

Title: Putting the 'Local' in Resilience and Adaptation Policy

Abstract: In this paper we provide an overview of the key themes and contributions in the Local Emergency Management special issue of *Local Government Studies*. Despite extensive international efforts focused on climate change adaptation and disaster risk reduction and management, ultimately these challenges are local. Local governments are the first line of policy practitioners and operators, dealing with the intersection of climate change, disaster response and fiscal austerity.

We contribute to the literature on local government and hazard management by engaging with the ongoing debate of defining resilience and adaptation, and locate these concepts within local administrative practice. We explore international-level studies on post-conflict states and situate these paradigms in concrete local governance case studies. In this special issue, we demonstrate that the challenges of local governance supersede national boundaries, with articles contributed by scholars of local emergency management and hazards governance from around the globe. Each article examines local government's role in strengthening adaptation and resilience. We draw out key themes of social capital, risk information as a building block of resilience, and collaboration between government and non-government actors to build resilience.

Local governments face the global challenges of climate change adaptation and disaster risk reduction on a daily basis. In this introductory article, we provide insight into the emerging challenges and pioneering approaches undertaken across multiple countries to building resilience, providing evidence-based strategies and practical approaches to juggling the demands of service delivery, austerity and an evolving hazard-scape.

Keywords: Local government, resilience, adaptation, disaster management, emergency management, policy analysis

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Despite concerted international efforts to reduce disaster risk, worldwide population growth ensures that ever more people are exposed to hazards (Cutter 2006; Mileti 1999). From 2010-2014, the world accumulated more than \$750bn in disaster damages, indicating a growth in real dollars far outpacing inflation (UNISDR 2018). Extensive global efforts have been invested in promoting adaptation and mitigation activities, and in building capacity for more effective disaster management (UNISDR 1999).

International efforts notwithstanding, we argue that the lion's share of hazards and climate change adjustment occurs at the local level. This situation poses special challenges for local government for at least three reasons. First, local government managers are the first-line responders in cases of emergency, and if handled expeditiously, can stop an emergency from escalating to higher levels of government. Second, *resilience*, the ability to recover quickly from shock, is at heart a community attribute. And finally, *adaptation*, efforts to reduce the vulnerability of social, ecological, and biological systems and lower the risks posed by climate change, cannot occur without local-level changes, even if complemented or encouraged by regional, national, or international efforts.

This special issue supports our argument with articles contributed by scholars of local emergency management and hazards governance from around the globe. [Dr. Barry Quirk, the Chief Executive of the Royal Borough of Kensington and Chelsea, draws on his experience, including leading the response to the Grenfell Tower fire tragedy in central London in June 2017, to provide a foreword. He stresses the importance of compassion, preparation, and improvisation in addressing hazards and managing disasters, and these ideas are echoed in the subsequent articles. Each article examines local government's role in strengthening adaptation and resilience.](#) Together, these pieces form a compelling argument for the primacy of local government in helping communities withstand hazards and critical events.

This issue makes at least three contributions to the literatures on local government and hazards management. First, despite criticisms that *resilience* and *adaptation* are terms too vague to be helpful to managers and policy makers, this special issue precisely defines and concretely situates the concepts within theoretical and practical paradigms. Second, we bridge a common divide between international-level and local-level governance studies by exploring how abstract international debates are addressed locally on a day-to-day basis. Finally, we explore elements of and barriers to achieving resilience, illuminating the multi-dimensionality of the task and recommending evidence-based strategies and practical approaches to juggling the demands of service delivery, austerity and an evolving hazard-
scape.

Resilience and Adaptation

Resilience and *adaptation* are concepts so ubiquitous that they risk becoming almost meaningless terms in everyday life. In this issue we consider *resilience* to be the ability to recover from unplanned disruptions, including climate-related shocks, technological and technical failures, economic downturns, and social upheaval. *Adaptation* is change designed to lower the risks and reduce the vulnerability of social, ecological, and biological systems to threats posed by climate change, shifting hazard profiles and the constraints of fiscal austerity. How do these concepts translate into local governance?

As Beck (1992, 2009) and Perrow (2011) argue, the increasingly interconnected nature of modern society has led to an environment wherein risk cannot be accurately measured or forecast, and exposure to risk cannot be denied. In this context, many authorities have, of necessity, focused on recovery and adaptation. The theoretical construct of *resilience* provides the foundation for a philosophical shift from the risk paradigm of minimising vulnerability to a strength-based model of enhancing adaptation (IPCC 2012; Lei et al. 2013; Norris et al. 2008; Smit and Wandel 2006; Aldrich 2012; Aldrich 2010).

Unfortunately, universal agreement on the meaning of resilience does not exist. In this issue, Haase and Demiroz (2018) synthesise resilience research across disciplines, examining how resilience is translated into administrative practice. The authors undertake a systematic review of resilience research in emergency management and homeland security journals, finding that psychological and psychiatric perspectives, shaped by socio-ecological systems thinking, continue to be critical influences in the field.

Drennan and Morrissey (2018) explore dimensions of resilience, demonstrating that the concept is understood to have context-specific attributes. *Anticipatory* resilience includes education and preparation prior to critical events. *Responsive* resilience involves activities that enable communities to react quickly to unplanned events, while *adaptive* resilience encompasses learning and taking action following events (see also Tierney 2012). We note that key models in the literature identify both the process and concept of resilience, as Drennan and Morrissey (2018) and Chang et al. (2018) weigh the merits of resilience paradigms.

‘Some communities are better prepared, better able to respond, and better able to recover from a natural disaster’ (Goidel et al. 2018), but how does understanding resilience conceptually intersect with local government policy and practice? Goidel et al. (2018) shed light on how conceptualising resilience can matter to practitioners and the citizens they serve. The authors find that communities with greater levels of social capital believe they are more prepared to withstand disasters. They argue that perceptions of being prepared for disaster and able to recover quickly are tied to support for local resilience-building policies. Where these perceptions are misaligned with objective external risk assessments, local governments face further challenges in engaging with communities and sharing risk information. Goidel et al. (2018) make a valuable contribution to our understanding of how communities perceive their risk and levels of resilience, and correspondingly, how local governments can more effectively enact policy on the basis of this knowledge.

Disasters as International and Local Phenomena

Though some might agree that resilience and adaptation are important, often attention to the concepts seems to come more from international and national authorities than local authorities. A wealth of research points to the increasing global impacts of climate change and disasters (IFRC 2015, 2016; IPCC 2012). International attention often focuses on the most catastrophic disasters, leaving many with the impression that climate change and disasters are best addressed by high-level global actors.

Indeed, the best-known commitments to disaster risk reduction exist at the international level. In the early 1990s the United Nations (UN) convened the First World Conference on Natural Disaster Reduction, which produced the Yokohama Strategy and Plan for Action for a Safer World and provided international guidelines for the prevention and mitigation of disaster impacts. In 2015, the Third UN World Conference on Disaster Risk Reduction produced the Sendai Framework, asserting that local government should share responsibility in disaster risk reduction (Sendai Framework 2015). Yet these efforts receive criticism for inadequate advice in measuring progress, vague conceptualisation of key indicators, and difficulties in translating global frameworks to meaningful local action (Scolobig et al. 2015; Oxley 2015; Aitsi-Selmi et al. 2015; Glantz 2015).

In this issue, Windsor et al. (2018) speak to the divide between international and local approaches by examining critical questions of how variations in governance and community engagement impact local crime and disorder. The authors bridge the international development perspective that poverty and inequality drive community disorder with the local governance perspective that individual crime drives disorder. Their work illuminates the need for local government to be more centrally situated in disaster risk reduction strategies.

Krueger, Winkler, and Schumann III (2018) address the need further, pointing out that local policymakers and managers wrestle with repercussions of disaster long after international attention dwindles. Local rebuilding efforts are complicated by a need to fund recovery with local tax revenue that

recovering communities find difficult to generate. The tendency to move disaster management to regional or national levels only ignores local fiscal issues and decreases managers' understanding of the specific hazards profiles of separate communities. In this issue we therefore advocate for a re-focusing of inter-sectoral and inter-level approaches to building resilience.

Locally Building Resilience and Adaptation

This special issue explores a variety of tools and elements deemed important in building local resilience and adaptation, and illuminates constraints to those efforts. We note three central themes: social capital, information and collaboration. *Social capital*, in this context the ability of the community to marshal its resources and apply them to the process of recovery, can help a community resist the effects of critical events and emerge more resilient and adapted to the changed environment (Drennan and Morrissey 2018). It is social capital that allows communities to reconceptualise fairness during critical situations and their recovery, as advised by Quirk (2019). Social capital also underpins a community's ability to provide compassionate, empathetic and caring disaster response.

Information and collaboration go hand-in-hand. The theme of information includes knowledge about risk, preparedness, and emergency plans, which helps citizens-communities react swiftly and collaboratively (Quirk 2019), calmly and to utilise social capital to facilitate the smooth functioning of operations during and after crises. Fully informed disaster managers can follow Quirk's (2019) advice to be prepared and prepare to improvise. *Collaboration*, joint efforts between local government and other community actors, as well as among levels of government, —volunteers, community-based organisations, schools, churches, businesses, and media— then helps spread this knowledge, as well as diffuse workloads and coordinate efforts.

Building and Applying Social Capital

Drennan and Morrissey (2018) focus on social capital built through formal collaborations between local governments and community-based organisations (CBOs) in Queensland, Australia. They seek to

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determine whether and how these local governments have adapted to recognise the importance of CBOs in their Local Disaster Management Groups. Despite a decade of severe disaster activity in Queensland, the authors find no correlation between experience with disasters and an increased formal recognition of the role of CBOs play. Through their work we see a missed opportunity for adaptation as they challenge local governments and researchers to explore why this is the case.

Information as a Foundation for Building Resilience

While social capital underpins resilience building and effective recovery, a lack of information creates barriers to these critical activities. Krueger, Winkler, and Schumann III (2018) explain how differing levels of information create uneven recovery patterns after a disaster. Variations in knowledge about lending processes, managing finances, and hiring vendors, can lead to some homeowners paying higher costs for rebuilding, forgoing governmental aid, and waiting longer for repairs. Their work explores a critical marker of community recovery: property values. With a hedonic pricing model, the authors find additional support for a growing consensus in the literature that local hazards have differential impacts according to socio-economic status and ethnicity. Their findings provide nuanced insight for local officials involved in recovery planning and financial management.

Reinhardt and Chatsiou (2018) examine local government community education interventions designed to deliver prevention and safety information. In the Parish Safety Volunteers Pilot Project, Essex County Fire and Rescue Services used findings about areas at higher risk of having accidental dwelling fires to launch an information campaign throughout the county. The authors argue that community education interventions can successfully change public behaviour by eliminating information asymmetries, but cannot change dangerous or undesirable behaviour that is based on informed choice.

Goidel et al. (2018) explore a different element of information, this time in terms of public perceptions. They point out that divergent community perceptions about risk levels and resilience can

reduce support for local adaptation policies. Their findings point to the contingent nature of community risk perception and the divergence between community and government assessments of risk exposure and resilience (Ross 2014; Drennan 2017). Their work reminds us that collaborations to share information are vital to building the social capital that underpins effective implementation of resilience policy and planning.

Formal and Informal Collaboration

Much collaboration for emergency management occurs formally between sectors, through codified arrangements. Reinhardt and Chatsiou explore the use of volunteers to deliver community education in crisis prevention, studying a programme that asked volunteers to visit local homes and review fire and burglary safety. The authors compare accidental dwelling fires before and after the program was implemented and find a significant decrease in fires among parishes that received volunteer visits. They offer an example of how some components of fire and emergency service provision can be shifted to the voluntary sector if managed appropriately. Their study provides a lens with which to examine how local governments can adapt to fiscal constraints without sacrificing public safety or resilience-building efforts.

Collaboration within a community can also take place informally, without codified agreements or plans. Windsor et al. (2018) examine how social capital is built through sharing information in a local emergency scheme in Memphis, Tennessee, US and find that the effectiveness of local governance is critical for building resilience. Effective local governance builds social capital and trust within communities, which then enables rapid identification of, adaptation to, and resolution of community safety issues. Their work provides a useful lens through which to explore the creation and destruction of resilience.

Chang et al. (2018) then highlight informal collaboration and information sharing via social media networks as they examine local government adaptation to emerging threats in Oklahoma, US. They note the challenges faced by under-funded local managers who cannot implement or enforce formal risk adaptation measures, such as new building codes, when confronted with informal beliefs in the community, such as an under-appreciation of the risk levels of emerging hazards. A lack of formal coordination then increases the likelihood that separate localities will develop emergency plans based on incorrect assumptions about other localities' or agencies' responsibilities. Importantly, the authors provide practical recommendations to practitioners seeking to navigate a path between community expectations, fiscal constraints and emerging risks.

Conclusion

This special issue of *Local Government Studies* explores the diverse array of challenges local governments confront adapting to climate change and building resilience, including the continued need to provide services across the spectrum of public safety and emergency management under ongoing fiscal constraints. The articles consider resilience and adaptation both conceptually and practically, as well as local challenges such as resilience policy implementation, outsourcing mitigation and preparedness, community-led mitigation networks, natural hazards policy, local crime, property values in recovery, and disaster resilience perceptions.

Local governments face the global challenges of climate change adaptation and disaster risk reduction on a daily basis. Innovative policy approaches are essential for local governments seeking to adapt to their evolving hazard environment. This issue provides insight into both the emerging challenges and pioneering approaches undertaken across multiple countries, leveraging theoretical and practical findings to provide opportunities for learning and open pathways for further research.

References

- Aitsi-Selmi, Amina, Shinichi Egawa, Hiroyuki Sasaki, Chadia Wannous, and Virginia Murray. 2015. "The Sendai Framework for Disaster Risk Reduction: Renewing the Global Commitment to People's Resilience, Health, and Well-being." *International Journal of Disaster Risk Science* 6 (2):164-76. doi: 10.1007/s13753-015-0050-9.
- Aldrich, D. 2012. *Building Resilience: Social Capital in Post-Disaster Recovery*. Chicago: University of Chicago Press.
- Aldrich, P. 2010. "Fixing Recovery: Social Capital in Post-Crisis Resilience." In *Department of Political Science Faculty Publications*.
- Beck, U. 1992. *Risk Society: Towards a New Modernity*. London: Sage Publications.
- Beck, Ulrich. 2009. *World at risk*. 2nd.;1; ed. Cambridge, UK;Malden, MA;: Polity Press.
- Chang, Ray , Alex Greer, Haley Murphy, Tristan Wu, and Steven Melton. ~~2018~~2019. "Earthquake Preparedness in Oklahoma: Local Government Strategies to Address and Emerging Hazard." ~~In~~ *Annual Meeting of the Southern Political Science Association. New Orleans. Forthcoming in Local Government Studies.*
- Cutter, S. L. 2006. "Moral Hazard, Social Catastrophe: The Changing Face of Vulnerability along the Hurricane Coasts." *The ANNALS of the American Academy of Political and Social Science* 604 (1):102-12. doi: 10.1177/0002716205285515.
- Drennan, Lex. 2017. "Community Narratives of Disaster Risk and Resilience: Implications for Government Policy." *Australian Journal of Public Administration* 0 (0).
- Drennan, Lex, and Lochlan Morrissey. ~~2018~~2019. "Resilience Policy in Practice – Surveying the Role of Community Based Organisations in Local Disaster Management." *Forthcoming in Local Government Studies. In Annual Meeting of the Southern Political Science Association. New Orleans.*

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- Glantz, M. H. 2015. "The Letter and the Spirit of the Sendai Framework for Disaster Risk Reduction (a.k.a. HFA2)." *International Journal of Disaster Risk Science* 62 (2):205-6.
- Goidel, Kirby, Jennifer Horney, Paul Kellstedt, Emily Sullivan, and Stephanie Brown. ~~2018~~2019. "Perceptions of Disaster Resilience in Four Texas Coastal Communities." [Forthcoming in *Local Government Studies*. In *Annual Meeting of the Southern Political Science Association*. New Orleans.](#)
- Haase, T, and F Demiroz. ~~2018~~2019. "The Concept of Resilience: A Bibliometric Analysis of the Emergency and Disaster Management Literatures." [Forthcoming in *Local Government Studies*. In *Annual Meeting of the Southern Political Science Association*. New Orleans.](#)
- IFRC. 2015. "World disasters report: focus on local actors, the key to humanitarian effectiveness." In.: International Federation of the Red Cross.
- . 2016. "Resilience: saving lives today, investing for tomorrow." In *World Disasters Report*. International Federation of the Red Cross and Red Crescent Societies.
- IPCC. 2012. "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation." In.: International Panel on Climate Change.
- Krueger, Skip, Julie Winkler, and Ronald Schumann III. ~~2018~~2019. "Residential Taxable Value Recovery in Coastal Mississippi after Hurricane Katrina." [Forthcoming in *Local Government Studies*. In *Annual Meeting of the Southern Political Science Association*. New Orleans.](#)
- Lei, Yongdeng, Jing'ai Wang, Yaojie Yue, Hongjian Zhou, and Weixia Yin. 2013. "Rethinking the relationships of vulnerability, resilience, and adaptation from a disaster risk perspective." *Natural Hazards* 70 (1):609-27. doi: 10.1007/s11069-013-0831-7.
- Mileti, Dennis. 1999. *Disasters by design: A reassessment of natural hazards in the United States*: Joseph Henry Press.

- Norris, F. H., S. P. Stevens, B. Pfefferbaum, K. F. Wyche, and R. L. Pfefferbaum. 2008. "Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness." *Am J Community Psychol* 41 (1-2):127-50. doi: 10.1007/s10464-007-9156-6.
- Oxley, M. C. 2015. "Review of the Sendai Framework for Disaster Risk Reduction 2015-2030." In. United Kingdom: Global Network of Civil Society Organisations for Disaster Reduction (GNDR).
- Perrow, Charles. 2011. *Normal Accidents*: Princeton University Press.
- Reinhardt, G, and K Chatsiou. ~~2018~~2019. "[Using Community Education Interventions to Build Resilience and Avert Crises: How Accidental Dwelling Fires Decreased in Essex County, UK](#)~~Inter-Sectoral Shifts in Public Service Provision: Emergency and Fire Services in Essex County, UK.~~" [Forthcoming in Local Government Studies](#).~~In Annual Meeting of the Southern Political Science Association. New Orleans.~~
- Ross, A. D. 2014. *Local Disaster Resilience: Administrative and Political Perspectives*. London and New York: Routledge.
- Scolobig, Anna, Tim Prior, Dagmar Schröter, Jonas Jörin, and Anthony Patt. 2015. "Towards people-centred approaches for effective disaster risk management: Balancing rhetoric with reality." *International Journal of Disaster Risk Reduction* 12:202-12. doi: 10.1016/j.ijdr.2015.01.006.
- Smit, Barry, and Johanna Wandel. 2006. "Adaptation, adaptive capacity and vulnerability." *Global Environmental Change* 16 (3):282-92. doi: 10.1016/j.gloenvcha.2006.03.008.
- UNISDR. 1999. "International Decade for Natural Disaster Reduction: Program Forum." In. Geneva: United Nations.
- . "The Economic and Human Impact of Disasters in the last 10 year 2005-2014." United Nations. <https://www.flickr.com/photos/isdr/16111599814/>.
- Windsor, Leah , Grayson Cupit, Andrew Hampton, and Alistair Windsor. ~~2018~~2019. "Local Politics in an International Context: Causes and Consequences of Ungoverned Spaces in Memphis, TN."

Forthcoming in *Local Government Studies*, ~~In Annual Meeting of the Southern Political Science Association~~. New Orleans.