

## **Transforming thinking to address climate change in cities: The missing organisational perspective**

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### **Keywords**

Climate Change, City Transformation, Organisational Cognition, Organisational Attention, Participatory Change

**As we intend to use parts of this conference paper for a later journal publication, we only provide an extended abstract of the paper here.**

## Extended abstract

Transformative action is necessary to implement the Sustainable Development Goals as well as the aim of limiting global warming to 1.5°C by the year 2100. Current research aimed to mitigate and adapt to climate change in cities focuses largely on the barriers to climate action (Biesbroek et al., 2013). However, the most urgent research needs to address how we can trigger the much-needed transformative action (Fazey et al., 2018). For example, Termeer and colleagues (2017) apply organisational change theory to understanding the process of transformation, concluding that large scale and in-depth transformations can be achieved through continuous incremental changes. Others apply a social learning perspective to climate change and find that across-organisational learning occurs on topics aligned with the current political agenda (Vinke-de Kruijf et al., 2018). While these suggestions provide some insights for understanding transformational change, an explicit focus on cities is rare. While some argue that its effects should not be overestimated (Vinke-de Kruijf et al., 2018), changes that relate to reflection, cognition and values are generally expected to be most transformative (Fazey et al., 2018; Meadows, 1999).

This paper therefore adds an organisational cognition perspective to the literature on cities' transformative thinking, decision-making and actions with regards to climate change. Considering cognitive change as a lever for achieving change at the decision and implementation level, it focuses specifically on changes in mental models, goals and system boundaries. It argues that an organisational cognition perspective can help understand as well as help actively shape cities' thinking and responses to complex challenges. It provides an example of how an organisational perspective can support city transformation and researcher engagement with cities. We consider transformation at the city government level in particular but we do not exclude transformative change that may emerge from or affect communities, NGOs, the business or other sectors.

As an exemplary application, we report on the Complex Urban Systems for Sustainability and Health (CUSSH) project. It aims at transforming these cities' climate sustainability and health by evidence, a systems thinking framework and participatory engagement. CUSSH collaborates with six partner cities that have been selected for diversity in geography, income level and size: London (UK) and Rennes (France) in Europe, Nairobi and Kisumu in Kenya, and Beijing and Ningbo in China.

Anecdotal observations of the CUSSH process indicate that the level of co-creating the direction of research has been surprising for some of the partner cities. For example, the

Kenyan stakeholders were used to researchers and NGOs coming in with a specific purpose and project whereas CUSSH explicitly opened the question of where the greatest needs are.

The CUSSH pilot work focused on the issue of air pollution. The resulting system dynamics model revealed a reinforcing mechanism of attention to air pollution based on health impact assessments that increase awareness of the detrimental effects of the use of dirty fuels in cooking (Zimmermann et al., 2017). It thus directly focused on the processes that shape attention.

This paper contributes to the literature on cities' transformative action towards climate change by a perspective of organisational cognition. It argues for such organisational cognition perspective to understand as well as to shape cities' thinking and responses to complex challenges such as climate change. It provided an example of how engagement with cities can be supported with an organisational perspective. Results indicate that participatory work focusing on city transformation is able to change stakeholder cognition. They also indicate that a cognitive perspective is not only useful to frame the process of how transformative change comes about, but can conceptualise how co-creation happens in participatory research or in real-world decision-making that is supported by research.

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