Chapter 4 Disasters and Responsibility. Normative Issues for Law Following Disasters



Kristian Cedervall Lauta

Abstract Major disasters are windows to societies' deepest, darkest secrets. Moments, which allow us to sneak a peek at the categories according to which, we distribute wealth or justice and organize society as such. Law has come to play a vital role in this regard. In this chapter, I argue that (legal) conflicts after disaster are inevitable, as we have collectively changed our perception of what a disaster is. The modern disaster is anything but *natural* in its constitution; it is a deeply political, moral and cultural phenomenon. Accordingly, it is also legal. Furthermore, three overall features characterize the legal cases that arise out of disasters. They all deal with serious losses, complex causalities and tricky normative distinctions. While the first two play to the strengths of the legal order, the third is what make these cases controversial. Thus, in the process of solving the legal facts presented, courts face a number of questions of a non-legal nature. In order to perform its main function (to solve the conflict at hand) law is forced to engage with the most central questions we are confronted with in an Anthropocene world: which processes are driven by natural forces and which by culture, who is a citizen, and what belongs to sphere of scientific uncertainty or misconduct?

Keywords Disaster justice \cdot Disaster law \cdot L'Aquila \cdot Disaster responsibility \cdot Risk regulation \cdot Law and disasters

Law has increasingly become the approach to fixing conflicts that emerge after disasters. After every major disaster in the last 30 years, legal cases on responsibility for the disastrous losses have been filed. These legal cases consider all sort of conflicts brought on by the losses of property or life. Ownership, insurance policy

Center for International Law, Conflict and Crisis, Faculty of Law and Copenhagen Center for Disaster Research (COPE), University of Copenhagen, Copenhagen, Denmark e-mail: klau@jur.ku.dk

This paper was written as part of the University of Copenhagen 2016 program for excellent interdisciplinary research: Changing Disasters.

K. C. Lauta (⊠)

interpretation, or damages to third-parties caused by insufficiently secured possessions are recurring themes. However, often these legal cases are forced, in the throes of solving *prima facie* trivial legal disputes, to address more fundamental normative issues.

In this chapter, I will argue that by studying the (legal) decisions in these social conflicts we get a window not only to contemporary conceptions of justice, but to the (re-)negotiation of fundamental categories on which we base our society. That is, as courts become the preferred platform to settle controversial issues in the aftermath of disasters, lawyers come to decide on things of a fundamentally non-legal nature. In other words, in order to solve conflicts, which only address a very specific sub-section of the world (e.g. what the word "flood" means in an insurance policy) – the judge has to understand, and decide upon, all the unruly complexity inherent in disasters.

The paper is structured in three overall parts. First, I will account for the way disasters are understood within law. Second, I will argue that as we increasingly interpret and approach disasters as human and social shortcomings, inevitably they become legal conflicts, and accordingly court cases. So, even though disasters are not rigidly defined or coherently approached *in* law, they play a significant role *for* law. Third, I will say something general about the legal cases courts are confronted with after disasters – about the dilemmas they pose for courts, for societies and for legislators, and how they are presently dealt with. During this exercise, I will outline which normative issues these cases bring up. That is, while they solve the concrete conflicts through traditional legal doctrine and principle, the cases simultaneously becomes a *scene* on which the (re)negotiation of basic societal and ethical categories takes place. Finally, I will offer my conclusions.

4.1 Disasters in Law

There is no uniform understanding of what a disaster is within international law. While this might seem counterintuitive to the non-lawyer, it makes sense, since there is no uniform body of international law on disasters. This is the case both at international, and to a wide extent, regional level: even the global blue print on disaster risk reduction, the Sendai framework, stands back from drawing up a clear and operable definition of "disaster".

The recently adopted International Law Commission (ILC) draft convention on the "protection of persons in the event of disasters" uses the definition "a calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, mass displacement, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society". While this framework offers some hope as to the development of an international law framework for disasters, an international convention not yet in force is hardly a robust starting point for the analysis of normative issues in disaster law. Today, we use a wide array of disaster definition of more less legal nature (See Kelman and Pooley 2004).

Nonetheless, we have, in the course of the last 50 years, seen a vast increase in different types of regulation either directly or indirectly addressing disasters. This legal development is driven by several factors (see more with Lauta 2015) most importantly however, a change in the common understanding of what constitutes a disaster. In the following section, I will suggest how this is so.

4.2 Law in Disasters

The epistemological genealogy of disasters can be, and has been, theoretically construed in many different ways. The traditional approach is to describe the understanding of disasters in the form of acts. In this light, the understanding of disasters have developed from acts of God over acts of an unforeseeable Nature to, now, acts of men and women (Quarantelli 2000; Lauta 2015: 11ff). Another, equally convincing approach focuses on the epistemology of the disaster. This approach takes us from God's Providence over Nature's contingency to human and social vulnerability (Ibid). In the following, I will account for these different understandings, and their role vis-à-vis law.

In pre-enlightenment Europe, disasters were the will of God. God had supreme power. Not only did God know where and whom disasters would befall – She intended it so. This meant that discussions after disasters were not on who had caused the disaster, but rather why God chose this particular disaster site or these particular victims. God was even put on trial in Leibniz' Theodicy (Leibniz 1988) to explain herself. However, beyond this fictional trial disasters were non-legal events – something to be interpreted and acted upon within religious communities and, largely seen (see e.g. Molesky 2015; O'Mathúna 2018), not in courtrooms.

With what the Israeli historian Yuval Noah Harari calls the scientific revolution, often associated with the enlightenment period, disasters changed meaning. Rather than Supreme knowledge, disasters became associated with lack of human knowledge. According to Harari "[m]odern science is based on the Latin injunction ignoramus – 'we do not know'. It assumes that we don't know everything" (Harari 2015, 250). With the introduction of ignorance as the main paradigm for science, the way we understand disasters changes accordingly. Rather than insight into God's providence, disasters become insight into how little we actually know of nature. The 1755 earthquake in Lisbon accordingly spurred an enormous interest in the natural sciences, an interest that even prompted the German philosopher Immanuel Kant to write a series of essays analysing the causes of the quake (Reinhardt and Oldroyd 1983). In this optic, disasters are no longer God's intention, but the result of an unmoral Nature's unforeseeable ways. Thus, a disaster is in this optic the confirmation of our ignorance, something to be studied further, but not something we could foresee or control. They are events beyond morality and law. In legal terms, disasters are forces majeures or even, somewhat ironically, Acts of God (Kaplan 2007; Kristl 2010; Binder 1996; Chocheles 2010; Hall 1993).

In recent years, political philosophy has adopted the theoretical idea of the *Anthropocene* (Bonneuil and Fressoz 2016; Heise 2009; Morton 2013, 2016; Nixon 2011). According to this theory, even geophysical forces or meteorological systems are today made hazardous by human activity (Crutzen 2002). This idea enables us to see that we as humans have now become a force on our own – responsible not only for our survival, but also potential demise. This turn is likewise reflected in disaster studies. Within disasters studies, the central term is today vulnerability rather than hazards – a conceptual change that seems to be endorsed by an almost unanimous global academic community.

Through this theoretical approach new causal connections come to light. Almost every "disaster pre-condition" (Oliver-Smith and Hoffman 1999, 4) exposed by a vulnerability analysis allows us to see human faults and/or neglect. This has major implications for the role of law. According to a modern conception, disasters are within human control and thereby within a moral space almost inevitably leading to legal conflict. Accordingly, when disasters are not results of a contingent, unmoral nature, but rather a defective, unjust culture – they also become subjects for legal scrutiny. In legal terms, disasters result from potential *negligence* or *omissions*.

Take the L'Aquila earthquake in 2009 as an example thereof. The shock was rated 6 rated 5.8 or 5.9 on the Richter magnitude scale and 6.3 on the moment magnitude scale, and eventually killed more than 300 local inhabitants. However, while the shock(s) that hit L'Aquila might be unpredictable and, to a certain extent, uncontrollable, the government's response, including the incorrect communication of the Major Risk Commission preceding the quake, or the enforcement of building codes in the city were not – we shall come back to this later. To be sure, the L'Aquila earthquake is, in a modern discourse, not a disaster because of the tremors of the earth, but because the effects of these tremors could have been avoided, had *someone* acted or prioritized differently (e.g. Alemanno and Lauta 2014; Alexander 2014).

This has dramatic consequences for the role of law after disasters. Today, it seems largely expected that every disaster has some kind of a legal postlude. Accordingly, we have seen legal cases after disasters all around the globe from Chile (Bonnefy 2013) to Japan (Lewis 2012), and from the United States (Lauta 2014: 110 ff) to the Philippines (Reuters 2015).

With this insight at hand, it seems we can move on to the third section of the paper, and explore what might be said in general about these legal struggles.

4.3 Disasters and Legal Responsibility

The conflicts discussed in this chapter are not only tied to the general chaos triggered by emergency: looting, random violence or family disputes. Such conflicts, though incredibly relevant and entirely crucial to the peace of the society in question, are not tied to the character of the disaster itself (See alternatively Harper and Frailing 2016).

This section addresses common features of the cases that arise from the (legal) negotiations around who is responsible for the disastrous losses of the community. In popular terms, I am not discussing crimes during disasters, but disasters *as* crimes. Furthermore, I am predominantly talking about conflicts that arise *after* disaster. Thus, it is most often after disasters that these particular cases crystalize as legal conflicts, though the recent surge of climate litigations might suggest that even this is changing (See e.g. United Nations Environment Programme 2017).

The last 30 years have provided plenty of such case law, in particular on compensation of disaster victims (Hinghofer-Szalkay 2012; Sugarman 2006; Farber and Faure 2010; Faure and Bruggeman 2007; Organisation for Economic Co-operation and Development 2004). After almost every major disaster in the last ten years, we have seen legal cases discussing the responsibility for disastrous losses. This trend cuts across continents, hazard type and size of the impact. As examples, take the cases following from Typhoon Haiyan (Reuters 2015), the 2011 Flood of Copenhagen (The City of Copenhagen 2012), the 2010 Earthquake in Chile (McClean 2012; Bonnefy 2013) or even preemptively discussing a potential volcanic eruption of Mount Vesuvius (see Viviani and Others v. Italy 2015).

Even though these disasters, their causes, and the concrete legal conflicts are very different in scale and character, as well as being embedded in different legal and cultural systems, I believe that there are some commonalities we can identify – and thereby, for the purpose of stating something general about normative issues for "law", single out what the major issues for law might be.

I will claim that three overall features characterize these court cases. Firstly, they all entail realized or potential major damage and thereby **serious losses** for the plaintiffs. That is, the plaintiffs have always suffered, or risked suffering, significant economic or personal damage. Accordingly, the cases are not driven by idiosyncrasies, moral inclination or political ideology, but rather real, and very tangible, losses.

Secondly, they almost always entail the reconstruction of a **complex** assemblage of **causalities.** As stated above, disasters are almost always multi-causal incidents with high social complexity and multiple actors. Therefore, the primary issue in most of these cases is to establish a causal link between plaintiffs' loss and the actions or omissions of the defendant.

Finally, they often necessitate courts to draw the line between law and **central political, scientific, moral or economic priorities or discretion.** That is, in order to create a legal decision, courts often have to distinguish, for example, negligent behaviour from political or economic priorities or, perhaps more directly relevant to the readership of this book, scientific uncertainty from scientific misconduct. Furthermore, in the case of *natural* disasters; courts are forced to discuss, in some detail, the limits between nature and culture. That is, which part of a given incident is attributable to naturally occurring processes ("nature"), and which are culturally/politically/socially induced? In direct continuation of this third characteristic, this chapter's main argument is presented.

In the following sub-sections, I will briefly outline the three characteristics: serious losses, complexity and the involvement of "tricky distinctions".

4.3.1 Serious Losses

Cases emerging from the dust of disaster sites often entail serious losses for the plaintiffs. Losses of lives or livelihoods are defining features of disasters (Killian 1954), and accordingly also for the legal cases arising out of disasters.

While this is a commonality for this group of cases – it is hardly something estranged from law and legal cases. Traffic accidents, inheritance cases and bank-ruptcies all, at least for the involved individuals, involve very serious losses. These cases are commonly accepted to be settled by courts – if anything, serious personal losses seem to strengthen the intuition that responsibility for disaster is a matter for law. Thus, law is commonly accepted to be able to deal with these questions in a just and timely manner, irrespective of the severity of the loss.

4.3.2 Complexity

Modern disasters are almost per se multi-causal and complex in origin. In New Orleans, even though it is clear that the US Army Corps of Engineers should have paid better attention to the levee-system before Hurricane Katrina, the hurricane itself was still a super-hazard, the people of New Orleans did not evacuate when asked to, and the emergency plans at municipal and state level were outdated. Disasters of a certain scope and impact always involve a multiplicity of actors, normative orders, and risks.

In disaster research, there is an increasing focus on disasters as hybrid phenomena, most often constituted of both technological and natural components, sometimes referred to as NaTech disasters (e.g. Cruz et al. 2006; Salzano et al. 2013, 470) or even technically-induced natural disasters (Ellsworth 2013). Thus, it is increasingly acknowledged that modern disasters are hybrid phenomena composed of fragments of very different orders: social, natural, and technological; and therefore phenomena with multiple causes and complex constitutions. The Fukushima incident in Japan serves as the perfect example of the mess that typifies the modern disaster. The disaster was triggered by one of most violent earthquakes ever registered, a 40.5-meter high sea wave, and a nuclear plant positioned on the Japanese east coast. The natural, technological and cultural hazards can hardly be kept apart in Fukushima; rather they constitute a destructive assemblage, causing the disaster only when combined. And yet, the main responsibility was, according to the Japanese Parliament's own assessment, not attributed to the tremendous powers of nature or even societal reliance on dangerous technology, but to particular trades in the Japanese society and culture (Commission 2012): A disaster 'made in Japan'.

In the process of attributing any form of legal responsibility, the establishment of a plausible chain of causality is entirely central. Accordingly, to attribute responsibility for a disaster, plaintiffs must demonstrate causality between the actions or omissions of the defendant and the loss(es) suffered. This is, *post* disasters, always a particularly delicate process.

Thus, returning to Japan, liability could be attributed to many actors. This field of potential causal violators includes the power plant operator, the owner of the power plant, municipal authorities, the government or the Parliament (as well as, of course, nature and/or God). This seems to lead some theorists to suggest that it makes no sense to discuss responsibility for anyone in particular, when responsibility obviously is shared by many (Reason 1990). I disagree – and so do the most courts addressing these cases. The fact that many could be responsible does not mean that no one should be. Or, in other words, the fact that an individual or organization negligently has caused disastrous losses is not exculpated by the rest of society's contributing or overlapping negligence. It is a red herring fallacy or perhaps rather a "two wrongs make a right"-line of argumentation.

More importantly, none of this is new to law. Insurance cases, custody cases, or even murder cases all deal with incredibly complex social facts with multiple causes, conflicting interests and contradictory information. Any of the true crime aficionados, who, like myself, have enjoyed Serial, the Jinx or Netflix's Making a Murderer, will know that even deciding what seems to be a straight-forward criminal case is a mind-blowingly complex exercise. Thus, even in murder cases, many often share responsibility for the wrongdoing.

The claim put forward here is not that law in general and courts in particular have always been beyond critique in this area, or do not have potential for improvement. The point here is merely that this is what courts already do. In most societies, it is indeed the very essence of law to deal effectively, and in a manner contributing to the social peace and general feeling of justice, with complex factual situations.

What makes disasters unique is that in the process of establishing these causalities a number of tricky distinctions must be made – distinctions not normally made within the realm of law, and this is the third defining feature of legal cases following disasters.

4.3.3 Tricky Distinctions

The third feature of post disaster conflict is what I believe makes these cases special. They all navigate a field where even the fundamental categories determining its function are unclear. To decide what stems from nature or culture, and who should have protection and from what, are questions entirely unsettled. Thus, the controversy in establishing causality is not, I will claim, stemming from factual complexity, but rather from the ambiguity in our understanding of even basic concepts like science, agency, and culture.

In order to illustrate this ambiguity we might return to the 2009 L'Aquila earthquake in Italy. In the aftermath of the earthquake, local, national and global attention was caught by a particular legal case (Alexander 2014; Lauta 2014). Six researchers and one public official seated on the National Risk Commission had

convened in L'Aquila a week before the earthquake. They gathered to provide input to authorities on the risks of a major earthquake. The commission consisted of the leading researchers within their field as well as the top branch of the civil protection agency. In their public appearance after the meeting, the commission informed the public that there was no risk of a major earthquake, which, it turned out, was not in conformity with the commission's own findings. In other words, the representative of commission deliberately misinformed the public, and the commission members failed to clear up this misunderstanding, most likely with the intention of avoiding (unnecessary) worry for the population. A group of the relatives who lost family members in the disaster claimed that this (mis)information provided by the Commission was what convinced them to not evacuate their houses during the earthquake. The case caused global upheaval. The global controversy was not because of the incredibly complicated exercise of establishing causality between the press conference held a week before and the victims' decision to not evacuate during the earthquake. Nor was it caused by an inclination that courts should not settle cases involving the loss of life. Rather, the controversy was about the general role of scientific experts in disaster management. Accordingly, the global controversy spurred by the criminal case was not about the potential negligence of the committee – but rather the perceived adjudication of what scientific uncertainty is.

Thus, cases involving responsibility for disaster differ from most others by the fact that they often require courts to address problems, which are not commonly accepted as legal and where the delineation between orders is not clearly established. Again, they are not controversial due to the losses involved or the reconstruction of complex facts, but because they are forced to answer questions unanswered by the regimes, to which they belong: ethics, politics and science.

Law is a binary system. In spite of being constructed to work with complexity, or perhaps exactly therefore, law's purpose and *modus operandi* is to bring clarity. A legal judge is in no position to answer a question, even one of a complex character, with a complex answer. She is forced to answer any question clearly: either an action is legal or illegal; either you find for or against the claim of the plaintiffs.

The emergence of conflicts over the causes of disaster therefore drives an institutionalization of the above mentioned ambiguities: in the process of settling the legal questions, courts come to decide fundamentally non-legal issues. From the perspective of the judge(s) presiding in the case, these "decisions" are rather necessary assumptions to be able to address the legal issues. Returning to L'Aquila, the court could only start discussing causality after making a number of assumptions about the scientific findings of the committee – in a sense, assumptions only relevant in light of the bigger issue of misinformation and the legal problem of causality. However, this process looks very different from outside law – in this case, particularly from within scientific circles.

Seen in this light, the legal cases following disasters cease being greedy grabs for power or riches, and reemerge as epistemological, distributive struggles. These struggles are about who is to be considered a victim, and who might qualify as a victimizer. Thereby these legal cases seems to be the very frontier for the *Anthropocene* turn of disasters – the arena in which basic concepts are established

and challenged, and the place to address and silence the ambiguity that presently haunts our thinking on climate change and disaster responsibility.

Simultaneously, as court cases are becoming the preferred vehicle to settle controversial issues, they also force courts to settle normative issues of a fundamentally non-legal nature. Thereby law, unwillingly, becomes the fix-all.

4.4 Conclusion

Major disasters are windows to societies' deepest, darkest secrets. Moments which allow us to sneak a peek at the categories according to which we distribute wealth or justice and organize society as such. Law has come to play a vital role in this regard. I have argued that (legal) conflicts after disaster are inevitable as we have collectively changed our perception of what a disaster is. The modern disaster is anything but *natural* in its constitution; it is a deeply political, moral and cultural phenomenon. Accordingly, it is also legal. I have suggested three overall features characterizing the legal cases that arise out of disasters. While the first two play to the strengths of the legal order, the third is what make these controversial. In the process of solving the problems presented, law is confronted with a number of questions of a non-legal nature. In order to perform its main function (to solve the conflict at hand) law is forced to engage with the most central questions we are confronted with in an Anthropocene world: which processes are driven by natural forces and which by culture, who is a citizen, and what belongs to sphere of scientific uncertainty or misconduct? These are all questions that must be settled before the conflict can be addressed.

Accordingly, these cases are windows to our present societal struggles on agency, responsibility (in the widest sense) and justice, and should therefore be objects for legal and moral criticism, and engagement.

References

Alemanno, Alberto, and Kristian Cedervall Lauta. 2014. The L'Aquila Seven: Re-establishing Justice after a Natural Disaster. *European Journal of Risk Regulation* 2. https://ssrn.com/abstract=2461327

Alexander, David. 2014. Communicating earthquake risk to the public: the trial of the "L'Aquila Seven". *Natural Hazards* 72: 1159. https://doi.org/10.1007/s11069-014-1062-2.

Binder, Denis. 1996. Act of god? Or act of man? A reappraisal of the act of god defense in tort law. *The Review of Litigation* 15 (1): 1–80.

Bonnefy, Pascale. 2013. Chilean judge upholds manslaughter charges linked to 2010 Tsunami, New York Times. May 16 2013 available at: http://www.nytimes.com/2013/05/17/world/americas/chilean-judge-upholds-manslaughter-charges-against-officials-over-tsunami-alert.html. Accessed 25 Apr 2018.

Bonneuil, Christophe, and Jean-Baptiste Fressoz. 2016. *The shock of the Anthropocene: The Earth, history, and us.* London: Verso.

Chocheles, Christopher T. 2010. No excuses: Hurricanes and the "Act of God" defence to breach of contract claims. *Louisiana Bar Journal* 57.

- Commission, The Fukushima Nuclear Accident Independent Investigation. 2012. The national diet of Japan.
- Crutzen, Paul J. 2002. Geology of mankind. Nature 415 (6867): 23.
- Cruz, Ana Maria, Laura J. Steinberg, and Ana Lisa Vetere-Arellano. 2006. Emerging issues for Natech disaster risk management in Europe. *Journal of Risk Research* 9 (5): 483–501.
- Ellsworth, William L. 2013. Injection-induced earthquakes. *Science* 341 (6142): 1225942. https://doi.org/10.1126/science.1225942.
- Farber, Daniel, and Michael Faure (eds.). 2010. *Disaster law*. Cheltenham: Edward Elgar Publishing.
- Faure, Michael G., and Bruggeman Véronique. 2007. Catastrophic risks and first-party insurance. *SSRN*.
- Hall, C.G. 1993. Un unsearchable providence: The lawyer's concept of act of God. *Oxford Journal of Legal Studies* 13.
- Harari, Yuval Noah. 2015. Sapiens. A brief history of humankind. New York: Harper.
- Harper, Dee Wood, and Kelly Frailing (eds.). 2016. *Crime and criminal justice in disaster*. 3rd ed. Durham: Carolina Academic Press.
- Heise, Ursula K. 2009. Sense of place and sense of planet: the environmental imagination of the Global. Oxford: Oxford University Press.
- Hinghofer-Szalkay, Dagmar. 2012. Naturkatastrophen: Haftung des Staates für Schäden der Opfer: Rechtsvergleichende Überlegungen, USA-Österreich: Jan Sramak Publishing House.
- Kaplan, Casey P. 2007. The act of God defense: Why hurricane Katrina & Noah's flood don't qualify. *The Review of Litigation* 26: 155–181.
- Kelman, I., and S. Pooley (eds.). 2004. Disaster definitions. Version 2, 24 July 2004 (Version 1 was 12 July 2004). Downloaded from http://www.ilankelman.org/miscellany/DisasterDefinitions. doc.
- Killian, L.M. 1954. Some accomblishments and some needs in disaster study. *Journal of Social Issues* 10: 66–72.
- Kristl, Kenneth T. 2010. Diminishing the divine: Climate change and the act of God defense. *Widener Law Review* 15: 325.
- Lauta, Kristian Cedervall. 2014. New fault lines? On responsibility and disasters. *European Journal of Risk Regulation* 2: 137–145.
- ——. 2015. *Disaster law*. New York: Routledge.
- Leibniz, G.W. 1988. Theodicy. Peru: Open Court Publishing.
- Lewis, Ben. 2012. The legal aftershocks of Fukushima. Law.com. 26 January 2012, available at: https://www.theguardian.com/environment/2016/feb/29/former-tepco-bosses-charged-fukushima. Accessed 26 Apr 2018.
- McClean, Denis. 2012. Chile still living with quake effects, UN-ISDR. https://www.unisdr.org/archive/25366. Accessed 25 April 2018.
- Molesky, Mark. 2015. This gulf of fire: The Great Lisbon Earthquake, or Apocalypse in the Age of Science and Reason. Vintage Books.
- Morton, Timothy. 2013. *Hyperobjects: Philosophy and ecology after the end of the world, posthumanities*. Minneapolis: University of Minnesota Press.
- . 2016. Dark ecology: For a logic of future coexistence, Wellek Library lectures in critical theory. New York: Columbia University Press.
- Nixon, Rob. 2011. *Slow violence and the environmentalism of the poor*. Cambridge, MA: Harvard University Press.
- O'Mathúna, Dónal P. 2018. Christian theology and disasters: Where is God in all this? In *Disasters: Core concepts and ethical theories*, ed. Dónal P. O'Mathúna, Vilius Dranseika, and Bert Gordijn. Dordrecht: Springer.
- Oliver-Smith, Anthony, and Susannah M. Hoffman. 1999. *The angry Earth: Disaster in anthropological perspective*. New York: Routledge.

Organisation for Economic Co-operation and Development. 2004. *Large-scale disasters: Lessons learned*. Paris: Organisation for Economic Co-operation and Development.

Quarantelli, E. L. 2000. Title. Preliminary Paper.

Reason, James. 1990. Human error: Models and management. *British Medical Journal* 320 (7237): 768–770.

Reinhardt, O., and D.R. Oldroyd. 1983. Kant's theory of earthquakes and volcanic action. *Annals of Science* 40 (3): 247–272. https://doi.org/10.1080/00033798300200221.

Reuters. 2015. Philippine typhoon victims prepare lawsuit against fossil fuel companies accused of driving climate change. *South China Morning Post*. http://www.scmp.com/news/asia/southeast-asia/article/1887014/philippine-typhoon-victims-prepare-lawsuit-against-fossil. Accessed at 30 Apr 2018.

Salzano, Ernesto, Anna Basco, Valentina Busini, Valerio Cozzani, Enrico Marzo, Renato Rota, and Gigliola Spadoni. 2013. Public awareness promoting new or emerging risks: Industrial accidents triggered by natural hazards (NaTech). *Journal of Risk Research* 16 (3-4): 469–485.

Sugarman, Stephen D. 2006. Roles of government in compensating disaster victims. Issues in legal scholarship.

The City of Copenhagen, 2012. *Cloudburst Management Plan*, available on http://en.klimatilpasning.dk/media/665626/cph_-_cloudburst_management_plan.pdf. Last accessed 30 Apr 2018.

United Nations Environment Programme. 2017. *The status of climate change litigation – A global review*, available at http://columbiaclimatelaw.com/files/2017/05/Burger-Gundlach-2017-05-UN-Envt-CC-Litigation.pdf. Accessed at 30 Apr 2018.

Viviani and Others v. Italy. 2015. European court of human rights, application no. 9713/13.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

