Institutional innovations and disruptions for mainstreaming climate adaptation in cities
Pressure Cooker Symposium, June 4 2020, Rotterdam

Organisers: Jannes Willems & Arwin van Buuren (Department of Public Administration, Erasmus University Rotterdam), Katharina Hölscher & Derk Loorbach (DRIFT)

The issue at stake

Cities need to climate-proof their urban fabric to deal with climate change impacts. Given the multitude of challenges in cities, both scientists and practitioners highlight the need for innovative and multifunctional climate adaptation measures with long-term benefits for sustainability and resilience (Davies & Lafortezza, 2017), such as Blue and Green Infrastructure (BGI) and Nature-Based Solutions (NBS) (Fletcher et al., 2015; Kabisch et al., 2016). However, the uptake of such interventions has been slow largely due to institutional barriers for mainstreaming climate adaptation in cities (Jerome et al., 2017). Institutions – the "rules of the game" – are inherently conservative and therefore hard to change once they have become established (Gupta et al., 2010). Mainstreaming climate adaptation challenges existing institutional settings in urban governance systems to enable multifunctional, long-term, adaptive and inclusive solutions that produce ecological and social value and are synergetic with other functions and systems in a city.

As cities worldwide already experiment with innovative climate adaptation measures, we can also see institutional innovations emerging that allow for such measures to materialise and scale (Frantzeskaki, 2019; Mees et al., 2019; Hölscher et al., 2019). In the Netherlands, examples of institutional innovations are manifest in experimental and co-creative governance approaches (e.g. through living labs and pilots; see Van Popering-Verkerk & Van Buuren, 2017), dedicated and cross-departmental municipal teams (e.g. "the Blue-Green City" team in Dordrecht), public-private networks (e.g. Amsterdam Rainproof, Water Sensitive Rotterdam, Water Klaar Limburg) and new municipal guidelines and regulations (e.g. for greenfield development). Such institutional innovations provide important mechanisms to overcome existing institutional rigidities, yet they still represent niches within mainstream urban governance contexts that are deeply path dependent, risk-averse, siloed, in which technological approaches are dominant and social diversity is poorly represented (Brown et al., 2013; Pahl-Wostl et al., 2012).

Recent academic debates started to explore questions about institutional change, addressing both the generation and embedding of new institutions but also the strategic 'disruption' or 'dismantling' of existing institutions that are no longer fit for purpose and reinforce institutional lock-in. Until now, a systematic perspective on these institutional innovations and disruptions is lacking: what kind of institutional innovations and disruptions support climate adaptation mainstreaming, how can these be brought about, and what are the implications for urban governance? A central aim of this type of

research is to yield practical recommendations on the next steps needed for mainstreaming climate adaptation in cities.

Aims and focus of the Symposium

This Research Symposium will bring together researchers from the Netherlands to exchange knowledge on the question of how to materialize institutional change to mainstream climate adaptation, including both institutional innovation and disruption. The aim is to develop a shared and forward-looking research agenda with practical insights on the next steps needed for mainstreaming climate adaptation in cities. The results could also be developed in a shared research paper.

Specifically, the symposium aims to foster knowledge exchange and networking opportunities centred around the following questions:

- What are ***examples of institutional innovations and disruptions*** that support climate adaptation mainstreaming in cities? What makes these examples innovative or disruptive?
- ***How are institutional innovations and disruptions developed and embedded*** in urban governance? What and who is driving or obstructing them?
- What are ***implications for urban governance***? How do the institutional innovations and disruptions relate to regular or traditional urban governance?

Format of the Symposium: pressure cooker

The Symposium will follow the interactive format of a pressure cooker. The day will consist of a mix of brief expert contributions and group discussions that revolve around the following themes:

I. Collecting examples and categorising types of institutional innovations and disruptions and related governance implications for mainstreaming climate adaptation in cities;
II. Identifying the factors why these innovations/disruptions did (not) become embedded in urban governance practice;
III. Defining a forward-looking research and practice agenda for fostering institutional innovations and disruptions to mainstream climate adaptation in cities.

References

Brown, R. R., Farrelly, M. A., & Loorbach, D. A. (2013). Actors working the institutions in sustainability transitions: The case of Melbourne's stormwater management. *Global Environmental Change*, *23*(4), 701-718.

Davies, C., & Lafortezza, R. (2017). Urban green infrastructure in Europe: Is greenspace planning and policy compliant?. *Land Use Policy*, *69*, 93-101.

Fletcher, T. D., Shuster, W., Hunt, W. F., Ashley, R., Butler, D., Arthur, S., ... & Mikkelsen, P. S. (2015). SUDS, LID, BMPs, WSUD and more–The evolution and application of terminology surrounding urban drainage. *Urban Water Journal*, *12*(7), 525-542.

Frantzeskaki, N. (2019). Seven lessons for planning nature-based solutions in cities. *Environmental Science & Policy*, *93*, 101-111.

Gupta, J., Termeer, C., Klostermann, J., Meijerink, S., van den Brink, M., Jong, P., ... & Bergsma, E. (2010). The adaptive capacity wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. *Environmental Science & Policy*, *13*(6), 459-471.

Hölscher, K., Frantzeskaki, N., & Loorbach, D. (2019). Steering transformations under climate change: Capacities for transformative climate governance and the case of Rotterdam, the Netherlands. *Regional Environmental Change*, *19*(3), 791-805.

Jerome, G., Mell, I., & Shaw, D. (2017). Re-defining the characteristics of environmental volunteering: Creating a typology of community-scale green infrastructure. *Environmental Research*, *158*, 399-408.

Kabisch, N., Frantzeskaki, N., Pauleit, S., Naumann, S., Davis, M., Artmann, M., ... & Zaunberger, K. (2016). Nature-based solutions to climate change mitigation and adaptation in urban areas: perspectives on indicators, knowledge gaps, barriers, and opportunities for action. *Ecology and Society*, *21*(2).

Mees, H. L., Uittenbroek, C. J., Hegger, D. L., & Driessen, P. P. (2019). From citizen participation to government participation: A n exploration of the roles of local governments in community initiatives for climate change adaptation in the Netherlands. *Environmental Policy and Governance*, *29*(3), 198-208.

Pahl-Wostl, C., Lebel, L., Knieper, C., & Nikitina, E. (2012). From applying panaceas to mastering complexity: toward adaptive water governance in river basins. *Environmental Science & Policy*, *23*, 24-34.

Popering, van -Verkerk, J., & van Buuren, A. (2017). Developing collaborative capacity in pilot projects: Lessons from three Dutch flood risk management experiments. *Journal of Cleaner Production*, *169*, 225-233.