

1. The Lower Saxony Metapolis – From an Open Call for Cooperation to a Fundamental Understanding of Urban-Rural Relations

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In 2015, the ISU – Institute for Sustainable Urbanism at Technische Universität Braunschweig published an open call for cooperation: “*Have space. Want ideas? Not afraid of students?*” via our professional networks. The open call was an offer to municipalities and NGOs worldwide. The ultimate ambition was to apply the talent of our students and ISU to existing real-life problems. By cooperating with real-world actors, we envisioned our students – future urbanists – to get a glimpse of the everyday reality of their chosen profession from the very beginning of their studies. We also wanted to move away from an architectural and urban design education where students work on problems that their professors have “made up”. In addition, we aimed to advocate work in public administration as a rewarding professional alternative to the classic career path in an architects’ office. Through meetings with citizens, mayors, or chief planners, we hoped to give our students an idea of the responsibilities and joys the work of an architect can entail.

The response was amazing! We received feedback from municipalities around the world. However, most expressions of interest in cooperation came from villages and small towns in Lower Saxony, a federal state in the north of Germany, where ISU and our Technische Universität Braunschweig are located. We kept our promise and conducted several urban design workshops and master classes based on the responses to our open call. We worked with the Gowanus Canal Initiative in Brooklyn, New York – and also held a design-to-build workshop in Brome, a village near the city of Wolfsburg, and other more rural municipalities. “*We work with Brooklyn and Brome*” soon became a punch line at ISU.

In response to the open call, we met in person with the mayors or chief planners of all of the municipalities in Lower Saxony that had replied. We became intrigued by the specific challenges those communities, mainly small towns and villages, were facing. Consequently, we started to conduct preliminary research and established the *Academy of Rural Spaces* (Carlow et al. 2019) – a forum for cooperation between ISU and our partner municipalities. Eventually, in 2016 we hosted the international conference *RURALISM. The future of small towns and villages in an urbanizing world* (Carlow and ISU 2016).

We realized a number of things over the course of all these intense exchanges:

While rural spaces have long been understood as backward, they have – just like cities – undergone drastic changes in the past decades, too. The industrialization of agriculture, the change of lifestyles, and other effects of the globalized, networked economy have had a major impact on areas that were formerly dominated by traditional agriculture, and have led to enormous, also physical and spatial transformations that are still on-going. In addition, prevailing challenges such as resource and land consumption, the need for better participation, and sustainable mobility strategies are not only problems that concern cities but also rural areas (Carlow and ISU 2016; Carlow et al. 2021; Mühlbach et al. 2021).

Rural spaces are often depicted as peripheral and being dependent on large cities. However, in Lower Saxony, as in the whole of Germany and many other European countries, the majority of the population does not live in the large metropolises and metropolitan areas, but outside of these – in towns, small suburbs, and villages. This ultimately challenges inherited

concepts of urbanity, centrality, and accessibility (Carlow et al. 2021).

We also observed that for a long time, concepts and strategies for sustainable transformation have focused almost exclusively on large cities and metropolitan regions. However, there are many interlinkages between spaces once considered urban or rural. A holistic approach to understanding urban and rural spaces in an integrated way may offer a new path towards a more sustainable future. At the same time, this is being challenged by traditional planning systems that strongly differentiate between urban and rural areas (Carlow et al. 2022).

Ultimately, no two places are alike, and *rural* or *urban* are too broad categories to describe the lived reality in cities, towns, or villages. Prosperous villages and shrinking cities or vice versa, new functional designations or changing lifestyles – a closer look is often needed to understand the challenges that arise in urban and rural development.

TOPOI. METAPOLIS. SCENARIOS for Urban-Rural Sustainability in Lower Saxony presents the current results of our ongoing work and analysis of urban and rural communities in Lower Saxony. We developed a new data-driven method called TOPOI to analyze urban-rural settlement patterns (Carlow et al. 2022). The method is introduced in Chapter 2. Based on the insights we gained, we developed scenarios for the sustainable development of different settlement types and exemplary communities in the interconnected network of cities, towns, and villages. In Chapter 3 we elaborate on the method we used to develop these scenarios. The exemplary proposals we derived for different possible and sustainable futures are presented in Chapters 4, 5, and 6. Throughout their

development, these have been extensively deliberated with our cooperating partners. Chapter 7 presents a summary of our discussions. Chapter 8 is a summary of the different design proposals that we developed for the scenarios. In the concluding Chapter 9, we will show how an incremental change in the communities may have a major impact on the larger urban-rural system.

I would like to thank all of our cooperation partners, mayors, planners, local politicians, activists, and citizens of Barnstorf, Bersenbrück, Braunschweig, Bremen, Bremerhaven, Brome, Elm-Asse, Detmerode, Eydelstedt, Nienburg (Weser), Schöppenstedt, Vechelde, Verden (Aller), Wittingen, Wolfenbüttel, Wolfsburg, and Wolfshagen (Harz). With this book we want to acknowledge your passion in the quest for a good and sustainable future for (y)our communities.

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This book is an invitation to continue the discussion on the fundamental understanding of urban-rural relations and the future sustainable development. Amidst a pandemic, severe social disruptions due to wars, climate change with severe draughts, storm surges, and floods, and with global resources dwindling, we all realize that radical shifts in the way we live are necessary. This book provides a glimpse into a positive future based on radical changes – we can do this!

1.1 Academy of Future Rural Spaces in Lower Saxony

Workshop in Barnstorf 2019 – ISU students together with the mayor Jürgen Lübbers



1.2 Academy of Future Rural Spaces in Lower Saxony

Conference on urban-rural development at TU Braunschweig with experts, ISU students, and representatives of our partner municipalities

