Safety Science 101 (2018) 164–172

Contents lists available at ScienceDirect

Safety Science

journal homepage: www.elsevier.com/locate/ssci

Review

A theoretical exploration of resilience and effectiveness requirements' compatibility in formal and permanent emergency networks ☆

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ARTICLE INFO

Article history:
Received 22 December 2016
Received in revised form 2 June 2017
Accepted 6 July 2017

Keywords:
Emergency network
Crisis management
Effectiveness
Resilience

ABSTRACT

Resilience is a trending topic within the field of crisis management. It remains, however, quite unclear what emergency networks need to do if they want to act in a resilient manner while simultaneously achieve their core function: mitigating, managing, and ending a crisis. In this article we combine emergency network, resilience, and crisis management literature to outline the requirements formal and permanent emergency networks need to meet in order to be both resilient and effective. Our exploration shows that contradictions which seem problematic in theory, might be manageable in reality.

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1. Introduction

In response to ever more complex crises, resilience and collaboration are seen as ways to ensure that crises are quickly dealt with while minimizing the crises' impact on society (Comfort and Kapucu, 2006; Kapucu, 2012). These collaborations can be informal or formal. At a minimum, these formal networks are characterized by a shared policy plan, some training, and an ad hoc nature as the network only springs into action when disasters strike (Kapucu and Hu, 2016). At a maximum, these formal networks are permanent in nature – network partners do not only meet during crises and the occasional training and planning session, they (or the organizations' representatives) share office space to work together during times of non-crisis to ensure that the crisis collaboration is as effective as possible.

An example of formal and permanent emergency networks are the Dutch Safety Regions (*veiligheidsregio's*) (SRs) which were created in 2010. In response to several disasters in the 2000s, the

☆ The authors would like to thank the following people for their helpful feedback: the anonymous reviewers, Daniel Aldrich, and the students participating in Sandra's course on crisis & crisis management (2015–2016 and 2016–2017).

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http://dx.doi.org/10.1016/j.ssci.2017.07.004
0925-7535/

Dutch government established 25 SRs to improve crisis management by bringing together all relevant actors under 25 regional umbrellas (Scholtens, 2008; Ministry of Safety and Justice, 2013; Andersson Elffers Felix, 2013: 5). Each SR covers a number (6–26) of municipalities and their emergency services (i.e., fire departments and medical emergency services) (Ministry of Internal Affairs, n.d..; Ministry of Safety and Justice, 2013: 6). Each SR has its own regional emergency room where 112 calls are handled (Andersson Elffers Felix, 2013: 69). Though SRs differ in the way they are organized and who is participating in the network, they do share some features. For starters, each SR has a board consisting of the mayors of all municipalities located in that SR (Safety Regions Act, Article 11). Usually the mayor in charge of the biggest city chairs the board (Andersson Elffers Felix, 2013: 46). This mayor also takes the final strategic decisions during crises with a regional impact (Safety Regions Act, Article 39). In addition to the mayors, a number of actors can attend board meetings: either always (the head of the Public Prosecution's Office, the chair of the district water board, and the King's Commissioner) or when needed (so-called crisis partners) (Ministry of Safety and Justice, 2013: 15–6; Safety Regions Act, Article 12, 13). The board is responsible for making risk profiles, preparing for crisis management (by arranging, for instance, trainings and simulations, crisis communication, and proper information flows), and organizing crisis management during a crisis (Andersson Elffers Felix, 2013: 74; Ministry of Internal Affairs, 2007). Each board has a supporting bureau which prepares and executes the board's decisions (Andersson Elffers Felix, 2013: 69). Within this bureau, staff members work together with representatives of the network members (fire department, medical emergency services, and municipalities) and with representatives of partner organizations (including the military, police, public prosecution's office, province, and district water board) (Ministry of Internal Affairs, 2007; Andersson Elffers Felix, 2013: 7). Depending on the severity and scope of the crisis (which may change as the crisis evolves), crisis management will range from local crisis management, to regional/cross-municipality collaboration (in which case the SR is activated), to multiple SRs collaboration, and to national collaboration in the case of a national threat (Instituut Fysieke Veiligheid, 2014).

SRs' main aims are protecting citizens against risks of crises, giving assistance and care during and after a crisis, organizing high quality emergency services under one regional umbrella, and increasing the administrative and operational effectiveness of crisis management (Ministry of Safety and Justice, 2013: 9). Effectiveness is thus important. Simultaneously, the SRs' national strategic agenda explicitly mentions that resilient operations are important (Littooij and Van Eck, 2015a, 2015b). SRs thus face two demands regarding the way they should operate: a demand for effectiveness and a demand for resilience. This begs the question to what extent effectiveness and resilience are compatible and/or contradictory. After all, the network literature clearly states that effectiveness can only be achieved by a limited and homogeneous network whereas resilience literature emphasizes the need for multiple participants with their own particular perspective on what happens. If effectiveness and resilience requirements already clash when it comes to just one of the requirements, then what happens if we take a look at the other requirements which SRs have to meet in order to operate in an effective and resilient manner? Are there other potential clashes which SRs need to take into consideration? And is it also possible that there is overlap which actually reinforces the effectiveness and resilience requirements because both demand the same thing from SRs?

To examine potential overlap – be it negative or positive – in effectiveness and resilience requirements, we use various strands of literature. The resilience literature in and by itself is insufficient to determine what emergency networks need to do in order to be resilient since a good sense of resilience within the field of crisis management is currently lacking (Manyena, 2006; De Bruijne et al., 2010; Boin and Van Eeten, 2013). That is why we rely on the High Reliability Organizations (HROs) literature to ascertain what SRs should be doing if they are to operate in a resilient manner while managing crises such as floods, fires, and earthquakes (we are thus not studying the way in which these networks deal with their own disaster as happened, for instance, in New York when the city's emergency operations centre was destroyed during the 9/11 attack (Kendra and Wachtendorf, 2003)). To describe resilience through the lens of HROs, we rely on two HRO experts: Weick and Sutcliffe (2007). When it comes to establishing effectiveness requirements, we can use the emergency network literature since SRs are an example of formal and permanent emergency networks. It is important to note here that SRs recognize two phases of crisis management: the cold phase (when there is no crisis and actions are geared towards creating contingency plans, training, and learning from previous crises in order to improve their performance) and the hot phase (when a crisis actually happens and actions are geared towards minimizing and ending the crisis) (Kuipers and Boin, 2014). Operations can be quite different from one phase to the next and this could potentially affect effectiveness and resilience requirements. That is why we will determine effectiveness and resilience requirements for both the cold and the hot phase of crisis management. Once we have done that, we will turn our attention to the main part of this article: describing the overlapping requirements during the cold and hot phase of emergency management. For this description, we used a number of formal national government documents to illustrate how SRs operate. Based on the theoretical exploration, one would expect a bleak future for emergency networks since the contradictions require these networks to work continuously on finding a precarious balance. Interestingly, the documents which we consulted for this article show that SRs are taking steps to address imbalances though they do not explicitly link these actions to effectiveness and resilience requirements. We therefore do not know to what extent SRs are consciously addressing these contradictory requirements nor do we know what happens during the implementation of these formal documents. It will therefore not come as a surprise that we call for further research in our conclusion.

2. Resilience

The *Strategic Agenda Strengthening Safety Regions 2014–2015* (Littooij and Van Eck, 2015a) stresses the importance of ensuring that society can continue to function when, for instance, infrastructures like electricity and water are disrupted. To achieve this, it is imperative that 'proper arrangements have been made between the national government, the safety regions, the police, and private partners to ensure that they can show sufficient resilience when [such an event] occurs' (Littooij and Van Eck, 2015a: 8). The document continues, however, by explaining that SRs and other actors need to help create a resilient society. Nowhere in the document do they explain what they mean with resilient SRs. Guidelines expanding on this strategic agenda do not help us any further because even though the importance of societal and SRs' resilience is mentioned again, a clarification is still lacking (Littooij and Van Eck, 2015b). We therefore need to turn our attention to the crisis management literature on resilience to figure this out. Unfortunately, there is no single shared definition of resilience and the current perspective on resilience does pose some problems. Our next step is therefore to address how resilience is perceived in the crisis management literature, the complications inherent in that perspective, and the way we dealt with these complications.