

Proposal Title: City-To-City Peer Review Processes for Disaster Risk Reduction and Resilience Building: A Literature Review

Research Proposal

We propose to present the findings of a systematic literature review (SLR) addressing city-city peer review and resilience building. Resilience building through peer review focuses on the ways in which systems and societies can resist, absorb, and recover from disasters utilizing a systematic peer review process. Peer reviews encourage cities to invite others to assess policy and practice, identify best practice, and highlight areas for development (Casey and Gold, 2005; Pagani, 2002).

These processes facilitate mutual learning and knowledge exchange and provide local governments with access to independent expert critiques of their disaster risk reduction (DRR) and resilience strategies. We use the UN “Making Cities Resilient Campaign” (MCR) as an organizing framework to understand the literature on city peer review processes due to its widespread membership and more inclusive campaign to strengthen urban resilience globally; 3560 city administrators have pledged to work through its frameworks since its launch in 2010 (UNISDR, n.d, a).

Given the momentum behind the MCR campaign, and the increasing focus of public administration in emergency management (Henstra, 2010; Waugh and Streib, 2006), and peer reviews (Mitchell et al., 2015), it is apt to consider city peer reviews within the DRR domain. A SLR in this field presents a unique opportunity to examine this nascent field. We are not aware of any such review which addresses this important topic and unifies the disparate literatures associated with it.

The aim of this research is to synthesise current debates concerning city peer reviews – helping to advance research, practice, development of MCR, and wider resilience building concepts. We aim to identify the ways in which peer reviews have been addressed in research, what gaps for research remain, and what new opportunities exist for MCR. We will achieve this through analyzing differences in academic and non-academic literature in relation to:

- use of terminology;
- conceptualizations of disaster resilience;
- measures of resilience;
- application of the 10 essentials in the peer review literature;
- implications for theory and practice in DRR and resilience building.

We expect to submit a full paper for review to ASPA, with the aim of receiving invaluable feedback to support publication in Public Administration Review.

The rest of this paper presents an introduction to the SLR, the methodology, and due to space restrictions some examples of our findings.

Introduction

The expansion of urban environments increases the challenges for city administrators who protect residents and governance systems against risks (Christensen et al., 2016). The increased frequency, severity and size of disasters puts particular strains on public bodies (Comfort et al., 2012) to assess risks, vulnerabilities, resource availability (Henstra, 2010), and prepare adequate disaster responses (Christensen et al., 2016).

DRR and resilience campaigns such as 100 Resilient Cities (100RC) (Rockerfeller and AECOM) and Making Cities Resilient (MCR) (United Nations Office for Disaster Risk Reduction) (UNISDR) have been developed to work with cities and citizens to build resilience into city systems. The aim is to achieve resilience by increasing capabilities, sharing best practices, providing management tools, measuring resilience and setting targets, and facilitating peer reviews (100RC, n.d; UNISDR, n.d, a).

MCR details ten “critical and independent steps” (called the ‘10 essentials’) for building and maintaining city resilience (UNISDR, n.d, a; UNISDR, n.d, b), they are:

1. Organize for disaster resilience;
2. Identify, understand and use current and future risk scenarios;
3. Strengthen financial capacity for resilience;
4. Pursue resilient urban development and design;
5. Safeguard natural buffers to enhance ecosystems’ protective functions;
6. Strengthen institutional capacity for resilience;
7. Understand and strengthen societal capacity for resilience;
8. Increase infrastructure resilience;
9. Ensure effective disaster response;
10. Expedite recovery and build back better.

Methodology

We use a SLR to structure searching and sorting of the literature on peer review processes to support city resilience. SLRs are particularly useful for developing new knowledge applicable to policy and practice (Tranfield, 2003) and, with the body of humanitarian literature steadily growing, the SLR approach allows the most relevant documents to be located in a rigorous and transparent way (Denyer and Tranfield, 2009; Leseure et al., 2004).

We established an international advisory board (IAB) of 13 highly experienced emergency management practitioners representing UNISDR and national [γ] and local [δ] government from Belgium^δ, Finland^γ, France^δ, Iceland^γ, Italy^{γδ}, Portugal^{γδ}, South Africa^γ, Sweden^γ, and UK^{γδ}. Each member was highly knowledgeable about peer reviews for DRR; including as reviewers for other cities in their country or abroad. We involved the IAB in email and teleconference exchanges to identify keywords for this research.

These search strings were used in the ‘Publish or Perish’ software which retrieves academic and non-academic literature using Google Scholar (Harzing, 2007). A total of 1,658 were

retrieved and, after duplicates had been removed, 1,286 eligible papers were considered for analysis. The IAB supported the identification of inclusion and exclusion criteria. Applying these criteria to the eligible papers resulted in 196 papers being further considered. We checked that each paper that met the criteria was relevant to the research; either rejecting it based on the abstract (44 rejects) or after reading the full paper (109 rejects), which resulted in 43 papers on DRR peer reviews being taken forward for full analysis. The IAB offered three additional papers, meaning we analyzed 46 papers in all. Reliability of the process was enhanced with regular meetings of the research team (Ritz et al., 2016) and input from the IAB.

That only 46 papers are available for review indicates a dearth of research on peer reviews for DRR for city governments. This is despite the strong practitioner interest which suggests that research is lagging behind practice in this field. Furthermore, the broad nature of the literature suggests limited theoretical consolidation of this topic. Through increased understanding across practitioner and academia, best practice can be shared, common ground created, and bridges can be formed between theory and evidence-based research; encouraging consistency within the disaster management domain.

Findings from the SLR and the 10 Essentials

We analyze each of the 10 essentials using the literature captured by the SLR, examining the ways in which the essential has been defined, conceptualised and measured. The selected literature on peer reviews for city DRR most frequently focused on issues pertaining to essential 1, governance and organizational structures; essential 2, identifying and understanding risk; and essential 7, strengthening societal capacity for resilience. Less covered were: essential 3, strengthening financial capacity and essential 10, placing those affected at the centre of recovery with a view to building back better. We identified that ~20% of papers did not contain measurements or indicators, and that MCR adopted a top-down approach, overlooking many of the societal attributes associated with resilience building within cities.

We expect to find a number of characteristics considered by the peer review literature which have been overlooked by the MCR framework. To demonstrate this, we present a snapshot of our initial findings from essentials 2- identify, understand and use current and future risk scenarios, and 9- ensure effective disaster response, as they provide insights from differing ends of the disaster management cycle. We present the definition adopted by MCR, the constructs and characteristics as identified in the peer review literature, and identify gaps between the literature and the MCR framework. We also present some initial observations in relation to measures of resilience within the literature.

Essential 2: Identify, Understand and Use Current and Future Risk Scenarios

MCR definition: The second essential provides fundamental information for city peer reviewers regarding risks, so that knowledge can be used to inform decision making (UNISDR, n.d, c) concerning improving resilience. This essential promotes peer review

practices through advocating learning from cities which have similar risk profiles with a view to increasing city resilience (UNISDR, 2017a).

SLR concepts: The peer review literature established social and structural dimensions of understanding risk. Social characteristics included exposure, vulnerability, susceptibility, and adaptive capacity (Birkman et al., 2013). Through identifying these traits, better coverage and inclusion of vulnerable populations in knowledge sharing and decision making processes can be achieved (Cardona and Carreño, 2011). This facilitates long-term approaches to resilience, as those most likely to be effected can start to build resources; beginning with understanding their exposure to risks. Structural dimensions of risk were commonly framed as physical structures, the environment and institutional characteristics (Fox- Lent et al., 2015). Key components of DRR rely on the ability of societies to manage natural resources, climate change, and matters such as land use (Basu et al., 2013). Whilst protecting buildings from damage or collapse is vital, whether or not this leads to changes in behavior or preparation activities remains a difficult facet to assess. Peer review literature is able to take attitudinal dimensions into account so meaningful changes in government, community and businesses can be reflected on.

Measures: Measures for understanding risk were based on mortality rates (Mitchell et al., 2015) and impacts to infrastructure and environment (Keating et al., 2016). Providing differing metrics for community and government level were proposed as a means of tailoring decision making (McCallister, 2013).

MCR gaps: The SLR acknowledged the role of coordination and division of responsibility in reference to public private partnerships, as a means of supporting economic strategy and financial capabilities. Interestingly, there is still a discrepancy between the literature and the MCR Campaign and the Disaster Resilience Scorecard for Cities when addressing incorporating the private sector.

Building partnerships with the private sector in order to utilise their expertise and resources within cities was notably lacking in the MCR framework. This included establishing alliances with environmental services as a means of supporting resilience and infrastructure protection. The peer review literature is suggestive of utilising public-private partnerships as a means of supporting organizing for resilience, financial capacity, societal capacity, and response.

We identified minimal reference to the importance of attitudes to the environment and disasters in improving resilience. The SLR suggests that increased focus on attitudes towards types of risks and mitigating them could support adaptive change and a reduction in vulnerability.

Essential 9: Ensure Effective Disaster Response

MCR definition: Ensuring effective disaster response relies on disaster response planning informed by risks identified in essential 2 being effectively communicated to all stakeholders through use of organizational structures identified in essential 1 (UNISDR, n.d, k).

SLR concepts: The notion of engaging and communicating plans with all stakeholders was commonly addressed by the city peer review literature; drawing on the idea that if citizens do not have access to preparedness or response activates their levels of resilience will be adversely affected (Ostadtaghizadeh, et al., 2015). This was closely related to the need for cities to have access to, and knowledge of, vulnerable populations through clear identification of resilience and exposure levels within communities (Basu et al., 2013).

Measures: The measures within the literature drew on preparedness levels of cities, taking into account early warning systems, preparation activities, and the impacts on cities post disaster. Indicators covered effectiveness of early warning systems, levels of risk analysis, number of people affected by disasters and numbers of deaths (Keating et al., 2016).

MCR gaps: Financial assets as a means to tackle vulnerability through earmarked funds for response were not explicitly addressed by MCR. Fiscal issues as a central facet of response planning also overlooked links with budgets or support from public-private partnerships to ensure effective response. This identifies possible gaps in the ways in which strengthening institutional capacity is addressed in academia, and how it translates to practice, as the links between vulnerability mapping, building local capacity, data consistency, and the private sector may not be readily apparent.

Though the Scorecard and MCR Campaign make reference to liaising with voluntary organizations and networks, no considerations have been made in relation to managing spontaneous volunteers or unsolicited items. Such influxes can complicate supply chains, pose logistical challenges, security risks, and strain critical services and infrastructure. Part of managing these challenges is interlinked with effective communication during this phase so that additional help complements, not strains, the response system.

Resilience Measures

There were notable discrepancies across the literature bases in measuring resilience. Whilst some provided clear numerical indicators for establishing city resilience such as mortality rates, others looked to societal indicators, such as deprivation levels, as markers of vulnerability. These differing approaches can be separated into reactive and predictive measures of city resilience. Whilst reactive measures inform administrators of the impacts of disasters, they may not be useful in supporting cities that are yet to experience such an event, but may be preparing for one. The advantage of the peer review process is that it provides opportunities for statistical and qualitative data to be collated. This allows cities to evaluate their resilience in a more meaningful way and to use measures appropriate to their context.

Both the framework and the indicators lean towards inputs and outputs, rather than results and impacts which help to measure change at beneficiary level in social, as well as economic, terms (European Commission, 2014). This is important as a multi-stakeholder approach to resilience building is imperative. This suggests that addressing topics such as land-use from both a regulatory perspective and a community perspective may provide more holistic and sustainable solutions. Establishing metrics which acknowledge the interconnectedness of government and society, and the differing challenges they face in improving resilience, could

lead to more informed measures of resilience and support decision making in relation to policy and practice.

Conclusion

This proposal highlights the need for continued evaluation of resilience building frameworks, especially in relation to peer review processes which are currently overlooked. We establish that global commitment to the MCR campaign, and increased interest in peer review as a method of effectively evaluating DRR and resilience strategies, supports the need for an evaluation of the ways in which MCR is understood, conceptualised and utilised across a broad literature base. Addressing these topics from a public administration perspective coherently draws the issues of disaster management, governance, policy, city management, and peer review together.

This review is timely and critical as it integrates disparate literatures in order to assess what has become an industry standard in DRR and resilience building in urban environments. Whilst MCR provides a useful framework for public administrators, it is important to review its relationship with other bodies of literature also addressing these topics. This paper addresses peer review processes through the lens of the 10 essentials; highlighting the strengths and weaknesses of the MCR campaign as a means of reviewing city resilience. The core objective of this paper is to foster critical discussions concerning the ways in which accepted tools and standards are realised, to facilitate beneficial and usable analysis of current practice, and to further research in the field of public administration.

References

- 100 Resilient Cities. (n.d). About Us, available from: http://www.100resilientcities.org/about-us#/_/, (accessed: 6/07/2017).
- Basu, M., Srivastava, N., Mulyasari, F., & Shaw, R. (2013). Making Cities and Local Governments Ready for Disasters: A Critical Overview of a Recent Approaches Risk, Hazards & Crisis in Public Policy 4(4): 250–273.
- Birkmann, J., Buckle, P., Jaeger, J., Pelling, M., Setiadi, N., Garschagen, M., Fernando, N., Kropp., J., (2013). Framing vulnerability, risk and societal responses: The MOVE framework. *Natural Hazards*, 67(2), pp. 193–211.
- Cardona, O. D., & Carreño, M. L. (2011). Updating the Indicators of Disaster Risk and Risk Management for the Americas. *Journal of Integrated Disaster Risk Management*, 1(1), pp. 27–47.
- Casey, B.H. and Gold, M. (2005). Peer review of labor market programmes in the European Union: What can countries really learn from one another? *Journal of European Public Policy* 12: 23–43.
- Christensen, T., Lægveid, P. and Rykkja, L. H. (2016). Organizing for Crisis Management: Building Governance Capacity and Legitimacy. *Public Administration Review* 76: 887–897.
- Comfort, L.K., Waugh, W.L., and Cigler, B.A. (2012). Emergency Management Research and Practice in Public Administration: Emergence, Evolution, Expansion, and Future Directions, *Public Administration Review* 72(4): 539–548.

- Denyer, D. & Tranfield, D. (2009). "Producing A Systematic Review", in Buchanan, D. and Bryman, A. (Eds), *The Sage Handbook of Organisational Research Methods*, Sage Publications Ltd, London, pp. 671-689.
- European Commission, (2014). 1st Lessons Learnt Meeting on Peer Reviews, Summary Report, European Commission, DG ECHO, 12 May 2014.
- Fox-Lent, C., Bates, M. E., & Linkov, I. (2015). A matrix approach to community resilience assessment: an illustrative case at Rockaway Peninsula. *Environment Systems and Decisions*, 35(2), pp. 209–218.
- Harzing, A.W. (2007). 'Publish or Perish', available from: <http://www.harzing.com/pop.htm>, (accessed: 30/05/2017).
- Henstra, D. (2010). Evaluating Local Government Emergency Management Programs: What Framework Should Public Managers Adopt? *Public Administration Review* 70(2): 236–246.
- Fox-Lent, C., Bates, M. E., & Linkov, I. (2015). A matrix approach to community resilience assessment: an illustrative case at Rockaway Peninsula. *Environment Systems and Decisions*, 35(2), pp. 209–218.
- Leseure, M., Birdi, K., Bauer, J., Neely, A. & Denyer, D. (2004). Adoption of Promising Practices: A Systematic Review of the Evidence, *International Journal of Management Reviews* 5/6(3/4):169-190.
- Mcallister, T. (2013). Developing Guidelines and Standards for Disaster Resilience of the Built Environment: A Research Needs Assessment, pp. 1–142.
- Mitchell, T., Hall, J., & Muir-wood, R. (2015). Setting , measuring and monitoring targets for reducing disaster risk international policy frameworks, 44(0), pp. 1–8.
- Ostadtaghizadeh, A., Ardalan, A., Paton, D., Jabbari, H., Khankeh, H.R. (2015). Community Disaster Resilience: a Systematic Review on Assessment Models and Tools. *PLOS Currents Disasters*, available from: <http://currents.plos.org/disasters/article/community-disaster-resilience-a-systematic-review-on-assessment-models-and-tools/>, (accessed: 12/06/2017).
- Pagani, F. (2002). Peer Review as a Tool for Co-Operation and Change, *African Security Review* 11(4): 15–24.
- Ritz, A., Brewer, G., & Neumann, O. (2016). Public Service Motivation: A Systematic Literature Review and Outlook, *Public Administration Review* 76(3): 414–426.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards A Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review, *British Journal of Management*, 14, pp. 207-222.
- UNISDR. (2017a), How to Make Cities More Resilient: A Handbook for Local Government Leaders, UNISDR, Geneva, available from: http://www.unisdr.org/campaign/resilientcities/assets/documents/guidelines/Handbook%20For%20Local%20Government%20Leaders_WEB_May%202017.pdf
- UNISDR (United Nations Office for Disaster Risk Reduction), (n.d, a). About the Campaign, available from: <http://www.unisdr.org/campaign/resilientcities/home/faq>, (accessed: 26/06/2017).
- UNISDR (United Nations Office for Disaster Risk Reduction), (n.d, b). Guidance Documents, available from: <http://www.unisdr.org/campaign/resilientcities/home/toolkitblkitem/?id=1>, , (accessed: 26/06/2017).
- UNISDR. (n.d, c), Essential Two: Identify, Understand and Use Current and Future Risk Scenarios, available from: <http://www.unisdr.org/campaign/resilientcities/home/index/Essential%20Two:%20Iden>

tify%20Understand%20and%20Use%20Current%20and%20Future%20Risk%20Scenarios/?id=2

UNISDR. (n.d, k), Essential Nine: Ensure Effective Disaster Response, available from:
<http://www.unisdr.org/campaign/resilientcities/home/index/Essential%20Nine:%20Ensure%20Effective%20Disaster%20Response%C2%A0/?id=9>

Waugh, W., & Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public Administration Review* 66(1): 131-140.

This project proposal has 4 learning outcomes; they reach across theory and practice and are divided between the academic community and practitioners.

1. To provide a critical analysis of the extant literature through a systematic review relating to city level peer-review to clarify use of terminology, conceptualizations of disaster resilience and measures of resilience.
2. To identify research gaps in the existing literature through a critical comparison of extant literature with the UNISDR Making Cities Resilience (MCR) ten essentials.
3. To identify gaps in practice through a critical comparison of MCR and other practitioner frameworks with the extant literature.
4. To identify implications for theory and practice in DRR.