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Introduction: from unilocal to comparative transdisciplinary urban co-production of knowledge

David Simon, Jan Riise and Henrietta Palmer

Co-production as a research approach

Co-production of knowledge as an approach has evolved since the 1970s. The objective has been to bring different stakeholder groups together in an attempt to improve outcomes, whether of services or research, and their legitimacy and to overcome often longstanding antagonisms and wide asymmetries of power by working or researching together (Jasanoff, 2004; Joshi and Moore, 2004; Mitlin, 2008; Polk, 2015a).

Co-production is generally seen as good for society, at least in relevant fields of research, as co-production is more equitable and includes more diverse voices and perspectives than traditional research (Durose et al, 2018). In the particular context of sustainable urban development, the terms co-production, co-creation and co-design have emerged to inform new expectations of project design, where the beneficiaries or users of a given intervention also participate in its design, research and implementation. Co-creation and
co-design are gaining currency because they draw attention to the joint definition of shared problems and the design of an appropriate methodology, as well as undertaking the actual research, whereas co-production is sometimes used to denote only the actual research being undertaken jointly, on a design and methodology formulated by one or two participants, usually academic researchers. In this book, for convenience, we use co-production as a shorthand term to embrace all these variants.

The co-production approach to both research and service provision is now widely used in diverse situations in both the global South and North. In development contexts, co-production is often presented as a means of identifying and incorporating local and/or traditional forms of knowledge into development, thus moving beyond the problematic a priori valorisation of either local/traditional or generally Western scientific knowledge. However, this is far from straightforward in practice and many questions regarding how to integrate knowledge remain to be resolved, as will emerge in several chapters in this book.

Essentially, the many modes of co-production constitute more sustained and coherent forms of the diverse participatory research and consultation methods developed to engage with local communities, research subjects, or the intended beneficiaries of development or service investments. There is no clear boundary between co-production and participation – when the intention is to increase diverse stakeholders’ active involvement and effective power within the process concerned – in order to increase both the degree of democracy in the process, and confidence in and the legitimacy of the outputs and outcomes, and to diversify epistemically the knowledge produced. Indeed, for instance, participatory budgeting, of the kind initiated in Porto Alegre (Brazil) and subsequently applied in diverse cities (Cabannes, 2004, 2015), has many attributes of co-production, but even so is not immune from
ossification and bureaucratisation over time, which have given rise to criticisms and loss of legitimacy.

Globally, co-production has most commonly involved local authorities and other public sector institutions engaging with residents and organised community groups, often in relation to service provision. This derives from initial work by Roger Parks and colleagues including Elinor and Victor Ostrom (1981) and the diverse forms have recently been characterised as constituting a typology in terms of the degree of participation by service users (Brandsen and Honingh, 2016; see also Polk, 2015a, 2015b; Durose and Richardson, 2016; Wolf and Mahaffey, 2016). Nevertheless, nowadays the term co-production also applies to diverse forms, partnerships and applications of research, including, for instance, in relation to global change and peri-urban disaster risk reduction (Mauser et al, 2013; Schaer and Komlavi Hanonou, 2017) and the health sector. The literature demonstrates how challenging, time-consuming and sometimes unpredictable genuine co-production of knowledge and understanding can be in terms of outcomes. Perhaps unsurprisingly, therefore, the now-considerable literature on co-production of research around the world is overwhelmingly conceptual or based on research in one location rather than being comparative across locations. It also tends to assume – usually implicitly since these issues are not always addressed – that power differentials among co-production participants and their respective institutions can be overcome and that consensus can be achieved through sustained negotiation. In practice, as will emerge through the pages of this book, these assumptions frequently do not hold.

Co-produced research, like the co-production of services, can sometimes also be transdisciplinary. Although this latter term may be used synonymously with interdisciplinary to refer to the crossing of academic disciplines, here we adopt the usage denoting the collaboration of academics and practitioner/practice-oriented researchers from different disciplines and/or backgrounds. Transdisciplinary co-produced research,
then, emphasises inclusiveness and iterative, deliberative negotiation as the mechanism for building shared understandings as a precondition for making progress jointly. As such, it involves a team made up of practitioners and academics, creating a fundamentally different epistemology of social science knowledge production from the conventional linear, positivist and expert-led model that still underpins most urban research worldwide. The existence and relevance of ‘different knowledges’, including those of indigenous and local communities, have been acknowledged, hence understanding that capacity and legitimacy are crucial components of transitional or transformational actions towards sustainability at all levels.

Urban research has become a particularly important field for experimentation and innovation in the co-production of knowledge. Cities around the world are key actors in the struggle against global climate change, as well as in the development of urban social sustainability, which is defined in terms of social equity and community sustainability (Dempsey et al., 2011). These concerns also underpin the research of Mistra Urban Futures and in particular the Realising Just Cities framework (discussed later in the chapter), which has guided our research agenda for the period 2016–19, including the comparative transdisciplinary co-production initiatives that form the subject of this book. Although time-consuming and less predictable than conventional research, co-production is an approach that may create both legitimacy and action through new policies and local strategies (Simon et al., 2018), because it builds a shared sense of collective ownership of the outcomes by virtue of the whole research process being a joint experience.

The importance of such an approach is given added relevance by the current global societal challenges and international agendas for sustainable development, which explicitly recognise the importance of co-production among the multiple stakeholders and levels of governance institutions, both
intra- and internationally. The next section summarises these agendas briefly.

Global challenges and the urban

With *Homo sapiens* now a predominantly urban species, urbanisation and globalisation are changing the world and will continue to do so for decades to come. Anthropogenic climate and broader environmental change only add to the equation; unpredictable weather and increasingly frequent and severe extreme events force people to search for better lives elsewhere – commonly in cities and smaller urban areas. This adds to existing pressures on infrastructure, shelter and employment even as some areas of cities are themselves becoming vulnerable to the effects of climate change. Existing efforts to promote urban sustainability are inadequate and not up to the task of transforming how we build, rebuild, organise and live in cities in the short time still available to achieve this on the basis of the latest worldwide scientific evidence (McPhearson et al, 2016; Simon, 2016; Elmqvist et al, 2018).

The landmark global agreements from 2015 and 2016 – the Sendai Framework for Disaster Risk Reduction, Agenda 2030 and the Sustainable Development Goals (SDGs), the Paris Agreement, and the New Urban Agenda (NUA) – have created new goals and spurred collaborative efforts, emphasising the global responsibilities in ‘leaving no one behind’, as the United Nations’ slogan for the SDGs expresses it (Valencia et al, 2019). Importantly, they represent explicit recognition that achieving more sustainable development cannot be the preserve of national governments but must be pursued at all scales, with ‘sub-national entities’, that is urban and regional local authorities, playing crucial roles.

Already in 2012, just before the Rio+20 Earth Summit in Rio de Janeiro, the former United Nations (UN) Secretary-General, Ban Ki-moon, declared at a high-level event in
New York that “Our struggle for global sustainability will be won or lost in cities”. The diverse urban contexts around the world, therefore, provide a compelling setting for the development of more profound understandings of the processes leading from knowledge to awareness and then to action, individual as well as governmental and societal. This understanding is necessary to be able to improve and increase the ‘return’ on the massive investments in sustainability and environmental knowledge and evidence-led policy measures. In particular, the SDGs and the NUA have changed the context of research and development, as an increasing number of research funding organisations and research performing organisations are aligning their funding calls and project designs to the SDGs, demanding research projects to contribute directly to the achievement of the goals.

**Mistra Urban Futures: a centre for transdisciplinary co-produced research on urban futures**

This book provides initial reflections on the innovative agenda of Mistra Urban Futures as it undertakes a coherent programme of international comparative and transdisciplinary co-productive research. The overarching objective of our approach to transdisciplinary comparative research is to analyse how key themes relating to urban sustainability and justice are understood and operationalised in different contexts, thus helping to open up more possibilities for change. The ultimate objective is to ensure the realisation of just and sustainable cities in these different contexts, for example, by learning from both the positive and negative experiences of other cities, and developing trans-local links where knowledge emerges in a common trans-local exploration.

Established in Gothenburg, Sweden, in 2010, Mistra Urban Futures is an international urban research centre (‘the Centre’ in this book) promoting urban sustainability by means of the transdisciplinary co-production of knowledge, undertaken
in a series of Local Interaction Platforms (LIPs). These have been formed through bottom-up local initiatives that lead to formal partnerships among groups of academic and practice-oriented institutions in Gothenburg (Sweden), Sheffield/Greater Manchester (UK), Cape Town (South Africa) and Kisumu (Kenya). These partnerships have come together to form what became Mistra Urban Futures. In 2016–17, a LIP was also established in the Swedish cities of Malmö and Lund in southern Sweden (Skåne Local Interaction Platform) in order to join the Centre, and a smaller partnership in Stockholm is currently in a similar process. The formal nature of all these partnerships is important in terms of their capacity to attract political and financial support, as well as the backing provided to the individual researchers comprising the respective project teams (Mistra Urban Futures, 2015; Palmer and Walasek, 2016; Perry et al, 2018).

These partnerships are diverse in terms of the number of institutional partners, their contractual and governance arrangements, their operating mechanisms, and the types of co-production undertaken. However, all have one or more universities and local authorities as members, thus constituting a particular kind of university–local government partnership (Trencher et al, 2014). All LIP partners share the underlying desire to collaborate on mutually defined applied research priorities in the belief that this offers greater prospects for appropriate and practicable interventions and outcomes than traditional, expert-led research. The Swedish LIPs operate as consortia under multi-year agreements and are hosted by local universities. The Kisumu LIP (KLIP) is constituted as a registered trust under Kenyan law with its own premises, while the Cape Town and Sheffield–Manchester LIPs (CTLIP and SMLIP respectively) are university-based partnerships operating by means of bilateral collaboration agreements with local/regional authority partners (Mistra Urban Futures, 2015; Palmer and Walasek, 2016; Perry et al, 2018).
Mistra Urban Futures is distinctive as a research centre, comprising a Secretariat in Gothenburg and this series of LIP hubs, along with the smaller partnership just established in Stockholm and project-based collaborations in Dehradun and Shimla (India) and Buenos Aires (Argentina). It thus straddles four continents, deliberately embracing the challenges of urban sustainability across the increasingly artificial global North–South divide that still bedevils the UN and many other bi- and multilateral initiatives in an increasingly globalised world of growing diversity at every scale. Core funding is provided by the Swedish Foundation for Strategic Environmental Research (Mistra), the Swedish International Development Cooperation Agency (Sida) and the Gothenburg Consortium of seven partners,² which include universities, local and regional authorities and research institutes, with additional local funding in other LIPs and competitive project-based funds from diverse sources.

Until the end of the first five years of the Centre’s funding in December 2015, each LIP experimented with its own forms of transdisciplinary knowledge co-production, suited to the particular context and blend of academic and practitioner partners and their respective priorities. Among the most important of these experiences were the breaking down of often longstanding barriers and forging of trust; identification of suitable champions within each institution (ideally at both political and professional levels); development of common approaches to the research; and the role of the LIPs as ‘safe spaces’ for experimentation away from the constraints and habitual practices of each institution. Considerable effort has been devoted to learning about the experiences using transdisciplinary co-produced research. The Governance and Policy for Sustainability project was an early attempt intended to examine the experiences of the LIPs against a common framework during this first phase.

The LIPs are innovative responses to the challenges of achieving urban sustainability, acting as locally appropriate, safe and experimental convening spaces³ where the various
participating stakeholders can build shared experience and knowledge in the ethos of transdisciplinary co-design, co-creation and co-production. This provides the basis for transcending the confines of their respective institutional parameters, which are now widely acknowledged to be unsuited to tackling the complexities that impede substantive progress towards urban sustainability. Comparative evaluation of the LIP development processes in Cape Town, Kisumu, Manchester and Gothenburg over the period 2010–14 has distilled six necessary conditions for the evolution of LIPs (Perry et al, 2018: 194–5):

• Each platform is anchored between universities and the public sector, with each partner making substantial and meaningful contributions in funding, commitment, in-kind resources, space and active participation.

• Each platform is co-constituted and evolves organically in response to the local context of political and other changes, including election cycles but also major political development such as the devolution processes in both the UK and Kenya.

• All platforms are context-sensitive, aiming at producing not only excellent research but also relevant knowledge, building local credibility and legitimacy. The idea of sustainable urbanisation is shared, but adapted to local issues and challenges.

• Each platform’s work is aligned to national and global agendas and also through the nesting of local projects into comparative projects, involving two or more of the local platforms.

• The alignment of local platform work ensures the connection between the platforms and the Centre. This is essential for knowledge to move from local to general insights and for the shared learning processes between the platforms.

• The platform has an important sharing function as a non-aligned and safe place where representatives of stakeholders
share ideas, knowledge, challenges and experiences outside their normal working environs.

This collaborative multi-platform experience has been enhanced and deepened during the period 2016–19, partially by undertaking the comparative research projects explored in this book. On this basis, the multi-stakeholder platform model that operates on the basis of mutual respect and trust, and generates new and often hybrid forms of locally appropriate knowledge and solutions that are simultaneously aligned with national and global agendas, has considerable value in promoting adaptive urban governance more generally.

Mistra Urban Futures has been at the forefront of comparative research on the new global agendas referred to earlier, contributing to the development of the SDGs from the start and participating in the formulation of NUA. In 2014–15, the Centre undertook an extensive pilot study in five cities to test and assess the targets and indicators for the urban goal (SDG 11). The results were used by the UN for the final design of the goals. However, the project also resulted in several articles discussing various aspects of SDG 11 and its implementation in city organisations around the world (see Chapter Six). The Centre has also continued this innovative research by examining co-productively with the respective local authorities how a diverse group of seven cities on four continents are engaging with and implementing the NUA and SDGs. This work forms the subject of Chapter Six.

From local to comparative research

The second phase of Mistra and Sida funding (2016–19) has enabled the negotiation and subsequent introduction of a coherent research framework to guide the research efforts. Entitled Realising Just Cities to reflect the centrality of concerns with urban equity and justice, it comprises three broad themes – socio-spatial, socio-ecological and socio-cultural.
Cross-cutting the themes were three core processes, namely urban change, urban knowledge and urban governance, to provide a mesh of nine subdivisions to ensure that all relevant research interests of the respective LIPs could be catered for in a balanced manner (Figure 1.1). As in the first phase, research projects were identified according to local priorities, but the thematic schema enabled a process of negotiation among LIPs to try to arrive at projects within each theme that were as close as possible in terms of focus as the basis for launching a number of comparative projects, as explained in Chapter Two.

Systematic transdisciplinary comparative research using co-production methods has added a novel and world-leading dimension to Mistra Urban Futures’ work. A typology of forms or models of comparison was developed, representing a spectrum in terms of the degree of central versus local (bottom-up)

Figure 1.1: Research themes and core processes related to co-production of knowledge
design, implementation and control (see Chapter Two). Altogether 11 transdisciplinary comparative projects have been initiated to date. All these applied social scientific comparative projects are very different from natural or life science comparative projects, which would require identical and reproducible local projects. As such, they also face distinctive challenges. Because the comparative dimensions of these projects are still at an early stage, our reflections throughout this volume constitute our substantive methodological assessment of what we believe to be the first time that such an exercise has been undertaken, and builds on and upwards from the preliminary assessment published in 2018 (Simon et al., 2018). As such, the principal focus is on the various methods that have emerged within the respective categories of comparison within the typology. Empirical findings are referred to in so far as they are relevant and necessary for a clear understanding of the material, but in the main those findings are being reported in other outputs.

Overview of the book’s contents

Despite the project-based chapters being organised around a common set of headings in order to ensure some coherence and comparability in terms of the principal questions and issues that frame the book, they also reveal some diversity of style and balance between empirical and conceptual dimensions. This reflects the nature of the respective projects, their comparative uniformity or local distinctiveness, and the blend of nationalities and professional backgrounds of the author teams. As such, this is a microcosm of the richness in diversity of Mistra Urban Futures and we hope that readers will find it a strength.

Chapter Two explains the evolution of Mistra Urban Futures’ research agenda from an almost exclusive focus on research in the individual city platforms during the first phase (2012–15) to a strong emphasis on comparative thematically focused research alongside unilocal projects during the second phase (2016–19).
It presents the typology of possible forms of comparative research identified for this period and the challenges foreseen with the respective categories. The lessons and challenges of managing and tending the research to ensure coherence, along with some wider lessons, are discussed.

In Chapter Three, which addresses solid waste management as a research focus, the concept of retrofitting is applied with a double meaning. It embraces both the challenge of adding a comparative dimension with Helsingborg to the initial local project in Kisumu, and the challenge of retrofitting new waste management strategies on to the inadequacies and piecemeal nature of waste collection and management in the latter city. Despite the sharply different prevailing conditions in the two cities, there has been a strong emphasis on bidirectional learning, including how appropriate solutions in Kisumu might hold valuable lessons for Malmö, which has experienced a technological lock-in to waste incineration for many years.

Replication of local projects across cities constitutes the subject of Chapter Four, which is based on three comparative projects on knowledge exchange, food and transport respectively. These have been undertaken in and between Cape Town, Kisumu and Gothenburg, and, in one case, also Malmö. The replication challenges are addressed in relation to three sets of issues, namely quantitative research, qualitative research and the context-specific social development interventions. The extent of diversity required that the main replicative comparison took place at the level of broad objectives, with attention to underlying values, rather than detailed methods or empirical evidence.

Chapter Five differs markedly from the others in that it documents carefully and reflects on the extensive and thoughtfully reflective process of project planning and development just taking place for new work on urban development and migration. Themed around the intention to build clusters and assemblages, it has engaged researchers in Gothenburg, Malmö and Kisumu.
Chapter Six reports on the highly distinctive project studying the extent to which seven of the eight cities where Mistra Urban Futures works on four continents are engaging with and implementing the NUA and urban SDG. It is the only example of the project category that is centrally designed – necessitated by the global agendas that form the subject matter. Nevertheless, it is being implemented in different ways according to local circumstances in each city. The clear narrative also reflects the high degree of integration achieved among team members.

Chapter Seven provides another distinctive perspective on the work done by Mistra Urban Futures, by reflecting on how one particular form of transdisciplinary learning has taken place within the SMLIP. This is not the co-production of new knowledge through research, although the activity concerned was undertaken as part of a comparative learning project. Instead, the chapter explores another form of meaningful participation and transdisciplinary learning that took place through an exchange and reflection on perceptions about a specific event among local authority officials, citizen/civil society researchers and academics, in order to formulate a shared understanding of the most useful learnings for Greater Manchester.

Finally, Chapter Eight provides a synthesis and draws conclusions from the rest of the book, reflecting the overall conceptual framings of the suite of comparative projects and the diversity as expressed through the successive chapters. It also reflects on the ways in which this innovative research programme has advanced the achievement of just and sustainable cities, as well as advancing the field of transdisciplinary co-production, for which there is rapidly increasing demand.

Notes

1 Robert Chambers has been a lifelong pioneer and exponent of participatory methodologies, and his most recent book (Chambers, 2017), which contextualises his cumulative reflections, provides a succinct overview.
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2 University of Gothenburg, Chalmers University of Technology, IVL Swedish Environmental Research Institute, City of Gothenburg, County Administrative Board of Western Sweden, Region Västra Götaland, the Gothenburg Region (GR).

3 These are also sometimes referred to as boundary or boundary-crossing spaces, functions or organisations.

References


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