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Publication date

2023

Document Version

Final published version

[Link to publication](#)

Citation for published version (APA):

Boe-Lillegraven, S. N., Georgallis, P., & Kolk, A. (2023). Freeze, fight, or flee? Firms' reactions to climate disasters and the consequences for community resilience. Web publication or website, Management Studies Insights Blog. <https://managementstudiesinsights.com/freeze-fight-or-flee-firms-reactions-to-climate-disasters-and-the-consequences-for-community-resilience/>

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Freeze, fight, or flee? Firms' reactions to climate disasters and the consequences for community resilience

by Siri Boe-Lillegraven, Panikos Georgallis, Ans Kolk | Dec 5, 2023 |
Management Insights

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The photo shows the river Mississippi near Davenport Iowa (US), where disaster prevention measures have been fiercely debated for years. A recent [paper published in](#)

[the Journal of Management Studies](#) considers what might happen when a flood crushes the defense system of a more densely populated area; specifically The Randstad and the cities' of Rotterdam and Amsterdam in the Netherlands. The paper explains how businesses' disaster responses emerge and interact to impact communities' disaster resilience. Its framework can be used to influence such responses – either prior to or in the aftermath of disasters associated with extreme weather and climate change. Photo by [Kelly Sikkema](#) on [Unsplash](#).

Building on a scenario of a future flood hitting the Dutch coast, our framework explains variation in firms' responses to sudden climate disasters and outlines how firms' post-disaster reactions can drive community resilience.

Disasters associated with extreme weather and climate change are becoming evermore [frequent](#), and their [consequences more costly](#). Enhancing society's ability to withstand them is therefore fundamental for economic stability, and a [key priority for policymakers](#). Even in societies with expertise in disaster prevention, however, changes to the weather and climate cast doubts on the adequacy of existing measures. And as years go by without a disaster actually occurring, motivations to invest in preventive measures can decline. [Disaster resilience](#), therefore, might come down to dealing with the consequences of climate disasters once they have occurred.

The need to zoom in on firms

Firms are important for a community's functioning, and their actions after disasters can save lives and livelihoods. Yet, in our recently published article, [available open access in Journal of Management Studies](#), we note that variation in firms' disaster reactions is inadequately explained. In addition, we advocate for more attention to how firms' reactions might influence one another and a community's chances of recovery. Understanding firms' reactions and their consequences is important so that scholars, business managers, and policy makers can better anticipate and prepare for various disaster risks.

Explaining firms' propensities to freeze, fight, or flee

We develop a framework that explains how and why firms' interpretations of climate disasters (specifically, their sense of place, time, certitude, and loss) will influence three initial disaster responses: freeze, fight, or flee. We also articulate how these reactions might develop into patterns that can support or undermine a community's path towards recovery.

To give an example, a firm's sense of place refers to its identification with and embeddedness within a community. A strong sense of place can explain a firm's willingness and ability to stay in a community and 'fight' (in effect, contribute to rebuilding), as it instills a sense of shared fate and prompts community ties relevant for rebuilding.

A strong sense of loss, however, might hinder or delay a 'fight' reaction because the firm can become stuck in 'freeze'-mode fueled by shock and fear. Depending also on the firm's sense of time and certitude, the firm might eventually opt to 'flee' the community in its attempt to recover.

Learning 'from' the future: A narrative scenario of a major flood hitting the Dutch coast

To gain additional insights about the relation between firms' disaster reactions and community resilience, we developed a narrative scenario, a dystopian but plausible account of a flood hitting the most populated part of the Netherlands. The last major flood disaster in the Netherlands **occurred in 1953**, but flood prevention is increasingly challenged by unanticipated weather and climate change. How might companies react to a catastrophic flood, and how would that affect cities like Amsterdam and Rotterdam?

Thought experiments are well-known in science, and scenarios are commonly used in environmental and policy disciplines. Yet, our research aims required some methodological innovation.

- While most scenarios informing extant policies and disaster plans ignore the role of firms, we integrated insights from organization and management theory about firms' likely disaster responses (i.e., our freeze-fight-flee framework) to anticipate the potential recovery paths of two major cities (Rotterdam and Amsterdam) following a major flood.
- To '**discipline our imagination**' of the flood disaster scenario and firms' responses, we combined insights from our framework with data on actual and prospective floods, such as eyewitness descriptions and publicly available flood risk estimates and emergency plans.
- After fleshing out the disaster scenario, we further relied on organization theory (the notion of sensemaking-sensegiving cycles) to explain the process through which firms can shape each others' interpretations and thereby generate differing dominant response patterns across communities.

A tale of two cities: Firm responses and community recovery versus demise

Exactly how may firms' reactions and interactions after a climate disaster shape community resilience, then? As we write in our stylized narrative: For Rotterdam, the flooding of the Dutch coast became "a wake-up call that helped it position itself as the indisputable industrial centre". Amsterdam, however, "saw much of its economy wiped out within months, to never fully recover".

The core of our argument is that such different outcomes for communities can be traced back to the firms populating them, and specifically to differences in these firms' sense of place, time, certitude, and loss following a disaster. Furthermore, the scenario and our theory reveal that what firms do to recover might undermine a community's prospects of bouncing back.

So what? Implications for research and practice

Our article contributes to scholarship on climate disasters by offering new explanations for variation in firms' responses, by articulating how these responses impact community disaster resilience, and by suggesting how a firm can 'give sense' to and impact other firms even without intent. In addition, our framework can inform interventions to shape firms' disaster responses. Using this framework, policymakers can prevent certain reactions before they happen or, alternatively, influence societal dynamics after a major climate disaster has occurred.

For example, authorities can bolster the salience of the community's identity (and firms' sense of place) to stimulate 'fight' reactions. They may also directly help prominent firms to recover, as these firms can give sense to other firms that would otherwise be inclined to 'flee'. The narrative disaster scenario we developed can also be used to provoke conversations on disaster prevention and response within and beyond emergency response organizations and policy forums. Concretely, municipal authorities could disseminate the text – potentially with minor changes to make it more relevant for their specific city – as a starting point for collaborative workshops where local business actors imagine similar events and discuss their own current versus desired level of disaster preparedness.

Lastly, we hope our work will contribute towards a sea change in expanding the toolkit of organization researchers, as it exemplifies a way to learn from uncomfortable events that could happen in the future. Narrative scenarios should not be used as forecasts, but can aid practically relevant research by allowing for 'mental experimentation' and sensitizing us to what is often overlooked.

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