Real-World Labs for Co-Producing Urban Resilience

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Abstract: Real-world labs provide an experimental framework to bridge theory and practice that can be applied to urban resilience research. In real-world labs researchers can intervene in urban space with the aim of gaining socially robust knowledge about urban transformation processes. Within my research I use the Gängeviertel in Hamburg, Germany as such a real-world lab. The quarter was peacefully appropriated in 2009 by activists and is now developed by the City of Hamburg in cooperation with them. The paper suggests applying real-world labs to co-produce urban resilience through the cooperative development of urban spaces and for future research about urban co-management instruments for more resilient cities.

Keywords: Real-word labs; co-production; urban resilience; cooperation.
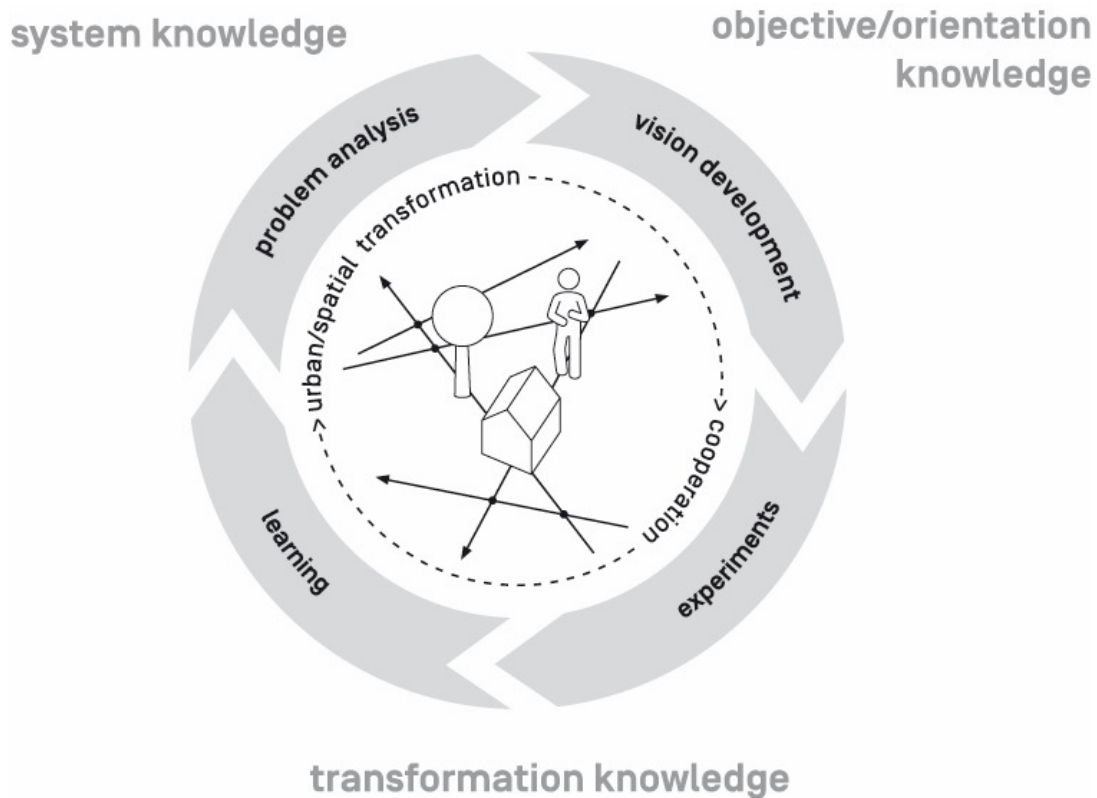
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1. Co-Producing Urban Resilience

Within this paper urban resilience is understood as "the ability of an urban system […] to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity (1)." Following this definition, cities are understood as complex and adaptive systems, that consist of many „social–ecological–technical/ built system (SETS)" (2). The resilience of SETS can be increased through cooperations between citizens organizations and municipalities in the development of urban spaces. In recent years, cities have witnessed the growth of formal and informal civil organizations that actively contribute to urban resilience and can foster sustainable transformations of urban development and planning (3). To strengthen and to implement such contributions into public planning practice and policy making, new instruments for cooperation are needed that support citizens and municipalities to co-produce urban resilience (4).

Co-producing urban resilience in my opinion necessarily means to encourage a transformation of how urban development works in the era of neoliberalism. Firstly, substantial cooperations between citizens and municipalities require the „rebalancing of rights and responsibilities between [its] actors; the citizenry and state" (5). This is because neoliberal policies usually transfer responsibilities to urban communities but not the required rights to manage them in a sustainable way for themselves (6). When it comes to the development of urban areas, citizen organizations are not taken seriously as accountable partners. In most instances, decision makers in the administration and local politicians seek to work together with financially strong corporations to push a growth-oriented city development. Furthermore a transformation of urban development is needed because growth-oriented policies have to be seen as one of the main drivers of multiple crises on a local and global scale that encompasses social, ecological and economic aspects (7). Research on urban resilience today tries to deal with these crises by finding ways to make cities more adaptive to them. At the same time researchers investigate possibilities to overcome these crises by fostering a sustainable transformation of urban development (8).

2.   Real-World Labs as a Transformative Research Method

Concerning transformations towards more resilient cities and sustainable transformations researchers increasingly seek to implement more experimental research practices that are appropriate for both the investigation of and the push towards such transformations within cities (9, 10). This research „needs to be grounded in the realities of city-level actors. It must address how local governments and bureaucracies as well as civil society and people's movements operate and interact and how space for transformative change can be created. (11)" For doing this, I suggest to initiate so-called real-world labs within cities. They offer an investigative and operative research method, in which transformation processes and its relevant actors can be observed and influenced. With the help of this transdisciplinary method, researchers can make calculated interventions in physical and social spaces with the aim of expediting and gaining a better understanding of transformation processes. By doing so, researchers take on an observant and influential function: They co-produce knowledge together with relevant actors of transformation processes and actively participate in the fashioning of these processes. Knowledge that is gained in this way is directly related to the experiences, values, and motivations of the actors involved. It is therefore concretely applicable within the transformation process and can lead to improvements in the process itself, whereas "[t]he basic assumption is that experimenting and learning-by-doing is important not only to initiate change, but also to arrive at a better understanding of transformation processes per se (12)." The co-produced knowledge can be categorized into (1) *system knowledge* about the functionality of SETS, (2) *objective/orientation knowledge* about desired transformations of SETS and (3) *transformation knowledge* about constraints and chances to foster these transformations. The co-production of the three knowledge types is methodologically organized with the help of four-phased transition cycles that consist of (1) problem analysis, (2) vision development, (3) experiments and (4) learning (see figure 1) (15).

Figure 1. Four-phased transition cycle for co-producing urban resilience with cooperation for the development of urban spaces (based on 15).

Source: Ziehl, Michael, 2018. (1)

To have a substantial impact on urban development dynamics from my point of view, knowledge that is co-produced in real-world labs has to encompass a critical understanding of spatial conflicts, power structures and the motives of stakeholders that shape urban development (16). Furthermore the specific function of built structures like buildings and infrastructure have to be considered, as they shape the development and functioning of cities to a large extent (17, 18). I will illustrate this in the following with regard to the Gängeviertel in Hamburg and my research there.

3. *The Gängeviertel as a Conflictual Space for Co-Producing Urban Resilience*

The Gängeviertel is an ensemble of thirteen historic buildings in the city center that were vacant mostly for approximately 10 years. After its peaceful appropriation in 2009 and an intense public debate about its future the Hamburg senate decided to develop the quarter in cooperation with the activists. The resulting concept provides funds for its renovation and calls for publicly-subsidised apartments, studios and workshops as well as a sociocultural centre. It is based on the uses in the buildings that the new users established during the appropriation. Today, the Gängeviertel is a vibrant

place. Diverse activities are open to the public, while the emphasis on affordability ensures access for many. This is made possible on the one hand by the voluntary work and self-organization of the activists, as the Gängeviertel is collectively run on the basis of a grassroots democratic structure (19). On the other hand, the municipality supports these activities by giving use permits and waiving rents for the buildings that have not yet been renovated.

I understand this as a spatial co-production to the benefit of urban resilience in Hamburg. I come to this finding by following Aherns strategies for building urban resilience capacity. From his perspective *multifunctionality, redundancy and modularization, diversity, networks and connectivity* as well as *adaptive planning and design* are key features for resilient urban systems (20). If one applies these features to services co-produced in the Gängeviertel, one can see that, for example, the cultural program contributes to the *modularity* and *diversity* of the cultural system in Hamburg. This is because the self-organized cultural services are produced out of local resources and provide socio-cultural functions which are increasingly scarce commodities within the city center, in large part due to rising rents. The same can be observed for other SETS, such as the city's housing system; since they are going to be managed by the activists themselves, the publicly funded flats and studios in Gängeviertel are going to increase its *diversity* and also its (organizational) *modularity*. From this perspective the Gängeviertel can be understood as a co-produced and self-organized social and physical space that supports the adaptability of several SETS which overlap and are connected in this space. Furthermore, it is a valuable experimental space for the activists and the municipality to learn how self-organized citizens and administrative institutions can cooperate and manage spatial developments for more resilient and sustainable cities.

The self-management of the Gängeviertel, however, is a critical point of conflict in the cooperation process. For the activists, self-management is a necessary requirement so that the Gängeviertel functions as an open and cultural place to live and work. Furthermore, they see it as the only guarantee that the buildings cannot be sold later on and that the activists cannot be displaced. Thus, they seek a lease-hold contract for the cooperative they founded in 2010. Contrary to this, the city government seeks to keep control to ensure the finalization of the renovation and the long-term development of the place. Additionally, the government would have to accept a shortfall in receipts, as the cooperative is not willing and not able to pay the actual market value. In 2015 this conflict nearly led to the termination of the cooperation.

4. *Potentials of Real-World Labs for Co-Producing Urban Resilience*

I took these conflicts as a starting point to investigate possibilities for co-producing urban resilience through cooperations between civil and official actors. Therefore, I used the Gängeviertel as a real-world lab and initiated two real-world experiments with the aim of creating space for the co-production of knowledge as well as restoring trust and understanding between the participants. To the end, I organized a workshop in April 2016 to make clear what aspects of the cooperation had led to conflict, and which provisions could improve the cooperation in the future (see figure 2). Based upon the results I published a 'laboratory report' in May 2017 that contains suggestions for solving the conflict and improving the cooperation (21). The report has been discussed with fellow researchers and participants

from the cooperation process to get feedback about their usability in the further process. As the results of the research show, the cooperation is hindered by the basic conflict about self-management, which is closely connected to questions of ownership and power. Unequal rights between the cooperation partners in the procedure, a lack of communication about important decisions, insufficient financial resources and differences in the setting of goals and priorities led to mistrust and suspicion of each other's motives.

Figure 2. City representatives and activists on a tour at Gängeviertel as part of the first real-world experiment.

Source: Ziehl, Michael. Photo: Holz, Franziska, 2016. (2)

One promising suggestion to deal with these challenges in the future is to implement a council to coordinate the cooperation in which all partners are represented, including high-level administration. The council could help to negotiate conflicts and to find solutions that are applicable for the organizations involved. As a co-management instrument ([22](#)) the council could support mutual learning, trust building and work on further adaptations to the cooperative framework. The latter includes alterations to the procedure itself as well as changes in the renovation plan. With the help of my real-world experiments and further involvement in the process I could raise awareness and approval among the cooperation partners for the importance of such a council to solve existing conflicts and avoid further ones. Currently the cooperation partners consider installing such a council into the cooperation procedure. First and foremost, however, they will continue to negotiate a leasehold-contract that would give ownership rights to the activists, level the power-inequality and ensure the longtime self-management of the activists.

On the basis of my research in the Gängeviertel I find that real-world labs can be useful to investigate and support cooperative developments of urban spaces that contribute to the adaptability of SETS. Thus, real-world labs can provide a framework to foster the co-production of urban resilience. This is particularly the case for the investigation and implementation of co-management instruments that support cooperations between civil and official actors, because:

Insights into values, motives and rationalities of relevant actors can be gained.

Trust and appreciation between participants can be created with the opening up of spaces for understanding.

Ongoing collaborations can be improved by making suggestions for procedure adaption and new co-management instruments can be tested.

A framework can be created that allows for publicly legitimized exceptions of administrative regulations with regards to urban development projects concerning for example the lease of buildings or participatory rights.

Out of successful real-world labs models might be derived that could help to transfer innovative co-management practices to other cooperative development projects.

Transformations in planning practice allowing for increased adaptability (adaptive planning and design) might be archived if real-world labs are deemed successful for official and civil actors.

Conflict of Interest

The author declares no conflict of interest