

## **Determinants of researchers' roles in real-world transitions: A comparative analysis of urban real-world laboratories**

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### *Abstract*

According to transformative research and related approaches, scientists may not only observe, describe and analyse sustainability transitions, but may also initiate or catalyse them. By supporting real-life transitions, sustainability scholars may become agents of change themselves. Transformative science thereby amplifies the scope of the traditional understanding of scientists' roles and unfolds a variety of ways in which researchers may contribute to real-life transitions towards sustainability.

In this paper, we search for the factors that determine which roles researchers take regarding their contribution to real-life transitions. Thereby we seek to complement conceptual studies on ideal roles in transdisciplinary and/or transformative research processes with an empirical study which is, however, not evaluative regarding the fulfilment of such ideal roles, but rather explanatory regarding the actual roles that are taken by researchers consciously or unconsciously in different situations.

A suitable context for addressing this research question are so-called real-world laboratories. Real-world laboratories are transformative in nature and close to transdisciplinary processes and action research, addressing real-world problems by means of a strong collaborative interaction between science and practice. The real-world laboratory process is structured in three broad phases of co design, co-production and co-evaluation, and engages in cyclical real-world interventions, aiming at results both for science and practice. The boundaries of real-world laboratories are usually both spatial and content-related.

Real-world laboratory phases and settings allow for a variety of ways for researchers to contribute to real-life transitions. The spectrum ranges from rather indirect contributions like taking a traditional science role (e.g. observing and analysing) to more direct contributions, like empowerment, or becoming a change agent in the transition process oneself. This reflects the options commonly considered within transformative research as a whole. Wittmayer and Schöpke (2014) add further roles that fit in between these poles, like 'knowledge broker' or 'process facilitator'.

In order to identify the factors that determine which roles are chosen in what situation, we employ a research design unique in current real-world laboratory research. Our constellation of empirical cases allows us to make both diachronic within-case comparisons and synchronic between-case comparisons. We therefore select three current urban real-world laboratories, located in the city of Wuppertal, Germany. They were established in connection to the research project 'Well-Being Transformation Wuppertal' (WTW), run by the Center for Transformation Research and Sustainability (TransZent) in Wuppertal. WTW studies the connections of sustainable economy, quality of life and urban transformation in a city which is struggling with deep structural changes. Impulses for more sustainability coming from the city's civil society are described, structured and facilitated. Projects aiming to create sustainable well-being are developed, researched and realised in three different city

districts together with local practice partners. Each of these real-world laboratories is scientifically accompanied and supported by one junior researcher.

For our comparative analysis of the different roles of researchers and the situations in which they occur, we employ qualitative content analysis based on observation protocols, interviews with collaborating actors, research diaries and secondary data. As a preliminary finding, the roles of the researchers (identified mostly inductively but nevertheless theoretically informed), and thereby the ways they contribute to real-life transition, vary considerably across the real-world laboratory settings and over time. Regarding the latter, first results suggest that this may be due to the changing demands of the different sub-stages of the real-world laboratory process. Regarding the former, for example the type of practice partner, the type of real-world problem, the specific initial situation, the scope of civic participation, and several micro dynamics, seem to influence which roles the researchers adopt. For instance, the Wuppertal cases show collaborations with very different practice partners, i.e. an entrepreneurship-driven association, a bottom-up civil society organisation and a semi-public district development agency. Their specific activities, resources and organisational structures pose different challenges and requirements to the researchers and shape their roles in contributing to real-world transitions significantly. As an example, the scarce resources of the district development agency for the respective real-world transition push the researcher into a more active, change agent-like role, causing her to bear a large share of responsibility for the operational development and implementation of the local real-world transition. This impulse is reinforced by the challenging initial situation in this real-world laboratory, where the whole sub-project must be launched from scratch. This contrasts with the two other real-world laboratories, where the operational local real-world transitions depend to a lesser extent on the researchers, allowing them for rather indirect contributions like reflection and knowledge inputs.

After all, our research outlined above is a form of self-reflexive research that helps us to better understand our own roles and activities in real-world transitions, enabling constructive criticism and improvements. Moreover, we aim to add further empirical insights to the debates on and concepts of both real-world laboratories and transformative research.