**EDITORIAL**

# Citizens in crisis and disaster management: Understanding barriers and opportunities for inclusion

## 1 | INTRODUCTION

In the immediate aftermath of a crisis or disaster, it takes time before responses agencies are deployed and operational at a disaster site (Boin & Bynander, 2015). In the meantime, citizens are left to their own devices (Whittaker, McLennan, & Handmer, 2015). In the literature, many examples can be found of citizens who help themselves and their communities by, for example, providing first aid, shelter or assisting with search and rescue operations (Stallings & Quarantelli, 1985). Some scholars therefore consider citizens the "true" first responders in crisis and disaster management (Helsloot & Ruitenberg, 2004).

The visibility of citizens has increased because of the ever-growing ubiquity of social media and mobile technologies in crisis and disaster response (Starbird & Palen, 2011). For instance, following the Turkish Airline crash in Amsterdam (2009), citizens heavily relied on Twitter to account for their friends and family aboard the flight through text, photograph and video messaging (ref.); hurricane Sandy (2012) evoked more than a flurry of activity on Twitter totalling more than 2 million tweets; and in 2011, the earthquake and tsunami in Japan triggered over 5.500 tweets per *second* (Imran, Elbassuoni, Castillo, Diaz, & Meier, 2013). These developments have not gone unnoticed by the research community: to illustrate, a Google Scholar search on "Hurricane Sandy social media" yielded 17.500 results (April 2017). While an ongoing challenge in both scholarly work and practice relates to extracting actionable knowledge from social media-enabled information sources, the examples presented above serve to show that accounting for information from informal sources—beyond formal response authorities alone—is becoming increasingly relevant for scholars and practitioners in the field of crisis and disaster management (Palen & Anderson, 2016).

In line with these developments, many formal emergency and response organizations are confronted with actions of emergent networks of organized and unorganized citizens aiming to help (Twigg & Mosel, 2017). Emergent relief networks are valuable in that they provide on-the-ground, real-time information of needs and relief opportunities. However, such networks have "unclear and fluid boundaries; fleeting and unclear membership; unclear, fluid, and dispersed leadership; highly unstable task definitions and assignments as environmental conditions continuously change; and geographic dispersion that makes communication difficult" (Majchrzak, Jarvenpaa, & Hollingshead, 2007). Therefore, emergent networks often do not suffice for sustained relief due to their lack of organizational means and resources. At the same time, crisis organizations continue to struggle with the on-the-ground needs and opportunities among affected communities. Coordination between these emergent networks and formal organizations in fostering relief is therefore of major significance (Kuipers & Welsh, 2017), but also remains an ongoing challenge for crisis and disaster management (Barsky, Trainor, Torres, & Aguirre, 2007). Indeed, the lack of understanding related to the integration of bottom-up, networked forms of relief and top-down, institutionalized efforts can lead to collisions, frustrating efforts by both parties (Drabek & McEntire, 2003). In particular, an unanswered question relates to how citizen-based disaster response can be more effectively mobilized by formal response authorities, whether and how organizational structures can facilitate the inclusion of emergent initiatives, and, ultimately, how these bottom-up efforts can generate sustainable relief solutions.

This special issue presents a collection of empirical cases, all comprising original research articles, as a means to showcase a wide variety of perspectives that together develop our understanding of the barriers to and opportunities for citizen inclusion in disaster relief. Many of the cases comprise social media-enabled initiatives, expressing the increasing significance of technology in crisis communications.

The issue has been organized as follows: the first paper (Strandh and Eklund) is a review of volunteer-based disaster response, providing a broad theoretical basis to help position the empirically-oriented papers in the remainder of the issue. The next three papers discuss the role of new online platforms in channelling citizen convergence on disaster sites. Schmidt et al. study the efforts of the Red Cross to integrate technology-driven citizen support efforts in response to the sudden influx of refugees in 2015 in the Netherlands. Albris analyses Facebook-based actual responses to the 2013 Elbe floodings. On the other hand, but also drawing on the German response context, Lorenz et al. investigate perceptions on expected responses among civilians and formal response agents. The third section includes two papers addressing the implications of international citizen-based responses in very different contexts, whereby Dahlberg studies the infrastructural risks for citizens travelling between Denmark/Sweden, and Dalgas presents an analysis of relief efforts by the Filipino diaspora based in Denmark, and the implications of this aid on local communities in the homeland. At last, we included two policy-oriented papers by Gimenez and by Waldman et al., each of which showcase practical examples of citizen-oriented relief efforts and with particular significance for policy decision-making. Each of these papers is introduced in more detail below.

## 2 | SUMMARY OF CONTRIBUTIONS

Strandh and Eklund draw on the Disaster Relief Center-typology ("DRC-typology") developed by Dynes and Quarantelli (1968) to explain different types of voluntary engagement in disaster response, as represented in the disaster management literature across three 20-year periods between 1960 and 2016. Their analysis is based on research on nine disasters following natural hazards in North America and Asia Pacific, ranging from Hurricane Camille in 1969 to Hurricane Sandy in 2012. The authors conclude that disaster management research remains "fraught with an understanding of organization in disaster contexts based on the primacy of established formal organizations" (Strandh and Eklund, this issue). Moreover, they suggest that a focus on volunteers remains biased towards "well-organized behaviour among volunteers and [...] their affiliation with expanding organizations, such as the Red Cross" (as in Schmidt et al., this issue). Thus, Strand and Eklund pave the way for further scholarly work on *emergent* groups, which other papers in this issue respond to.

Schmidt, Wolbers, Ferguson and Boersma investigate how the adoption of online platforms represents an opportunity for response organizations to manage different manifestations of citizen convergence. The authors analyse one such platform, "Ready2Help," developed by the Red Cross in the Netherlands. Their research demonstrates that by utilizing platforms, response organizations are able to transcend the boundaries between different types of organized behaviour during disaster. They extend the original conceptualization of organized behaviour, as previously described by the Disaster Research Center, explaining how the development of new platforms channels convergence of citizens and information. As such, platforms provide an interface between established, expanding, extending and emergent forms of organized behaviour. These developments change the landscape of organized behaviour in times of disaster.

Albris introduces the concept of social media as a "switchboard mechanism" connecting response communities and affected communities and thereby contributing to understanding of the transformation of online activity into activity on the ground. His ethnographic study is based on a Facebook-enabled response (the "Fluthilfe Dresden" group) spontaneously organized by citizens in the aftermath of the Elbe flooding in Dresden, Germany. The author categorizes the switchboard mechanism according to five types of aid-related Facebook posts, namely networking, reporting, contributing, requesting and building. Building represents efforts aimed at building a sense of unity and common purpose, and interestingly, these posts received the most positive response (likes, comments and shares) by the group members. Moreover, the author shows through the case study how the group also contributed to more cooperation between the citizen network and formal response authorities. This appeared to reduce the scepticism that often exists between the two and incentivized intentions among authorities to develop into an emergent organization that is more open for citizen-driven response initiatives, although the actual fruits of such initiatives remain to be seen.

Lorenz, Schulze and Voss also study the German aid context. Their research is based on a field exercise and survey of common perceptions on disaster response. The authors argue that many aid strategies are based on "disaster myths," particularly related to citizen responses: in line with Quarantelli (1960), and suggest that the portrayal of citizens as passive or helpless victims, prone to disruptive behaviour in the aftermath of a disaster, is largely inaccurate. The authors therefore seek to better understand the origins of disaster myths, and to what extent they affect the cooperation between formal and citizen-based ("unaffiliated") responders. The authors find that on the one hand, both groups perpetuate disaster myths in terms of their initial perceptions, while on the other hand, a disaster response exercise dispelled the myths of the passive and helpless citizen in disasters, showing instead a strong readiness to help, as well as far fewer coordination challenges than anticipated. The authors therefore suggest that obstacles to effective cooperation appear to lie elsewhere, for instance in capacity development and underlying attitudes.

Dahlberg explores adaptive capacities in infrastructure preparedness planning from a resilience approach using the bridge between Denmark and Sweden as a case. His theoretical framework anchors adaptive capacity in a more general resilience discourse focusing on flexibility and adaptive capacity with emphasis on citizens' ability to interpret information and adjust their behaviour without prior planning and training or instructions. Building on this framework, findings from a small qualitative study ($n = 45$) of the perception of commuters and travellers of the responsibilities and contingencies involved in potential long-term disruptions of the Øresund Bridge are discussed. The most important suggested recommendation for authorities and infrastructure owners is simply to remind users that an infrastructure is not a given—in other words, to ask travellers whether "they have a Plan B," thereby prompting citizens to contemplate their dependency on infrastructure and prepare for a disruption.

Dalgas focuses on the disaster-prone Philippine archipelago, which is a major sender of migrants worldwide. Based on ethnographic fieldwork in the Philippines and Denmark, her article investigates how individual migrants channelled relief to their neighbourhoods of origin after the Bohol earthquake of 2013. Dalgas argues that such individual relief channels both complement and conflict with official disaster responses because they form part of local collective coping mechanisms in a way that contradict equity as a principle of distributive justice, and, on the level of practical implementation, poses challenges to aspirations to distribute relief equally. Drawing attention to the practice of excluding the migrants' households of origin from receiving targeted aid, the article suggests that disaster management should reconsider how remittances flow in disasters.

Gimenez, Labaka, Hernantes suggest that a resilience-focused approach requires the collaboration of a variety of stakeholders including the local government, emergency services, citizens and companies in adapting to disasters. At present, however, governments fail to encourage stakeholders to take part in the resilience-building process. To address this challenge, the authors present a maturity model (MM) that provides local governments with a sequence of stages and policies to improve the collaboration with stakeholders. The MM was developed in close collaboration with six European cities and was put into practice through a case study in a

UK city. The MM made it possible to assess the current stage of the city under study and to implement policies for engaging stakeholders in the resilience-building process. At last, challenges associated with the involvement of stakeholders encountered in the city under study are discussed.

Waldman, Yumagulova, Mackwani, Benson and Stone study how to improve coordination between formal and unaffiliated or spontaneous volunteers after emergencies. Drawing on international disaster management literature and experiences and recent crisis events in Canada, their analysis examines four Canadian case studies to show that the inclusion of citizens in EM is becoming indispensable, as simultaneously as the frequency and intensity of natural disasters are seen to be growing due to climate change, and citizens are increasingly presenting their labour and resources as assets to be drawn on in emergency and postemergency situations. In this context, Canadian municipalities are starting to better manage the unpredictability of spontaneous citizen volunteering in emergencies by building anticipatory structures of networked governance for integrating diverse, pre-existing, and in some cases, preidentified groups of citizens as volunteers in emergency management functions. In addition, as the role of voluntary service organizations is becoming elevated in emergency response and recovery in Canada, these organizations can prospectively play the role of brokers to help emergency management agencies access and manage community-based networks of voluntary resources.

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