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SPECIAL ISSUE

LABS IN THE REAL WORLD: ADVANCING
TRANSDISCIPLINARITY AND TRANSFORMATIONS

Dealing with Multi-Perspectivity in Real-World Laboratories

Experiences from the Transdisciplinary Research Project
Urban Transformation Laboratories

Real-world laboratories bring together stakeholders from research and outside academia in sustainability experimentation. However, different perspectives of partners and inherent goal conflicts often inhibit collaboration. We present strategies how multi-perspectivity can be channeled into synergies instead of unsurmountable conflicts.

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Abstract

The project *Urban Transformation Laboratories in Lokstedt (Hamburg)* seeks to identify novel ways to combine local climate mitigation with urban planning, with a particular focus on the perspectives of local citizens. It serves as an example of transdisciplinary collaboration between two university partners and two local authorities, practice partners, and citizens. This *Design Report* focuses on strategies to address the challenges posed by multi-perspectivity among these different project stakeholders. We assume that building and maintaining trustful relations requires a careful balance of multiple perspectives, and that working with differences instead of forcing all partners to accept a unified perspective is the key to a successful collaboration. Finally, we briefly discuss the lessons we have learned so far on dealing with multi-perspectivity and the modifications we have introduced to our design.

Keywords
climate mitigation, multi-perspectivity, real-world laboratory, transdisciplinarity, urban planning

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The Promise of Synergies through Collaboration

Transdisciplinary collaboration between universities, local city authorities, business partners, and citizen groups promises many synergies, for example, a better understanding of the real world, a higher transformative potential, and an increase in legitimacy, ownership, and accountability for both problem identification and potential solutions (Lang et al. 2012, p. 26). Against this idealized expectation of synergies, the collaboration between different partners is often inhibited by their different perspectives (Schäpke et al. 2017, p. 6), especially when they collaborate in contested fields with inherent goal conflicts. The dynamics of such projects are therefore typically characterized by multiple different perspectives rather than a harmonious and shared vision of a common goal. In this paper, we provide a *Design Report* on how the problem of multi-perspectivity is addressed in an ongoing project of urban transformation laboratories and describe the lessons we have learned from that project.

This reflection on our own design strategy is based on field notes and group discussions and draws conceptually from research on transdisciplinarity (Brinkmann et al. 2015), institutional logics (Thornton and Ocasio 2008), and social science approaches that recognize the inevitably conflictive character of urban social interests and the role of social conflicts as key elements of urban transformations (Eizaguirre et al. 2012). We assume that building and maintaining trustful relations requires a careful balance of multiple perspectives and that working with differences instead of forcing all partners to accept a unified perspective is the key to a successful collaboration (Ramadier 2004, p. 431, Schneidewind and Singer-Brodowski 2015, p. 19).

Project Phases and Formats of Stakeholder Inclusion

The number and variety of stakeholders involved in the project has increased considerably since the first initial meeting of the

potential project partners to the actual, still ongoing implementation (at the time of publication, 1.5 years of the three-year funding period have passed).

Planning Phase (One Year)

The city state of Hamburg has a long-standing active approach to climate mitigation and adaptation; the city is a partner of several city networks *(Eurocities, International Council for Local Environmental Initiatives, ICLEI; Covenant of Mayors; The Network of European Metropolitan Regions and Areas, METREX)*. The Coordination Center for Climate Issues (Leitstelle Klimaschutz, LSK) is the administrative unit in the Ministry of Environment and Energy responsible for coordinating climate mitigation and adaptation strategies in Hamburg. The most important tool is the *Hamburg Climate Plan,* which quantifies Hamburg's mitigation goals by 2030 and 2050 and is updated about every two years (Senate Document 21/2521). Hamburg is also a hub of research on climate and climate change. Twelve key research institutions in *KlimaCampus Hamburg*[1] have formed a strategic alliance to engage in joint activities. In this rich institutional environment, the LSK decided to expand from the strategic level to more decentralized implementation options at the local district level and to implement a more participative approach towards citizens. The LSK therefore formed a group of four formal project partners, including the district office of Eimsbüttel (BA E) and the HafenCity Universität Hamburg (HCU), and asked the Universität Hamburg (UHH) to take the lead in developing the project.

In addition to the joint interest in combining climate change mitigation with urban planning, more specific interests and competencies soon became apparent in each of the four formal project partners. While the LSK and the BA E defined the fields of action on which the project should focus (and correspondingly, which fields should be left out), the two university partners provided the theoretical and methodological framework for the joint project. As the lead institution, the UHH emphasized the relevance of everyday routines of "regular" people as the central starting point for the project. The HCU's stronger focus on transitional processes as well as the practical experiences of pioneers and change agents was included as an addition to the main perspective, yet with a more limited funding time.

The scientific concept that served as a reference point for the project design was the real-world laboratory (RwL) (De Flander et al. 2014, Evans and Karvonen 2014, Voytenko et al. 2016, Schäpke et al. 2015, Jahn and Keil 2016, Parodi et al. 2016). There is an extensive literature about RwL and affiliated concepts of urban laboratories, sustainable living labs and transition experiments all aiming at transformative designs through the application of a diverse set of experiments and the diffusion of niche innovations (Schäpke et al. 2017). Our planning phase, in which all four project partners were constantly involved and additional practice partners occasionally consulted, led to compromises on the concept of RwLs: whereas the majority of transition labs or niche experiments focus on change agents, empowering radical alternatives to the status quo and analyzing implementation efforts (Schäpke

et al. 2017, pp. 46, 48), we are trying to balance and reconcile transformative impulses with the specific framework conditions of public authorities as well as everyday perspectives of citizens. This implies that transformative adjustments of governance interventions may produce less radical outcomes. Together with the project partners we are identifying options for transformation and qualifying them by a combination of expert judgment, relation with current policies, and citizens' priorities. The goal is to develop a transformation agenda, to which some first measures can be applied as a direct outcome of the project. More far-ranging change options could be addressed in the *Hamburg Climate Plan,* and the project will discuss the transferability of change options and results beyond Lokstedt. During the planning phase all partners agreed on the three chosen action fields that the local government and the district administration partners found most salient for their own work: household energy, mobility, and waste management.

Implementation Phase (since August 2016)

The project is situated in Lokstedt, a densely populated city district of Hamburg, Germany (the district population size is 28,252; Statistisches Amt für Hamburg und Schleswig Holstein 2016, p. 94). The laboratory concept is being applied in two different forms along the dimensions of time and space. First, we defined an urban transformation lab as a process over a period of nine months. Three consecutive labs are carried out, starting with household energy, followed by mobility and waste management. Each lab will address its topic in a sequence of several methodological steps, iteratively leading to a transformation agenda.[2] Second, our laboratories also create specific spaces for public debate. The citizen group discussions are held throughout Lokstedt in various public spaces. This decision was a direct outcome of the BA E's wish to test new formats of public participation aimed at involving a wide range of citizens by seeking out locations that attract different sections of the population.

Compared to the planning phase, the number of types of stakeholders involved has doubled; moreover, the project offers many different formats for their inclusion. During the nine months of each urban transformation lab, all partners follow a sequence of seven steps (figure 1), briefly summarized below, with a focus on how and why each step includes different types of stakeholders.

1. A ***workshop*** with four formal project partners and practice partners (the latter were chosen by LSK based on their municipal importance in their respective field; see below), intended to create a common information base resting upon current key topics in the respective field of action, the goals that the *Hamburg Climate Plan* assigned for this field, the policies that are already in place, and the relevant stakeholders (first month).

2. A ***public workshop*** open to all citizens of Lokstedt, to introduce the project, its goals and its methodology, and to invite partic-

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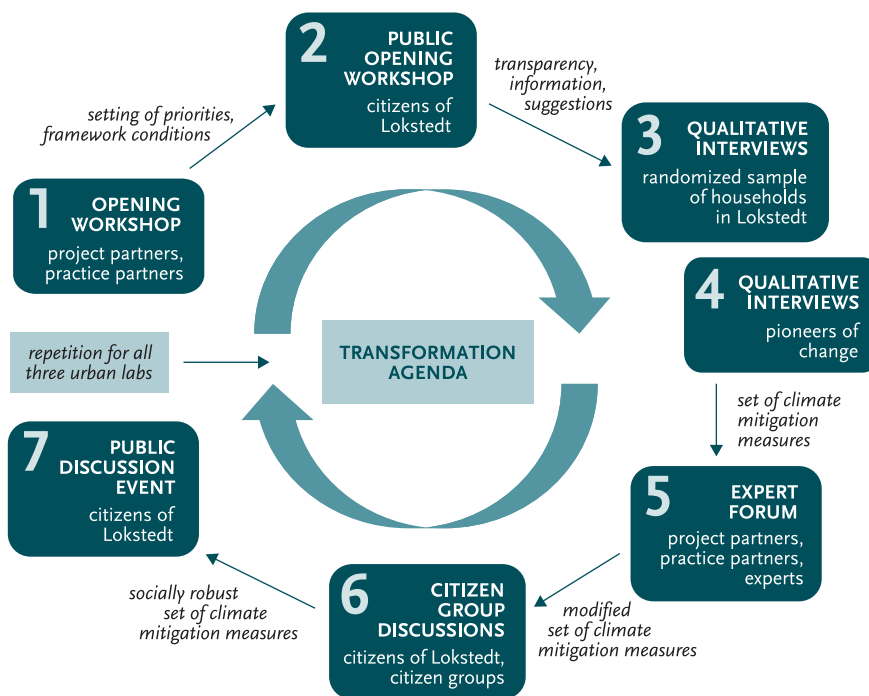
FIGURE 1: Participatory components and intermediate outcomes of recurrent urban lab process. Three consecutive labs address household energy, mobility and waste management.

are asked to assess their plausibility and to define how the measures would have to be implemented to be successful.

7. A *public discussion event* open to all citizens of Lokstedt (eighth month). In the presence of all project partners, UHH presents a list of results that have now undergone expert and citizen review and revision. The LSK determines which measures can be implemented as a temporary experiment in Lokstedt with funds from the Ministry.

Upon completion, a document is produced that contains elements for the final transformation agenda (ninth month).

ipation in the research process (second month). The event is widely communicated (billboard posting in Lokstedt, press release, social media, a circular letter to Lokstedt households).

3. A minimum of 30 *qualitative household interviews* conducted to analyze the actual state of the fields of action (knowledge, perception, material surrounding, types of meanings attributed in everyday life) (third and fourth month). Citizens are selected through a randomized sample drawn from the civil register and contacted by letter; interviews are conducted at the interviewees' homes.

4. *Qualitative interviews* with climate change pioneers[3] in Hamburg on their motivations and experiences (first year). These pioneers are also invited to participate in the project's public events and to express their views in the expert forum (see 5).

5. Based on the household interviews, the opening workshop with practice partners and the interviews with climate change pioneers, joint development of a number of potential measures to help reduce carbon footprints in Lokstedt, addressing both individual and infrastructural levels of transformation (fifth and sixth month). These measures are discussed, ranked and modified in an *expert forum* where experts from the respective sectors, consultation institutes, research and administration bodies come together.

6. *Citizen group discussions* (seventh month). Over a period of five weeks, UHH (lead), BAE, and LSK invite citizens to discuss the aforementioned measures. The citizen group discussions are held throughout Lokstedt in public spaces such as parks, community centers, farmers' markets, public libraries. Comfortable camping chairs are set up in which groups of four to six citizens can sit down for 20 minutes and discuss descriptions and visualizations of transformative measures. The citizens

Multi-Perspectivity among All Project Stakeholders and Its Challenges

In our project, each formal partner is also an organization that follows standard operating procedures and in which specific institutional logics form the background against which project partners make sense of the world, of the project, of project partners, and of the citizens. In a similar vein, rules of action create important limitations and orientate practice partners and citizens (table 1, p. 42).

UHH: The institutional logic relevant for scientists working at this university is one in which external research grants and publications in international peer-reviewed journals are strongly incentivized. The university has a strong profile in climate change research as well as in economics and the social sciences. Notwithstanding potential pressures resulting from this institutional environment, the university partner considers itself in the position of an "honest broker" (Pielke Jr. 2007) with regard to climate mitigation options. In this sense, its aim is not to follow its own agenda of specific mitigation choices, but rather to help clarify and expand the scope of options for change available under local conditions.

HCU: The institutional logic is similar to UHH's (peer-reviewed journals, external research grants). Moreover, HCU rewards interdisciplinary and transdisciplinary approaches, as they are of high >

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3 Climate change pioneers were identified through research within online and offline communication spaces in Hamburg, explorative interviews, expert interviews and a snowball system.

TABLE 1: Transdisciplinary collaboration between university partners, local authorities, practice partners, and citizens in the *Urban Transformation Laboratories* in Lokstedt (Hamburg) and strategies to address the challenges posed by multi-perspectivity among these different project stakeholders.

STAKEHOLDER	INSTITUTIONAL LOGIC/ ACTION LOGIC	INTEREST IN PROJECT	STRATEGY OF INCLUSION	CHALLENGES	RESPONSES TO CHALLENGES (FROM PROJECT PARTNERS)
LSK (local government)	party politics and sector competition; establishing climate change as a cross-cutting issue	motivate local climate mitigation action	responsibility for expert forum; veto power on sensitive political issues; staff exclusively working on this project	being selective of options to be discussed and types of actors to be included	university partners see their role to call for broad perspective and wide inclusion
BA E (district administration)	implementing public authorities binding aims; dealing with competing interests of local groups	increase transparency; decrease conflict level; reach more citizens directly	responsibility for public opening workshop; veto power on sensitive local issues; staff exclusively working on this project	being limited by constraints and requirements of complex planning processes	research character of project buffers against direct change expectations; "low-hanging fruits" can be implemented to start the change process
HCU (specialized university)	basic and transformative research; third-party funding; publications in peer-reviewed journals; teaching	research on potentials and restrictions of urban climate change pioneers with regard to transition theory	responsibility for study on climate change pioneers; veto power	climate mitigation pioneers, sometimes in direct conflict with local government; not all show interest in contributing to a research project	accepting institutional logics and resulting vetoes; finding compromises; concentration on basic empirical research
UHH (full university)	basic research; third-party funding; publications in peer-reviewed journals; teaching	research on social preconditions of urban climate mitigation	"neutral" position; responsibility for household surveys and lead of citizen discussion groups (although LSK, BA E participate); veto power on scientific standards	overlooking change dynamics by emphasizing everyday routines	combine insights with experts' and pioneers' visions; search for tie-in and win-win change options
practice partners	combine public service with business models	provide expert input; obtain support for own agenda	input to workshop; information newsletters; invitation to all public events	being particularistic	combine inputs with experts' and pioneers' visions and citizens' priorities
climate change pioneers	political motivation; public engagement; business cases; mobilizing imitators	voicing of barriers; finding support	interviews; invitation to public events; invitation to expert forum	can directly threaten legtimacy of local policies and governance framework	emphasis on research character of project
citizen groups	mobilizing support; voice protest; organize action	attention, recognition, support for own agenda; networking	invitation to public events; social media	attempted take-overs of public events for own agenda	pro-active contact
citizens	everyday routines; goal conflicts; institutional barriers	thematic interest; sometimes search for change options	invitation to public events; household surveys; group discussions	lack of interest; self-selection; expectation of change along particularistic interest	press releases, social media, billposting, circulars; unified project design including work clothes; expectation management

importance for the university's aim of shaping the future of urban areas. HCU has a strong profile in climate change research on the local level and in related transition and governance sciences. The contributing perspective of the project staff is influenced by disciplinary backgrounds in urban planning and social sciences (Knieling 2016). Regarding the project, HCU focusses on research about climate change pioneers. As an additional perspective to the project's main perspective, the funding time of this particular part of the project is more limited.

LSK: LSK was established in order to coordinate climate mitigation and adaptation as a cross-sectional task. This requires a complex facilitating process to activate a broad range of stakeholders within the city's administration and without it. From the perspective of the LSK, the project is expected to provide socially sound and transferable insights about further intervention points aimed at identifying quantifiable CO_2 savings as well as update strategies and tools from the *Hamburg Climate Plan*.

BA E: The district office of Eimsbüttel is the legal entity that implements decisions made at the senate level. It is located in a distinctive horizontal position between realizing public authorities' binding aims (e.g., providing new housing space) and being subject to potential "bottom-up" reactions from residents (e.g., public petitions). At the same time, it needs to vertically reconcile several divisions with

occasionally contradicting goals. The district office has already experienced a great amount of invited and uninvited participation (Wehling 2012, Wynne 2007) concerning the development of the district in the last couple of years.

Practice partners: For each practice field, we have one priority practice partner: the Union of Housing Industry Northern Germany (Verband norddeutscher Wohnungsunternehmen e.V.) (household energy), the public-private partnership hySOLUTIONS GmbH (mobility), and the publicly owned city cleaning service provider Stadtreinigung Hamburg (waste management). They all combine the logic of public service with economically viable business models.

Climate change pioneers: Pioneers are individuals or organizations attempting to reduce carbon footprints or to advance low-carbon technologies, products or practices. Depending on the type of activity, they follow a broad spectrum of organizational logics or action logics and face a large variety of challenges for succeeding with their climate-specific goals. According to their specific missions, some of them seek to motivate, organize and mobilize citizens, and try to identify ways in the local governance processes to influence decision making to achieve their ends, others concentrate on their pioneering innovation and rarely get involved in the overall processes.

Theme-specific citizen groups: In Lokstedt, several citizen groups are organized around issues that are relevant for any project on climate mitigation and urban planning. Some groups promote neighborhood or district activities. Other groups oppose further housing development, advocate for the protection of parklands and allotment garden plots, or promote a sustainable energy provision.

Citizens: Regular citizens cover a broad spectrum (social housing units: 7.9 percent; mix of detached or two-family houses and larger blocks; unemployment rate of 4.1 percent; welfare recipients, 7.0 percent; immigrant population, 28.9 percent; Statistisches Amt für Hamburg und Schleswig Holstein 2016, pp. 94 f.). Citizens of Lokstedt do not necessarily share a sense of local identity, and they vary greatly with respect to the dominant factors that frame their everyday routines and practices. Most citizens do not have a strong orientation towards protecting the climate, and even those with such an orientation are occupied by many competing concerns.

Design Strategies for Addressing Multi-Perspectivity

In this section, we list the most important process goals to ensure that multi-perspectivity is channeled into synergies instead of unsurmountable conflicts and explain which strategies the project partners use to achieve these goals.[4]

Ensure Mutual Learning between Formal Project Partners
Mutual learning has been identified as one of the key challenges of RwLs (Schäpke et al. 2017, p. 6). Each partner brings to bear a specific expertise. The first 18 months of the project implementation have shown how essential it is that all four project partners meet weekly. Much communication was focused on improving the mutual understanding of institutional pressures; excursions to all partners were organized for the project team. The university partner UHH hired a pool of student assistants who provide technical and organizational support for all meetings, joint activities and public events. Meeting minutes are promptly produced and published in a shared workspace. By substantially lowering the organizational burden and investing in knowledge management, the project partners can focus on the contents of the different gatherings.

Create Ownership and Avoid Take-Over among Formal Partners
To make full use of the potentials of different perspectives, it is important that each of the formal project partners feels a sense of ownership, but it is equally important to avoid a complete takeover by one of the formal partners. This is addressed by 1. funding one full-time staff for each municipal partner under their own tutelage and 2. providing a balanced distribution of labor and responsibility for project milestones: LSK is in charge of organizing the expert forum, the BAE is responsible for the opening events, and the university partners are responsible for their respective research steps (HCU: interview study of climate change pioneers; UHH: household interviews). The group discussions in Lokstedt and the closing event at the end of each transformation lab are conducted as joint activities. This combination of turn-taking and truly joint activities supports a sense of ownership in the formal project partners.

Develop and Maintain Trustful Relations between Project Partners
It is highly relevant to grant veto power to all partners at any time during the project design and implementation. This can relate to questions of contents, the involvement of specific players, or questions of timing, as partners can work at different speeds, for example, because the need for internal coordination across different levels of hierarchy is much lower in universities than in a local government. Even if mutual learning about each other's institutional pressures lowers the risk of damaging each other's positions, there will always be hidden pitfalls and implicit "no-goes" that occasionally call for unconditional corrections, for example, when it comes to dealing with single interest citizen groups.

Engage with Citizens
The inclusion of citizens' perspectives is crucial for the success of all three urban transformation labs. The project partners seek   >

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4 On dealing with multiple expectations of stakeholders see also Engels and Rogge (2018, in this issue).

to include citizens mainly for two different purposes: information on status quo and assessment of options for changes. First, household interviews are used to reconstruct the status quo about how energy consumption, mobility, and waste disposal are embodied in everyday practices. The UHH uses this information to better understand the social meanings of these practices, the barriers that typically inhibit their transformation, and the potential starting points for innovative measures. Second, the group discussions in Lokstedt, the study on pioneers – and to some degree, the public opening and closing events as well, – are used to systematically collect the citizens' practical assessments of suggested transformative measures. This increases the social robustness of the transformation agenda, which will be the final outcome of the project. The local combination of climate change mitigation and urban planning is already complex in itself, and the context of contested local priorities adds an additional layer of complexity to the task of identifying options for change. Citizens voice conflicting priorities, for example, over the right use of public space for mobility, recreation, and housing. The "neutral" position of the UHH as an honest broker helps to maintain an open debate in a contested field of local stakes, as it can emphasize the legitimacy of each competing position and the need for recognition of each other's perspective.

Create Room for Change
Perhaps the most difficult goal to achieve in this project is to create room for transformative change. Typically, local governments face shrinking resources, growing social needs, and significant challenges in balancing priorities (Fudge et al. 2016, p. 15). In these constellations, local governments tend towards an educative mode of governance that centers on an attempt to correct information deficits. Furthermore, options for change identified through this project can easily conflict with other aspects of the overall agenda of the city or with ongoing negotiations between city authorities and powerful players. Some options for change are too radical to be adopted or to be followed up. Therefore, the project partners together look at both ends of the spectrum of options for change: identify simple measures that can be implemented on an experimental basis in Lokstedt as a direct outcome of this project, and identify more radical options to uncover at what level legal, political, or economic framework conditions would have to be changed.

Lessons Learned

Working closely with city authorities and district governments typically reveals the many barriers that these agents are actually facing. This requires the role of the universities – serving as an honest broker and highlighting the importance of pioneers – to be further emphasized so that the range of options for change can be broadened despite general structural conservatism. We acknowledge that this requires constant negotiations between project partners. Working with multi-perspectivity avoids a short-term prioritization of radical options for change. However, we think that trust-

ful relationships and increased insight into each interlocutor's institutional or action logics can help to aim for a deeper change in later phases or subsequent projects.

Finally, we would like to note some modifications of the project design following the first urban transformation lab and its evaluation between all four partners:

- Despite holding weekly meetings, we have experienced misunderstandings that occasionally had a great potential of destroying trustful relationships between project partners. As a consequence, in addition to the weekly meetings, we decided to prepare a written document summarizing the first urban transformation lab, to which all partners will contribute their own perspectives. This document is internal, intended for the sole purpose of group reflection, trust-building, and increased transparency.
- The decentralized group discussions in public locations in Lokstedt have to be modified to also function under unfavorable weather conditions. We are increasingly looking for indoor locations. We will also handle the "group" condition more flexibly, as it occasionally proved impractical to ask citizens to wait for the discussion to start until two or three more people were ready to participate.
- For all types of contact with citizens, we learned to avoid technical project language, "lab" language, or the notion of a "climate smart city", which was part of the official project title. The majority of the approximately 300 citizens we have reached so far through various forms of inclusion are put off by a language that is too far removed from their daily life. Although this seems banal, it requires a very active search for appropriate language and behooves all partners to be fluent at different levels of language – to be able to switch easily between the requirements of a technical regulation, an academic publication, a press release or an intense discussion with citizens.

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