released. The conference was covered by several news agencies on Sina Weibo, such as @Sina News and @Beijing News.

The CCTV news report was vehemently contested by Weibo users (CCTV, 2018). The online fact providers initially used Weibo to vent their anger at the journalist who was criticised for having misled the public to believe that the situation in Shouguang was not serious and that the area had received adequate rescue resources from the government.

Individual Weibo users such as Ming and Binqi provided a version of facts that is vastly different from the one included in CCTV report and the government’s official press release. Weibo users believed that the cause of the

Shouguang flood was a complicated combination of human errors and natural causes.

Ming is a student who lived in a small town near Shouguang. As her town lies at the far side of Shouguang away from the Mi river, the town was not seriously affected by the flood. She saw the CCTV report on Weibo and noticed that the report failed to reflect the real situation based on what she had seen, what her relatives had told her, as well as some other information she had obtained on Sina Weibo. She recalled that ‘the reporter said that the upstream flood had no impact on the downstream, we Shouguang people were outraged because the damage was really serious!’

Although a Shouguang local, Binqi was away from Shouguang during the flood. Although Binqi was not able to participate in the disaster-relief herself, she contributed by drawing people’s attention to the flood on Weibo. Dissatisfied with the CCTV report, she posted on Weibo: ‘The CCTV misled the public by reporting that the upstream reservoir flood did not cause serious damages to the downstream areas. Due to the absence of rescue forces, villagers suffered heavy losses.’ Binqi further explained how she first learnt about the ‘facts’ from her families and friends living in Shouguang:

Shouguang is my hometown. Although I don't live in Shouguang now, my parents and friends still live there. They told me that it rained heavily for several days in a row before the flood, which caused the upstream Qingzhou reservoir to overflow. This forced the local authority to discharge flood water from the reservoir, which flooded several villages on both sides of the river...The villagers suffered heavy losses. My parents' farmland was flooded. The flood swept away all crops that were about to be harvested.

Weipin, an onlooker on Weibo, described that although the flood did not have a significant impact on her own life, she was upset to learn that such a severe disaster was not merely of a natural cause:

It is not just the heavy rain that caused such severe impact on Shouguang. The human error in mismanaging the upstream reservoir was also a main cause. Also, the villagers did not receive any notification from the reservoir team in time before they discharged water from the reservoir, which made the situation even worse...

The government's rescue and relief delivery

Whether the government sent its rescue team and adequate relief resources to the flooded areas as claimed was another area of contestation on Weibo. In the news conference, the Weifang government announced that it had sent a relief team and relief goods to Shouguang. It was also explained that the Shandong party secretary had arrived in Shouguang in the evening of August 22nd, four days after the outbreak of the flood, to direct the disaster relief work.

The online fact providers accused the Shandong and central authorities of inaction. For example, Binqi and Yuhan posted on Weibo that the local firefighters and the police force in Shouguang rushed to the disaster area on the second day of the flood, which was far from sufficient. Other Weibo users, such as Ming, used the @ function to draw attention from government departments and state media outlets such as CCTV, pleading them to dispatch disaster relief and supplies. However, they did not receive any response from the official Weibo accounts at which they posted. Some other online fact providers also shared their first-hand experiences of the rescue situation on Sina Weibo. For example, Ming posted:

There are rescue teams in some of the worst-hit areas. However, I saw Weibo posts from many users with geotags in Shouguang saying that the disaster areas were “cordoned-off” and they were not allowed to contact the outside world. The rescue does not seem to go well either.

As the online contestation developed further, ‘#Shouguang self-rescue’ started to trend on Weibo and develop offline, according to Binqi. Using Weibo, local residents spontaneously self-organised to rescue people trapped in the flood and to deliver relief supplies to affected villages. Rescue teams from the provincial government only arrived in the affected areas a few days later.

Facts: Divergence and diversity

The fact contestations on Sina Weibo showcased divergence and diversity as the different actors assumed distinct social positions and responsibilities. Most government official Weibo accounts had remained silent in the first four days of the flood. Following the official news conference, facts about the flood were published not only via traditional media outlets but also via government Weibo accounts.

Shouguang natives and remote fact providers also occupied different positions as they took part in the fact contestation on Weibo. Weipin, a Shouguang native indicated that ‘because this is where I live, this is my hometown, and when something like this happens, I definitely have to pay attention to it.’ Some other online fact providers who did not live in Shouguang posted what they believed to be true based on reports from their friends and family members. In such cases, familial and friendship, and affective ties with intimate others played an important role in authenticating and validating the ‘facts’ for the remote fact providers.

Onlookers also participated in the fact contestation in diverse ways. For example, Stone defended the government departments, arguing that it is essential for the government to anticipate the public’s response and consider whether any given facts may cause public panic and anger. Stone further explained that the official version of facts was necessarily constructed to maintain social stability and to mitigate negative social impacts arising from the flood. Unlike Stone, some other onlookers chose to trust online facts over government statements because they believe that the government may intend to cover up their negligence of responsibility, while others remained cautious for fear of misinformation.

In the aftermath of the disaster, many onlookers also acted upon the diverse facts in which they believe. One week after the flood, Tian accessed disaster-related information from the hashtag #Shouguang Flood. After reading about the dire disaster rescue situation, Tian donated relief supplies following the donation information posted on Weibo. She reflected that ‘I didn’t think about it too much, and then maybe I was just guided by the words posted by the affected people on Sina Weibo.’ While some interview respondents expressed their doubts over the trustworthiness of donation appeals on Weibo, others believed that the government had already delivered sufficient rescue and relief resources.

DISCUSSION AND CONCLUSION: CONSTRUCTING FACTS, ACTORS, INTERACTIONS, INFRASTRUCTURES

Our analysis shows how the different users of Weibo construct the facts of the Shouguang floods differently. In and as part of these communicative struggles, actors, modes of interaction, infrastructures and practices of making sense of the disaster are shaped. Three key actors emerge:

- (1) The Shandong Weifang/the Central government
- (2) Sina Weibo users who were affected or whose families and friends were located in the affected area and who documented on the ground experiences of the Shouguang flood in near real time
- (3) Sina Weibo users who participated as onlookers, who witnessed the contestation of facts, including the disappearance of posts and vented their dissatisfaction or anger, or adopted a ‘wait and see’ attitude.

Their experiences are shaped by many factors. Two are particularly powerful.

Firstly, the timing of information release and the temporalities of witnessing the mediation of the unfolding disaster are very different for the different actors. For government agencies, the speed of information provided by Weibo users on the ground and distributed across the country is hard to control and in arrhythmia with their necessarily slower fact-checking and paternalistic approaches to releasing information. For locally or remotely affected Sina Weibo users there is great urgency in those situation descriptions and it is difficult to understand why those in power do not provide ‘adequate’ immediate response. And for onlookers, the censorship and disappearance of Weibo reports is deeply unsettling. Lam (2018) describes how local members of a WeChat group who shared concerns over a potential spread of disease were arrested within 15 hours of posting their messages. This was unsettling in a different way, bringing divergent expectations on risk governance to the fore.

Secondly, the scales of responsibility are a source of friction. The government is responsible not only for managing the disaster at the local and national scale in terms of response efforts and financial long-term commitments, it must also manage public opinion. Moreover, the government is responsible for innovation and growth in regional productivity – a motivation for the engineering of the dams that are implicated in the floods. Their engineering of complex socio-technical systems increases the risk exposure in the area. At the same time as they benefit from these socio-technical systems, the local community suffer from their exposure from increased risks, they expect and are dependent on rapid emergency response and relief. Local responsibilities that may have contributed to increased exposure to risk, such as settlements and agricultural use of the river-banks are not part of the discussion on Weibo (although they do come into the slower paced debates on traditional media (see, e.g. Lam 2018)).

We can use Jasanoff’s concept of ‘technologies of humility’ to explore this challenge to design further. She argues that attempts at ‘disciplining the incalculable through sophisticated forms of calculation’ enact ill-advised hubris (2010: 19). To counteract it, she argues, a shift from disaster risk management to risk governance is

necessary. Jasanoff envisages public engagement as complementary to formal efforts, and designs such as Ma et al.'s joint official microblog platform to improve interactive communication with the public under a centralized system are beginning to support direct communication with the public in China (2014). But there is more to a shift to risk governance than shared platforms. Jasanoff shows that collective risk governance requires not only expert professionalism and broad-based engagement with local knowledge, but also flexible infrastructures. In Jasanoff's analysis, conflicts of interest and difficulties in the control of information are not problems that must be overcome *before* partnerships can function. Indeed, she shows that the idea that agreement requires erasure of conflict and difference is misleading. Instead, like Swyngedouw (2015), she argues that a political process of understanding risk, responsibilities for risk, and the injustices involved more fully is needed.

We therefore suggest that the construction of diverging facts is not a problem that must be eradicated, but a resource for better collective risk governance. With infrastructures that better support expression of temporal and scalar disjunctures between formal emergency response agencies and the communities they serve, better collaboration may be possible. In future work we will focus on the role played by Weibo as a platform in brokering information that is crucial to the construction of facts and trust.

The limitations of this study suggest a few important directions for future research. The interview data reported in this article is only collected from unverified individual users, which do not reflect the perspectives of verified individual users and verified organisational users. As these users have considerably large numbers of followers and occupy an influential symbolic status on Weibo, their views are often based on the social roles they play and assume on Weibo that may provide the view in the other direction. Secondly, the contributions of the nine interviewees provided the main data basis for this study, however, the data did not represent the larger Weibo user groups. We will include more types of Weibo users and samples in further research to keep diversity and quantity of data to analyse complex behaviour pattern of various perspectives in disaster response.

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