

THE EMERGING IMPERATIVE OF DISASTER JUSTICE

Peer reviewed research proceedings from the Bushfire and Natural Hazards CRC &
AFAC conference

Perth, 5 – 8 September 2018

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Version	Release history	Date
1.0	Initial release of document	05/09/2018



Australian Government
Department of Industry,
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Publisher:

Bushfire and Natural Hazards CRC

September 2018

Citation: Lukasiewicz A & Dovers S. (2018). The emerging imperative of disaster justice. In J.Bates (Ed.), *Research Forum 2018: proceedings from the Research Forum at the Bushfire and Natural Hazards CRC & AFAC Conference*. Perth: Bushfire and Natural Hazards CRC.

INTRODUCTION

Disaster justice, a term coined by Verchick (2012), is an emerging field of study focusing on the role of societies, specifically their governing structures, in creating and perpetuating vulnerabilities, inequalities and injustices that are magnified by natural hazards. Disaster justice is a problem of governance, rather than nature or luck, that elicits moral claims for effective and fair disaster management (Douglass & Miller, 2016). Verchick makes this point succinctly: “In the Anthropocene, there is no such thing as a natural disaster. Anthropogenic carbon emissions amplify the force and frequency of many environmentally triggered events. Land-use planning decisions squeeze some populous communities into the unsafe places where those escalated forces are more likely to land” (Verchick, 2016, p. 6). This emerging field thus draws heavily on the related concepts of environmental justice and climate justice.

In this review paper, we first outline how disaster management constitutes a justice issue. We then briefly introduce the different justice concepts applicable to disaster management and finally propose what the concept of disaster justice can do for disaster management.

WHY TALK ABOUT DISASTER MANAGEMENT IN TERMS OF JUSTICE?

There are three reasons why justice should be a concern for disaster management. First, disasters are not natural (Lauta, 2015), they result from social vulnerability (Clark, Chhotray, & Few, 2013), which is largely caused by decisions over the distribution of resources, rights and political power : “natural disasters are in fact social disasters waiting to happen that may be triggered by a particular natural force” (Pelling, quoted in Verchick, 2012, p.34). Second, disasters impact on broadly agreed human rights such as the right to life, health and shelter (Valentini, 2013). Third, disasters generate injustices which demand accountability (Verchick, 2012).

Disaster impacts are largely the result of both deliberate and unintentional decisions

Disaster impact are a function of social vulnerability and physical exposure being impacted upon by a natural hazard. While humans cannot do much about the existence of natural hazards, we can control factors that lead to vulnerability and which determines the severity of disaster impact at local, regional or systemic scales (Lauta, 2015; Verchick, 2012).

Large-impact disasters such as Hurricane Katrina in the US highlight existing inequalities in health and well-being of vulnerable populations: the poor, working class, and minority communities (Allen, 2007). These groups tend to suffer disproportionately from disasters due to their physical, social and financial vulnerabilities (United Nations, 2015; Vance, 2008; Verchick, 2012; Weibgen, 2015). The scale of Hurricane Katrina’s impact was more due to the political economy of the disaster area than the hurricane’s strength (Bullard & Wright, 2008, p. 244). For example, Hurricane Katrina destroyed public health clinics and hospitals – support systems relied upon by the poor (Vance, 2008). The majority of deaths from Hurricane Katrina (as well as the European heatwaves and the Fukushima disaster) were among the elderly, due to their low mobility and poor health. After Hurricane

Katrina, the median income for women fell as jobs in traditionally female-dominated industries (hospitality, education and healthcare) disappeared and most public housing closed down, disproportionately affecting female-headed households (Verchick, 2012). The injustices of a disaster are thus rooted in already existing injustices (Finger, 2014).

Disasters (and their management) impact on peoples' rights (and responsibilities)

As disasters become normalized, societal expectations about disaster management increase: proper management of disasters is now recognized as a human right in the European Union (Lauta, 2015). Climate-driven disasters impact fundamental human rights, to life, health and subsistence. Sudden-onset events such as hurricanes, heatwaves and flash floods cause massive loss of life and are set to increase in frequency and spread. Human health is impacted by slow-onset events such as droughts which can lead to declining food security and lead to malnutrition while the spread of vector-borne diseases results in increased exposure and spread to previously unaffected populations (International Bar Association, 2014). The right to subsistence is similarly threatened by mass displacement of peoples following sudden large scale disasters, such as Hurricane Katrina in the US or Typhoon Haiyan in the Philippines (International Bar Association, 2014).

Disasters constitute a disruption to everyday life, lasting for months or years. Hurricane Katrina, for example, severely impacted the criminal justice system in New Orleans where over 6,000 hastily evacuated prisoners from the local jail were kept in prison for longer than their sentences due to lost paperwork (Vance, 2008). Disaster management balances public interest and private property rights: emergency services can deny access to disaster-affected areas in the interest of public health, while the actions (and inactions) of private individuals can affect public safety. The balance between individual and government responsibility is not yet established and continually contested, especially after major events (Lukasiewicz, Dovers, & Eburn, 2017). An examination of the different types of rights (negative and positive -protecting from and entitling to things, as well as basic and non-basic) (Ziervogel et al., 2017) can aid in clarifying the debate.

Disasters require action and accountability

As mitigation of and protection from disasters is now part of everyday life (Lauta, 2015), disasters are followed by enquiries to find where systems and people responsible failed and how future harm might be avoided (Friedman & Thompson, 2003). Whether these inquiries achieve anything useful is another matter (Eburn & Dovers, 2016). Responding to disasters as an injustice goes beyond claims for compensation, it also calls for accountability of those responsible for a disaster (Goldberg, 2012).

Theories of justice devote much time to the issue of enforcement, responsibility and accountability (Valentini, 2013). Injustice occurs when actors who are entitled to certain goods or rights are denied them or when actors with specific obligations fail to fulfill them (Harris & Symons, 2010). Debates over who has what rights and responsibilities are, for example, very prominent in the field of climate justice, where natural disasters (slow and sudden) remain the most prominent consequential injustice (Harris & Symons, 2010). Valentini (2013, p.500) makes the case that the 2010 Haiti earthquake is an issue of justice (rather than charity) since Haiti was "made poor" – its vulnerability to disasters caused by

the exploitative actions of western countries and international financial organisations. Haiti's vulnerability has been highlighted with Hurricane Matthew in 2016 causing at least 1,000 deaths, severely impacting public services, infrastructure and homes, triggering an outbreak of cholera and reversing years of economic growth (Ahmed, 2016).esults

DISCUSSION: HOW IS JUSTICE CONCEPTUALISED IN DISASTER MANAGEMENT?

While disaster justice is a recent concept, justice theories have always been directly and indirectly applied to all aspects of disaster management. Since the field of justice research is broad, interdisciplinary and fragmented (similar to the field of disaster management), this section highlights the most common and dominant ways of thinking about justice in disaster management: distributive justice, compensatory justice, environmental justice, the capability approach, procedural justice and the newer conceptualization of restorative justice.

Justice is about what individuals are owed by others and by public institutions (Moellendorf, 2015), what benefits and resources they have access to, what risks and burdens have been allocated to them (Lebel, Foran, Garden, & Manuta, 2009), and how resources, participation and recognition are allocated across members of a society (Thaler, Zischg, & Keiler, 2018). The reason why there are so many justice conceptualisations is because they align with different values. Thus while justice is an underlying goal of public policy, its realization is often muddled due to the lack of a mainstream value set that would dictate what justice ought to look like (Zhang, 2014). Managing for justice before, during and after disasters strike, inevitably involves compromises between different justice metrics (Goldberg, 2012). However, any commitment to justice (of whatever form) suggests a “moral desire” to minimize suffering (Clark et al., 2013).

Utilitarianism

In terms of disasters, utilitarianism would support private insurance schemes, since the insurance industry ensures the greatest return to the shareholders. Utilitarianism would also mean that those areas where the benefits offer greatest overall gain (typically using some form of a cost benefit analysis tool) would be targeted for public flood mitigation (Thaler & Hartmann, 2016). However, it may also translate into a policy of attempting to save the greatest numbers of lives during an evacuation, which could lead to not prioritizing care for the disadvantaged if those individuals would require disproportionate amount of resources (Weibgen, 2015).

Libertarianism

The main principles espoused by libertarianism revolve around the free market: competition, availability of full information, equilibrium in market process and economic freedom (Hayek 1991; Johnson et al. 2007). A libertarian approach to disasters, for example, favours non-governmental adaptation activities, insurance schemes and provision of information on flood hazards zones, rather than public risk management works (Thaler and Hartmann, 2016). The success of the ‘beneficiary pays’ approach is linked to individual capacities, disenfranchising poor and marginalized individuals (Kaufmann, Priest, & Leroy, 2018).

Egalitarianism

Egalitarianism focuses on the equal and fair distribution of goods, services, and burdens between citizens. There is much philosophical variation in egalitarianism literature (Clark et al., 2013; Doorn, 2015), however the focus is largely on improving the lot of the worst-off. In terms of disaster risk mitigation, egalitarianism aims to equalise burdens and would focus on the most vulnerable. In terms of flood mitigation, for example, it would lead to actions such as implementing flood storages in the upper part of the catchment to protect downstream communities, vulnerability reduction and public-funded flood risk management strategies for disadvantaged communities (Thaler and Hartmann, 2016).

Compensatory justice

Compensatory justice is about compensating those whose interests have been harmed by the actions of another (Klinsky & Dowlatabadi, 2009). Methods of compensating for disaster risks include private insurance, litigation against responsible private parties and obtaining compensation from government. An emerging post-disaster trend in democratic societies is for disaster victims to litigate against public institutions (Lauta, 2015) although that is not the norm everywhere (Eburn & Dovers, 2012). Regardless of the method of compensation, key questions exist: 'Who owes compensation to whom?' and 'How much compensation is owed?' (Goldberg, 2012). Answers to these questions are strongly linked to different and often incompatible values.

The capability approach

The capability approach focuses on opportunities that individuals can realise rather than resources that they are allocated. It aims to ensure that people achieve the goals that they see as valuable to them, either through political empowerment or capability development (Doorn, 2015). It was developed by Amartya Sen (2009) and later expanded on by Martha Nussbaum (2007) as a rejection of the focus on equal distribution of resources, since different people will accomplish different things when presented with the same amount of primary goods. The capability approach is a concept that resonates strongly with resilience, which focuses on what people can do, rather how they are vulnerable, and has become prominent in disaster management (Doorn, 2015).

Procedural justice

Procedural justice refers to decision-making processes and claims that the procedures used to arrive at the decision matter in their own right, and influence perceptions of decision outcomes (Törnblom & Vermunt, 2007). In terms of disaster management, the call to increase public participation in decision-making comes from many quarters, including the 2015 Sendai Framework for Disaster Risk Reduction (United Nations, 2015, p. 10). Without a voice in the prevention and preparation phases, vulnerable people's needs may not be catered for. This was the case during Hurricane Sandy's impact on the Northeastern United States in 2012, when people with disabilities were essentially forgotten about during city-wide evacuations in a case of "benign neglect," rather than deliberate discrimination (Weibgen, 2015, p. 33).

The push for procedural justice is thus partly motivated by the desire to prevent new and compounded injustices that could occur during and after disasters. To develop evacuation plans that cater to the needs of people with disabilities, or the poor, those people need to actively participate in planning (Doorn, 2015). Procedural justice is also asserted as an intrinsic value (eg. Sen (2001) who sees disaster risk reduction as being fundamentally about democratic values such as transparency, accountability, and the right to participate in decision-making. Whether procedural justice is argued for in terms of rights or as a practical way of preventing further injustices, its importance to disaster management continues to be highlighted.

Restorative justice

Restorative justice recognises the harm done to an individual and the damage to a community and focuses on repairing the harm (Cooper, 2008), not through the assignation of blame or punishing the offender, but rather by bringing the victim and offender together, under the facilitation of a trained mediator, to express their feelings, talk about the impact of the crime and come to an agreement about restitution (Johnstone, 2011). Although it focuses on criminal justice, its potential in disaster justice is increasingly recognised (Volpe, 2007). In discussing better approaches to conducting post-event inquiries into Australian disasters, Eburn and Dovers (2016), point out that while disasters are not crimes, there have victims and accountable parties which make restorative justice principles very applicable (Eburn & Dovers, 2016, p. 51). The application of restorative justice to disaster management is still a proposition rather than a reality.

Environmental justice

Environmental justice is a broad academic research field (see Lukasiewicz, Dovers, Robin, et al., 2017) as well as a more narrow an activist movement linked to civil rights in the United States (Schlosberg, 2013) which focuses on the perceived injustice experienced by already marginalized and disadvantaged groups (Clark et al., 2013) and has focused the unequal application of environmental law between different social groups especially in the allocation of environmental burdens to communities of colour in the United States (Colten, 2007).

Disaster justice is in many ways an extension of environmental justice as the main proposition – that the marginalized and vulnerable suffer disproportionately – is the same. Over many decades, predominantly US-based research has confirmed that the poor and marginalized (individuals as well as communities) are more vulnerable at every stage of disaster management: they are less likely to be prepared by having essentials such as first aid kits, emergency food supplies, fire extinguishers or insurance. They are less likely to receive warnings for evacuation, to believe them and to be able to act on them, as evacuation requires resources (private transportation, ready cash and alternative places to stay) (Verchick, 2012). In the response phase, poor people suffer more damage, injury and death, partially due to lack of preparation but also because they tend to live in older, more densely populated, more disaster-prone neighbourhoods with low standards of housing and services. In the recovery phase minorities and low-income individuals recover slower as they have less insurance, less financial cushioning, they tend to less information, fewer loans, and less government relief and are more likely to encounter bias in obtaining long-term housing (Wright, 2011). While the focus on vulnerability is being superseded by a focus on resilience, environmental justice offers important insights into disaster justice.

Climate justice

As a field of academic inquiry, climate justice considers how climate burdens are shared and how they can be avoided (Caney, 2014). As an activist movement, it has become a powerful discourse (Chatterton, Featherstone, & Routledge, 2012) and can be seen as a form of applied ethics (Schlosberg & Collins, 2014), focusing on the international climate change negotiations. While most debates within climate justice focus on mitigation, the justice implications of adaptation are increasingly recognised (Fisher, 2014). Many issues of climate justice arise out of traditional environmental justice concerns: (that burdens are disproportionately distributed to the poorest while benefits from greenhouse gas emissions accrue to those well-off.

CONCLUSION: HOW CAN DISASTER JUSTICE HELP IN DISASTER MANAGEMENT?

At its core it is an extension of environmental justice applied to disaster management. However, what use is a focus on justice to policy-makers and practitioners?

Democratisation of disaster management

Disaster management is replete with multiple actors: governments at multiple scales, regional organisations, international finance institutions, international governmental agencies (such as the UN disaster agencies), non-governmental actors, multi-actor partnerships, scientific and academic communities, and the media (Lauta, 2015). Non-governmental actors include volunteer organisations and spontaneous volunteers, community-based organizations and businesses (United Nations, 2015). Groups identified as being particularly vulnerable to disasters include women, children and young people, persons with disabilities, older persons, indigenous peoples and migrants (United Nations, 2015). While all these groups have a role to play in disaster management, the main responsibility for ensuring justice in the wake of a disaster rests with governments (United Nations, 2015). This is not just because governments play a vital coordinating role in responding to disasters. They also coordinate the political processes that create, contribute to and alleviate vulnerabilities, including the planning processes that build and maintain human infrastructure, and negotiations over individual rights and duties, thresholds for assistance, policies regarding action on climate change, and land use and development in the country (Harris & Symons, 2010). Governments, through legislation, also oversee the processes by which individuals assert their fundamental rights, and are recognized as having primary responsibility in disaster risk reduction by international agreements (United Nations, 2015).

While the centrality of the government's role cannot be denied, there are equally loud calls for the 'democratisation' of disaster management (Alexander & Davis, 2012). International agreements, such as the Sendai Framework call for partnerships, collaboration and stakeholder engagement in all stages of disaster management, as does Australia's National Strategy for Disaster Resilience, which aims to 'empower' stakeholders. Ensuring procedural justice, especially during policy and plan preparation, remains elusive however as there is real tension between the primacy of government institutions in disaster management and the call for shared responsibility (Lukasiewicz, Dovers, & Eburn, 2017). A focus on procedural justice, along with the capability approach, could help navigate this tension by focusing on the different aspects of procedural justice: representation (who gets to speak for identified stakeholders); level of power (how much power do stakeholders have within the decision-making process); and process rules (what rules govern the structure and process of decision-making) (see Lukasiewicz, 2017).

Overcoming the pitfalls of 'resilience' through a justice lens

Resilience is the new solution for everything from disaster risk reduction to climate change adaptation. However the implementation of resilience tends to entrench disadvantage (Ziervogel et al., 2017), is either neutral or detrimental to poverty alleviation

(Béné, Wood, Newsham, & Davies, 2012), obscures power relations and disguises trade-offs in the distribution of costs and benefits before, during and after disasters (Fainstein, 2015). For example, a resilience approach might sensibly advocate a 'return to open spaces' in built-up areas, however as the most flood-prone built-up areas tend to be inhabited by the lowest socio-economic groups, the removal of housing and infrastructure from floodplains creates an injustice (Fainstein, 2015). By focusing on what individuals can do and increasing people's capacity to respond to difficult situations (such as a disaster), resilience can take the focus away from why difficult situations are happening in the first place. It can (unintentionally) obscure systemic and structural injustices and redirect efforts away from removing these injustices. Considering disaster risk management through a justice lens, particularly a combination of procedural justice and a capability approach, can, we propose, clarify our focus on the reasons why vulnerabilities and differential impacts exist, and incorporating multiple views into identifying solutions.

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REFERENCES

- Ahmed, A. (2016, October 10). In Haiti, a City's Race Into the 21st Century Is Ruined by a Hurricane. *New York Times*, p. online. Retrieved from https://www.nytimes.com/2016/10/11/world/americas/jeremie-haiti-hurricane-matthew.html?_r=2
- Alexander, D., & Davis, I. (2012). Disaster risk reduction: An alternative viewpoint. *International Journal of Disaster Risk Reduction*, 2, 1-5.
- Allen, B. L. (2007). Environmental justice, local knowledge, and after-disaster planning in New Orleans. *Technology in Society*, 29, 153-159.
- Béné, C., Wood, R. G., Newsham, A., & Davies, M. (2012). Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes. Retrieved from Brighton, UK: http://www.reachingresilience.org/IMG/pdf/resilience_new_utopia_or_new_tyranny.pdf
- Bullard, R. D., & Wright, B. (2008). Disastrous Response to Natural and Man-Made Disasters: An Environmental Justice Analysis 25 Years After Warren County. *Journal of Environmental Law*, 26, 217-253.
- Caney, S. (2014). Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens. *The Journal of Political Philosophy*, 22(2), 125-149.
- Chatterton, P., Featherstone, D., & Routledge, P. (2012). Articulating Climate Justice in Copenhagen: Antagonism, the Commons, and Solidarity. *Antipode*, 45(3), 602-620 doi:10.1111/j.1467-8330.2012.01025.x
- Clark, N., Chhotray, V., & Few, R. (2013). Global justice and disasters. *The Geographical Journal*, 179(2), 105-113.
- Colten, C. E. (2007). Environmental justice in a landscape of tragedy. *Technology in Society*, 29, 173-179.
- Cooper, D. (2008). Thinking about justice "outside of the box": Could restorative justice practices create justice for victims of international disasters? *New England Law Review*, 42, 693-700.
- Doorn, N. (2015). Resilience indicators: opportunities for including distributive justice concerns in disaster management. *Journal of Risk Research*. doi:10.1080/13669877.2015.1100662
- Douglass, M., & Miller, M. (2016). Disaster justice in anthropocene Asia and the Pacific. Paper presented at the Disaster justice in anthropocene Asia and the Pacific, Singapore.
- Eburn, M., & Dovers, S. (2012). Australian wildfire litigation. *International Journal of Wildland Fire*, 21(5), 488-497.

Eburn, M., & Dovers, S. (2016). Discussion paper: Learning for emergency services, looking for a new approach. Retrieved from Canberra:
<http://www.bnhcrc.com.au/publications/biblio/bnh-3054>

Finger, D. (2014). 50 Years After The "War On Poverty": Evaluating The Justice Gap In The Post-Disaster Context. *Boston College Journal of Law & Social Justice*, 34, 267-282.

Fisher, S. (2014). The emerging geographies of climate justice. *The Geographical Journal*, 181(1), 73-82 doi:10.1111/geoj.12078

Friedman, L. M., & Thompson, J. (2003). Total Disaster and Total Justice: Responses to Man-made Tragedy. *DePaul Law Review*, 53, 251-287.

Goldberg, J. C. (2012). Doing Justice In The Face Of A Disaster. *Akron Law Review*, 45, 583-589.

Harris, P. G., & Symons, J. (2010). Justice in adaptation to climate change: cosmopolitan implications for international institutions. *Environmental Politics*, 19(4), 617-636.
doi:10.1080/09644016.2010.489716

International Bar Association. (2014). *Achieving Justice and Human Rights in an Era of Climate Disruption*. Retrieved from London, UK:

Johnstone, G. (2011). *Restorative Justice: Ideas, Values, Debates* (2nd ed.). London and New York: Routledge.

Kaufmann, M., Priest, S., & Leroy, P. (2018). The undebated issue of justice: silent discourses in Dutch flood risk management. *Regional Environmental Change*, 18, 325-337.
doi:10.1007/s10113-016-1086-0

Klinsky, S., & Dowlatabadi, H. (2009). Conceptualizations of justice in climate policy. *Climate Policy*, 9, 88-108.

Lauta, K. C. (2015). *Disaster Law*. London and New York: Routledge.

Lebel, L., Foran, T., Garden, P., & Manuta, J. B. (2009). Adaptation to Climate Change and Social Justice: Challenges for Flood and Disaster Management in Thailand. In F. Ludwig, P. Kabat, H. van Schaik, & M. van Der Valk (Eds.), *Climate Change Adaptation in the Water Sector* (pp. 125-142). London and Washington, DC: Earthscan.

Lukasiewicz, A. (2017). The Social Justice Framework: Untangling the maze of justice complexities. In A. Lukasiewicz & S. Dovers (Eds.), *Natural Resources and Environmental Justice: Australian Perspectives* (pp. 233-251). Clayton, Victoria: CSIRO Publishing.

Lukasiewicz, A., Dovers, S., & Eburn, M. (2017). Shared responsibility: the who, what and how. *Environmental Hazards*, 16(4), 291-313. doi:10.1080/17477891.2017.1298510

Lukasiewicz, A., Dovers, S., Robin, L., McKay, J., Schilizzi, S., & Graham, S. (Eds.). (2017). *Natural Resources and Environmental Justice: Australian Perspectives*. Clayton, Victoria: CSIRO Publishing.

Moellendorf, D. (2015). Climate Change Justice. *Philosophy Compass*, 10(3), 173-186.

Nussbaum, M. (2007). Human Rights and Human Capabilities. *Harvard Human Rights Journal*, 20, 21-24.

Schlosberg, D. (2013). Theorising environmental justice: the expanding sphere of a discourse. *Environmental Politics*, 22(1), 37-55.

Schlosberg, D., & Collins, L. B. (2014). From environmental to climate justice: climate change and the discourse of environmental justice. *WIREs Climate Change*, 5(3), 359-374 doi:10.1002/wcc.275

Sen, A. (2001). *Development as Freedom*. Oxford: Oxford University Press.

Sen, A. (2009). *The Idea of Justice*. London, UK: Penguin Books.

Thaler, T., & Hartmann, T. (2016). Justice and flood risk management: reflecting on different approaches to distribute and allocate flood risk management in Europe. *Natural Hazards*, 1-19. doi:10.1007/s11069-016-2305-1

Thaler, T., Zischg, A., & Keiler, M. F., Sven. (2018). Allocation of risk and benefits—distributional justices in mountain hazard management. *Regional Environmental Change*, 18, 353-365. doi:10.1007/s10113-017-1229-y

Törnblom, K. Y., & Vermunt, R. (2007). Towards an integration of distributive justice, procedural justice, and social resource theories *Social Justice Research*, 20(3), 312-335. doi:10.1007/s11211-007-0054-8

United Nations. (2015). *Sendai Framework for Disaster Risk Reduction 2015-2030*. Retrieved from <http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf>

Vance, S. S. (2008). Justice After Disaster-What Hurricane Katrina Did to the Justice System in New Orleans. *Howard Law Journal*, 51(3), 621-649.

Verchick, R. (2012). Disaster Justice: The Geography of Human Capability. *Duke Environmental Law and Policy Forum*, 23, 23-71.

Verchick, R. (2016). *Diamond in the Rough: One City's Quest for Disaster Justice*. Paper presented at the Disaster justice in anthropocene Asia and the Pacific, Singapore, November 18-19.

Volpe, M. R. (2007). Restorative justice in post-disaster situations: Untapped potential. *Cardozo Journal of Conflict Resolution*, 8, 611-621.

Weibgen, A. A. (2015). The Right To Be Rescued: Disability Justice in an Age of Disaster. *The Yale Law Journal*, 124(7), 2202-2679.

Wright, B. (2011). The Post-Disaster Struggle For Equity And Justice In Communities Of Color Along The Gulf Coast. *Florida A&M University Law Review*, 6(2), 197-199.

Zhang, H. (2014). Explaining the perceived justice of disaster relief policy: An empirical study based on the 2008 Wenchuan Earthquake in China. *International Journal of Social Welfare*, 23, 150-164.

Ziervogel, G., Pelling, M., Cartwright, A., Chu, E., Deshpande, T., Harris, L., . . . Zweig, P. (2017). Inserting rights and justice into urban resilience: a focus on everyday risk. *Environment & Urbanization*, 29(1), 123-138. doi:10.1177/0956247816686905