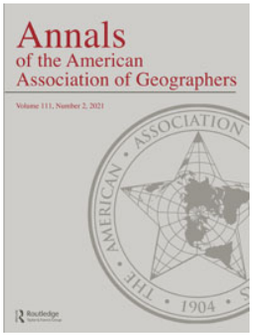

Annals of the American Association of Geographers

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/raag21

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To cite this article: Sophie Webber , Helga Leitner & Eric Sheppard (2021) Wheeling Out Urban Resilience: Philanthrocapitalism, Marketization, and Local Practice, Annals of the American Association of Geographers, 111:2, 343-363, DOI: 10.1080/24694452.2020.1774349

To link to this article: https://doi.org/10.1080/24694452.2020.1774349

Wheeling Out Urban Resilience: Philanthrocapitalism, Marketization, and Local Practice

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In this article, we examine how urban resilience has emerged as a global urban policy project, offering solutions for cities about how they can adapt to and recover from shocks and stresses, particularly those associated with climate change. We conceptualize this as a multicentric global urban resilience complex, catalyzed until recently by the Rockefeller Foundation's 100 Resilient Cities initiative in concert with the World Bank. The complex is comprised of three components: (1) a global network of foundations, multilateral agencies, nongovernmental organizations, and private-sector goods and services providers, wielding differential power and influence; (2) measurement and assessment devices that both mobilize and define resilience; and (3) initiatives to marketize urban resilience as producing a dividend also for private-sector firms and investors. Northern institutions define what should be done, downscaling this as a sequence of practices, participatory agenda setting, strategizing, and implementation to be followed by cities. Examining how the complex has come to ground in Semarang and Jakarta, Indonesia, we identify ways in which it is reproduced but also criticized and contested. If the complex in many ways is driven by philanthrocapitalist and neoliberal norms and aspirations, its programs also are subject to critique and contestations at the local scale. *Key Words: complex, Indonesia, neoliberalism, philanthrocapitalism, policy mobility, urban resilience.*

Since the turn of the millennium, the priorities of global urban governance initiatives have taken a distinctly more-than-human turn. By 2000, urban sustainability was a major focus of urban governance, which now is circulating in tandem with two sister concepts: urban resilience and smart cities. This constellation of global urban governance discourses, projects, and practices focuses on managing the relations between social processes, biophysical processes, and technological change. These relations are assembled slightly differently under each of these concepts, with each operationalized through distinct, yet overlapping coalitions of actors and institutions. Sustainability, resilience, and smartness also coalesce: For instance, they are jointly cemented as central to the New Urban Agenda finalized by the United Nations at its Habitat III conference in Quito in October 2016 (United Nations 2017). Urban sustainability, urban resilience, and smart cities are also remarkable for their flexibility and mobility: Their ambiguity means that they can be defined in different ways to suit those deploying them (Havice and Iles 2015), enabling them to travel through the fast policy networks of propagating institutions and individuals.

In this article we examine urban resilience, interrogating its construction and promotion, asking how it has become mobile and the implications thereof. Existing urban resilience scholarship has focused on definitions of the term and its relationship with neoliberal urbanism (e.g., Davoudi et al. 2012; MacKinnon and Derickson 2013), also speculating about whether, and how, such neoliberal framings can be contested to recuperate more socially just variants (e.g., Nelson 2014; Harris, Chu, and Ziervogel 2018; Betteridge and Webber 2019). By contrast, we extend existing research about urban resilience by examining it "in the wild" (Callon 1998). Our research questions ask: How is urban resilience being rolled out? How is the idea, and its associated practices, mobilized and deployed by a variety of private and public actors? Which discourses, practices, and technologies are important? How do city actors engage with, respond to, and rework these?

Annals of the American Association of Geographers, 111(2) 2021, pp. 343–363
Initial submission, May 2019; revised submissions, December 2019 and February 2020; final acceptance, March 2020
This article has been corrected with minor changes. These changes do not impact the academic content of the article.
Published by Taylor & Francis, LLC.

Our multisited research suggests the emergence of a global urban resilience complex that shapes how urban resilience is defined in practice and rolled out, with implications for the cities we examined. Although the complex can be traced back a decade, as we describe here, we focus on its most recent manifestation centered around The Rockefeller Foundation's 100 Resilient Cities (100RC) program. We do so because the 100RC phase is the most programmatic to date, involving the proactive enrolling of cities into a common program, but also because this period provides an opportunity to examine the influence of global philanthropic organizations and consultancy firms over urban resilience imaginaries and practices. In this phase, we find that the global urban resilience complex comprised three components: a network of key organizations; a set of measurement, assessment, and institutionalization techniques and procedures; and experimental discourses and practices that seek to marketize urban resilience. By mobilizing these three components, the complex has shaped global urban resilience norms and practices while also forging connections between cities and a series of private-sector, multilateral, and philanthropic actors, in the name of providing solutions to a wide assortment of urban crises. The Rockefeller Foundation abruptly abandoned 100RC in March 2019, but its discourses and practices remain important to the global complex—as evidenced, for instance, by Rockefeller returning some funding to 100RC and developing closely related resilience initiatives. The future trajectory of the global urban resilience complex remains an open question, however.

Methodologically, we pursued a relational scalar approach. Others have adopted an extensive approach, examining the resilience discourses embedded within the published 100RC resilience strategy reports prepared by individual cities (e.g., Woodruff et al. 2018; Fitzgibbons and Mitchell 2019). By contrast, we interrogated the nature and workings of the global complex and how this shaped resilience practices at the municipal scale. We undertook an intensive case study approach to tease out the complexities of what happens as the global complex hits the ground (following Sayer 2000). Specifically, we examined two cities at different stages of operationalizing 100RC: Jakarta and Semarang, Indonesia. Our approach is not to seek generalization but to use case studies for the purpose of theoretical reflection and development (Yin 1989). Our research objectives and contribution are to illuminate what actually happens as these programs are rolled out. Thus, rather than assessing urban resilience (Martín and McTarnaghan 2018), our goal is to provide insight into how urban resilience as a global complex emerges, gains power, is rolled out, and is contested from below. In other words, we ask this: How does urban resilience work?

We begin by locating this research within the existing, rapidly developing literature, before summarizing our methodology. We then turn in successive sections to describe the shifting makeup of the complex, the assessment tools and technologies mobilized, and initiatives to marketize urban resilience.

Debating Urban Resilience

Over the last decade, scholars of urban and environmental governance have highlighted the growing role of cities in responding to climate change (Betsill and Bulkeley 2007; Rutland and Aylett 2008). Cities are seen as major sites where carbon emissions are produced but also as effective and efficient sites to address climate change with the potential to flexibly and experimentally step into the void left by nation-states' failure to act (Long and Rice 2019). Rice (2010) called this the "climatization" of urban environments and "carbonization" of urban governance, with cities becoming the "*deus ex machina* of the Anthropocene" (Derickson 2018, 426).

Whereas previous research, policy, and practice concerning urban climate governance has focused on attempts to reduce greenhouse gas emissions, the turn to resilience represents a shift from sustainability and mitigation toward concerns for how cities adapt to shocks and stresses in the context of climate change (cf. Whitehead 2013). If sustainability references equilibrium, seeking a balance both between the present and the future and between environment, economy, and society (World Commission on Environment and Development 1987), resilience highlights adaptability to the "radical uncertainties" stemming from unforeseen disruptions. Resilience came to the attention of ecologists in the 1970s. Skeptical of the claim (Clements 1936) that ecosystems converge toward a stable equilibrium, they reconceptualized ecosystems as complex adaptive systems subject to nonlinear, unpredictable dynamics (Holling 1973). Applying

this paradigm to cities, urban resilience scholars and policymakers have generated a vast range of definitions of resilience. Distilling these through a meta-analysis, Meerow, Newell, and Stults (2016) defined urban resilience as "the ability of an urban system—and all its constituent socio-ecological and socio-technical networks across temporal and spatial scales—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" (39).

Reflecting the important role of the Rockefeller Foundation in programing urban resilience, several recent studies have specifically assessed the 100RC initiative. Spaans and Waterhout (2017) examined the experience of Rotterdam under 100RC, posing questions about how urban resilience is conceived (e.g., a singular system or overlapping systems) and put into practice (asking what happens when the 100RC novelty and energy wears off). Woodruff et al. (2018) compared older urban adaptation plans with those developed through the 100RC process in U.S. cities, finding that, although they are of low quality, 100RC plans are more participatory and holistic and more analytically focused on climate change impacts. Fitzgibbons and Mitchell (2019) formally assessed thirty-one 100RC resilience strategies in cities across the network that focus on equity and social justice, concluding that a greater programmatic emphasis on equity (rather than equality) and the use of equity indicators would better enshrine justice into resilience initiatives (see also Meerow and Newell 2019).

Whereas these and related studies (Fainstein 2018, 2015) examine how resilience works in and across cities and the norms mobilized under the urban resilience label, we focus on the institutional context through which a particular interpretation of urban resilience gains global traction and is locally implemented and what happens when it rubs up against local perspectives and practices. In seeking to advance a "best practice" approach to urban resilience that also can be rendered technical (Li 2007), the global urban resilience complex closely resembles the logic of contemporary "fast policy" regimes and globalized "best practice" formulations (McCann and Ward 2011; Peck and Theodore 2015). These are designed to move freely between diverse sites—from experimental locations that produce lessons learned to sites of policy achievement "at scale" (Webber 2015). Notably, mobile policymaking requires networks of policy entrepreneurs, packaged institutional fixes, and representations of successful processes of "experimentation-emulation-evolution" that move across space (Peck and Theodore 2012).

Research on urban environmental policy mobility has documented how the development and transfer of norms, procedures, and practices works to narrow socioenvironmental problem and solution spaces. As Chang (2017) showed with respect to China's Shanghai–Dongtan eco-city project, even an unrealized eco-city project can serve to promote a new "planning routine" (1730). Examining sustainable urbanism, Rapaport and Hult (2017) found that "plans, images and narratives … circulate beyond what is actually built on the ground" (1781). With respect to climate change adaptation, Goh (2019) unpacked the relational geographies through which images, routines, and practices travel. Identifying a multiscalar "network formation" constituted through historical–colonial and economic relationships and parallel environmental crises, she found that adaptation planning is both globalized and localized through the work of specific institutional actors (e.g., consultants) and flows of "capital, knowledge, influence" (Goh 2019, 9).

Global consultants and consultancies—variously labeled traveling technocrats (Larner and Laurie 2010), the Global Intelligence Corps (Rapoport and Hult 2017), and policy boosters or entrepreneurs (McCann 2013)—are central to policy mobility. To "translate a messy social world into a set of ordered, rationalized representations that can be compared" (Prince 2014, 90), transnational agents work to package, circulate, and import both urban environmental policies and specific tools and technical devices (Borie et al. 2019). Philanthropic foundations are also active, promoting philanthrocapitalism (Mitchell and Sparke 2016; Thompson 2018), just as contractors and development banks seek to demonstrate that promoting urban resilience can be profitable (Long and Rice 2019). This aligns with a broader set of initiatives seeking to frame capitalist investments as good for the excluded and the environment (Giridharadas 2018).

Seeking to understand how resilience has become a global project, Davoudi, Lawrence, and Bohland (2018; see also Grove 2014) conceptualized this in terms of a resilience machine, referencing both the urban political economic concept of a growth

machine (Molotch 1976) and assemblage theory. Assemblage theory highlights the contingency of seemingly immutable initiatives and the multiple forms of agency making them possible. In the case of urban resilience, however, we identify power hierarchies operating behind resilience initiatives, enabling a certain predictability in how resilience is rolled out, that feels more structured than Deleuzian interpretations of machinic assemblages. Thus, in the spirit of Peck (2017; see also Leitner et al. 2018) analyzing global outsourcing, we favor the term *resilience complex*. Peck (2017) argued against using the term *industrial complex* because, although outsourcing has some industrial characteristics, it cannot be "defined by its product" (95). Similarly, although urban resilience initiatives have some industry characteristics, the idea of a multicentric global complex highlights the globalizing actors, ideas, and practices and how they tough down in cities. The global urban resilience complex is made up of a variety of closely linked actors and institutions wielding differential power and influence, equipped to engage in the worldwide promotion of assessment tools and market-oriented solutions. Like outsourcing, urban resilience circulates "endlessly repackaged and rebundled products, services, and functions, [or] … configurations of hybrid and boundary-spanning activities that in practice morph and meld into an array of other industries, organizations, occupations and systems" (Peck 2017, 95).

Studying the Complex, Globally and Locally

The analysis that follows is the culmination of two intersecting research projects: one concerned with the growing role of global development and philanthropic institutions in responding to climate change through adaptation and resilience (e.g., Webber 2016) and the other investigating urban land transformations and their impact on people's livelihoods and environment in Jakarta, Indonesia (Leitner and Sheppard 2017; Leitner, Sheppard, and Colven 2017). Our initial research goal was to understand what happened when globalizing urban resilience ideas and practices landed in Jakarta—one of the world's most climate-vulnerable and largest metropolises but a latecomer to 100RC. As we followed this research concern to several formative sites in Southeast Asia and North America, the comments of several interview respondents triggered our interest also in Semarang (a city of 1.8 million people) as an illuminative contrasting case study of the DKI Jakarta (a city of 11 million and megapolitan area of 30 million). Jakarta and Semarang are sites where the global urban resilience complex touches down and through which it is also constituted. They are case studies through which to understand how globalizing practices and technologies land in cities and are contested and reworked.

The methodological strategy was to interrogate how globalizing urban resilience practices and technologies articulate with local processes: How does urban resilience work, globally and locally? Our research was not only in and about Jakarta and Semarang but also at the heart and headquarters of institutions wielding power in the urban resilience complex. We conducted twenty-one interviews with seventeen actors. These interviews included actors working across cities and at the core of the complex—for instance, in central and regional offices of 100RC in New York City and Bangkok and of the World Bank in Washington, D.C., and Jakarta—and those involved in grounding urban resilience programs in Indonesia, including city planners, environmental officials, academics, activists, and local project officers (Appendix A). Interviews (including phone interviews) were semistructured conversations that evolved and shifted depending on the interviewee. They focused on the following themes: the emergence of urban resilience; actors involved in urban resilience; technologies and practices for enrolling cities in urban resilience projects; local implementation, uptake, and perspectives on 100RC; and successes and challenges of 100RC (interview questions are available on request).

Interviews were conducted in English, because all interviewees were relatively senior officials who spoke English fluently. Most were recorded and then transcribed by the lead author. Some interviewees requested that they not be recorded but were happy for the lead author to take extensive notes and use these in the analysis. The authors also wrote field notes reflecting on events and interviews. Notes and transcripts were iteratively analyzed by the first author in consultation with the others, using a memoing process to identify key themes.

Key reports published by central actors in the complex (particularly the Rockefeller Foundation and 100RC, World Bank, and their consultants)

Table 1. Actors in the global urban resilience complex

Multinational/multilateral organizations	• UN Habitat • UN Office for Disaster Risk Reduction • World Bank Resilient Cities Program • World Bank Global Facility for Disaster Reduction and Recovery • Inter-American Development Bank • Asian Development Bank
Nonprofits and philanthropic foundations	• Rockefeller Foundation • International nongovernmental organizations (e.g., Mercy Corps)
Private-sector actors (at different geographic scales)	• Consultancies • Engineering firms • Communications technology firms • Financial institutions
Public-sector actors (at different geographic scales)	• Government agencies • Politicians • Bureaucrats
Interurban networks	• C40 • ICLEI • 100 Resilient Cities • The Medellin Collaboration

Note: UN = United Nations.

were read iteratively and then coded by the authors to identify key themes, particularly as they responded to issues identified by the interview participants (see Appendix B). These actors have an expansive Web presence, but much of this is repetitive. We thus focused on essential documents and reports published within the industry (cited in the following analysis).

The Actors and Networks of Global Urban Resilience

The global urban resilience complex is constituted by an entangled web of actors and institutions who operate globally but are primarily headquartered in northern global cities, with many of their "client" cities in the Global South. These include a shifting mix of multinational and multilateral institutions, nonprofit and philanthropic organizations, private and public sector actors, and interurban networks. Made up of many expected global environment development actors, the complex also includes local nongovernmental organizations (NGOs) such as disaster relief agencies and even antipoverty advocacy groups (Table 1). Like emerging social and welfare policy programs (Mitchell and Sparke 2016; Berndt and Wirth 2018; Rosenman 2019), the complex also convenes a series of "third sector" and philanthropic institutions to govern socioenvironmental challenges.

Membership in the urban resilience complex is constantly evolving and shifting. The original protagonists emerged from networks of actors and institutions that sought to address wide-ranging urban environmental issues. Interurban networks such as C40 (a network of megacities committed to taking action on climate change; see https://www.c40.org/) and ICLEI (Local Governments for Sustainability; see https://www.iclei.org/) played an early role in the promotion and dissemination of the resilience paradigm. In 2010, ICLEI joined other cities and interurban networks to launch the first World Congress on Cities and Climate Change, renamed the Global Forum on Urban Resilience and Adaptation in 2012. At the 2014 World Urban Forum in Medellin, Colombia, ICLEI and C40 were joined by the Cities Alliance (Cities without Slums), the Rockefeller Foundation and its 100RC, United Nations organizations (UN-Habitat, United Nations Office for Disaster Risk Reduction), and multilateral development banks and funds (the World Bank, the Inter-American Development Bank, the Global Facility

for Disaster Reduction and Recovery) to form the Medellin Collaboration for Urban Resilience (MCUR). MCUR remains an influential network within the global urban resilience complex, with a particular focus on mobilizing and circulating knowledge about urban resilience and how best to achieve it (UN Habitat n.d.). With its links to other contemporary governance agendas, such as the Sustainable Development Goals, the Paris Climate Agreement, and the UN New Urban Agenda, MCUR embodies the organizational reach of the urban resilience complex and its ability to internalize, link to, and evolve from preexisting socioenvironmental agendas, including sustainability, ozone depletion, and climate change mitigation.

After 2013, two institutions emerged as centers of calculation for the global urban resilience complex: the Rockefeller Foundation through its 100RC and the World Bank. These two organizations are particularly important in shaping this manifestation of the urban resilience complex, because they extend their reach into diverse cities, create a variety of tools for realizing urban resilience, and leverage expanded private-sector investment into urban resilience. The 100RC claims to have leveraged U.S.$25 billion since 2013 (100 Resilient Cities 2019), and the World Bank seeks to leverage U.S.$25 billion annually between 2017 and 2022 (World Bank 2015).

The Rockefeller Foundation established its 100RC program in 2013 to recognize its centenary, with $100 million to be distributed across 100 cities to promote urban resilience. Originally named the Centennial Challenge, the 100RC was presented as marking "the start of [the Rockefeller Foundation's] second century of innovation" (Rodin 2013). The program sought to intervene at the intersection of globalization, urbanization, and climate change, identifying these three processes as integral to resilient future societies. With more people than ever living in "hyper-connected" cities that could be hit by more frequent and more severe climate events, building urban resilience was presented as a grand challenge. 100RC hoped to help cities "rebound more quickly, fail more safely" (Rodin 2013) in the face of multifaceted shocks and stresses. In their midterm assessment of 100RC, the Urban Institute summarized the program's current theory of change[1] (although not evident to outsiders) as a "multipronged structure attempting to simultaneously alter cities' institutional structure and create a marketplace and creating a professional network of resilience practitioners" (Martín and McTarnaghan 2018, 86), with a particular emphasis on institutional change within member cities.

Under the aegis of 100RC, the global urban resilience complex enrolled global consulting and professional service firms. For instance, participating cities drew on global consultancies like AECOM as partners to develop resilience plans. ARUP, another global consulting firm, was contracted to develop a major tool for assessing urban resilience, the resilience wheel. Indeed, ARUP and AECOM, engineering consulting firms that have transitioned to provide global professional services, became important players in the global urban resilience complex. They are prioritized when partners are selected to advise a city: One interviewee reported that AECOM and ARUP have a "package deal" with 100RC to receive a certain number of assessment and planning contracts with member cities (interview, advisor to 100RC Jakarta, Jakarta, 24 August 2017). Through these partnerships, the consulting firms are not only empowered to produce globally circulating urban resilience norms and determine how to achieve these (as per Chang 2017; Rapoport and Hult 2017) but also find this financially rewarding. One 100RC employee described one of its goals as creating a "diversity in the marketplace" (interview, 100RC employee, New York, 4 October 2016) for actors and services that facilitate urban resilience—cultivating a network of many and varied providers and products for consumers to freely choose between. Yet, as for ARUP and AECOM, members and potential members of the urban resilience complex are differentially empowered to benefit from enacting urban resilience; some connections within the complex are particularly intimate, benefiting from contracts awarded to promote, assess, and enact urban resilience.

100RC promulgated urban resilience through a four-stage process. First, each city that applied and was selected to participate in the 100RC was provided financial resources to hire a chief resilience officer (CRO) for two to three years. The CRO's role is to encourage resilience by supporting existing city leadership, working across governmental silos, and liaising across the 100RC network. CROs are "the tip of the resilience spear, not the entire spear" (100 Resilient Cities 2018a), intended to be a "catalytic force" whose impact exceeds their

individual capacity. The CRO is supported by a strategy partner, a technical and project management team often hailing from a global consulting firm. Second, in conjunction with stakeholders and the strategic partner, a CRO oversees the construction and publication of a resilience strategy. This identifies the city's resilience profile, its goals, and initiatives proposed to help Third, 100RC provided member cities access to a suite of resilience-building "solutions, service providers, and partners" from a network of Platform Partners that thereby "leverage" resources beyond Rockefeller's core investment (100 Resilient Cities 2016a, p 5, 22) to implement the strategy. Platform partners include an array of private, public, and civil society actors: consultancies, engineering and communications technology companies, academic associations, nonprofits, and public-sector institutions that are supposed to provide "solutions" to meet the identified resilience challenges. The fourth pillar of the 100RC program was encouraging and providing opportunities for cities to share their practices and lessons, thereby promoting best practices across the 100RC network.

Concurrently, the World Bank's City Resilience Program (CRP) has two pillars: producing technical assistance and knowledge products and leveraging novel forms of financial investment and capital mobilization (Global Facility for Disaster Reduction and Recovery 2017). Roy (2010), diagnosing World Bank investments more broadly, called this "truth" and "capital." These two components are manifest, respectively, in a Resilience Enhancement Track and Capital Mobilization Track, both with a three-step process for assessing, planning, and investing in urban resilience. In collaboration with cities, a project scoping phase first identifies needs and opportunities for resilience investments, assessing local capacity to manage and secure capital mobilization instruments. Second, the diagnostic assessment analyzes risks and existing systems for management, alongside capital investment planning. The World Bank developed a CityStrength Diagnostic Tool for these two phases of technical assessment and financial preparedness (World Bank 2018b). Third, the investment phase of the CRP funds specific interventions to achieve urban resilience, through World Bank, government, or private-sector financing.

The World Bank's financial and policy investments in urban resilience reflect its strategy of downscaling programs from the national to urban scale, its growing interest in climate change programming, and its expertise in disaster management. With its diagnostic assessments and stated ability to "crowd in" private-sector investments, the CRP seeks to fund urban resilience that is simultaneously "robust" to climate and disaster risks and "bankable" (World Bank 2018a). Indeed, the CRP declares itself the future "bankers of the city" for holistic and varied risks, signaling its focus on the financial requirements of urban resilience (World Bank 2018a).

Wheeling Out Urban Resilience

Once the Rockefeller Foundation and the World Bank moved to the center of this complex, they worked to develop a framework that presents urban resilience as both a desired state of affairs and a set of actions and programs to achieve this. The World Bank (2015) takes resilience to be "the ability of a system, entity, community, or person to adapt to a variety of changing conditions and to withstand shocks while still maintaining its essential functions" (19). For 100RC, urban resilience is "the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience" (Rockfeller Foundation and Arup 2015). Chronic stresses are defined as those that weaken the fabric of a city on a day-to-day or cyclical basis, such as high unemployment, inefficient public transportation systems, endemic violence, and chronic food and water shortages. In contrast, acute shocks are sudden events such as earthquakes, floods, and disease outbreaks. Next we discuss the theoretical underpinning of this framework—an urban systems approach—and the pedagogic tool—the resilience wheel—developed for policymakers to visualize the city as made up of subsystems. We describe how the wheel, in its different incarnations, was constructed as a general tool, which then is brought to ground in individual cities to develop locally tailored resilience strategies. Based on our assessment of 100RC and its tools, our cases suggest that enrollment in the global urban resilience framework can be incomplete. Indeed, contingently, locally embedded, and powerfully positioned urban actors might engage in selective uptake, whereas marginal actors remain excluded.

Shortly after the initiation of 100RC, Rockefeller contracted ARUP (on the basis of a preceding collaboration with this environmental engineering consultant experienced in planning ecocities; Chang

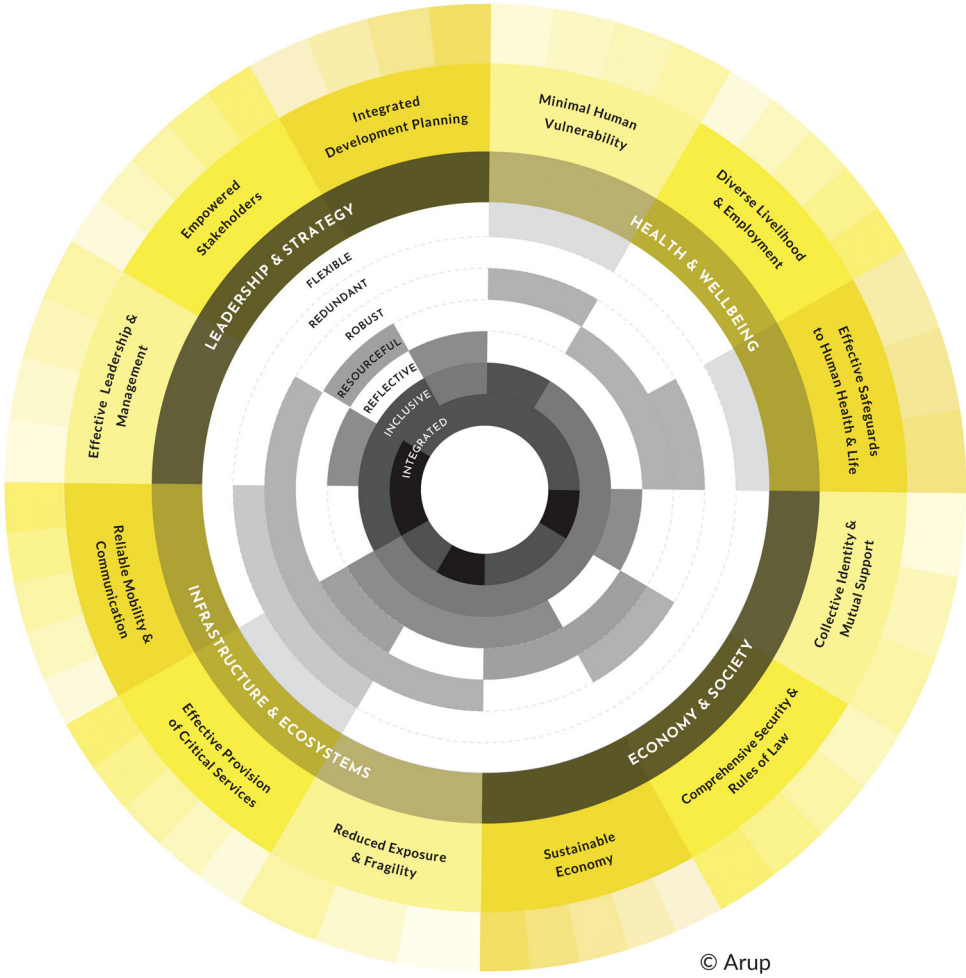

Figure 1. The City Resilience Wheel. © ARUP; developed by ARUP, supported by the Rockefeller Foundation; Rockefeller Foundation and ARUP (n.d.).

and Sheppard 2013) to develop a City Resilience Index (Rockefeller Foundation and ARUP n.d.). Drawing on visualizations of resilience already circulating in education and psychology (e.g., Thurlow and Peters 2002), ARUP visualized the index as a resilience wheel (Figure 1). The wheel is an instantiation of an urban systems approach that goes beyond ecological aspects of urban resilience to include four subsystems: health and well-being, economy and society, infrastructure and ecosystems, and leadership and strategy. The subsystems are interdependent, highlighting the need for addressing shocks and stresses simultaneously. Each subsystem is subdivided into three indicators of resilience. For example, health and well-being contains the following categories: minimal human vulnerability, diverse livelihoods and employment, and effective safeguards to human health and life. Measurement and self-assessment are further facilitated through the provision of four or five indicators per subcategory, for a total of fifty-two (Rockefeller Foundation and ARUP n.d.). Closer to the center are rings, each representing one of seven key qualities that any resilient system should exhibit:

1. Flexible: Willing and able to adopt alternative strategies in response to changing circumstances.
2. Redundant: Spare capacity exists, purposively created to accommodate disruption.
3. Robust: A well-conceived, constructed, and managed system.
4. Resourceful: Recognizes alternative ways of using resources.
5. Reflective: Uses past experiences to inform future decisions.
6. Inclusive: Prioritizes broad consultation to create a sense of shared ownership in decision making.

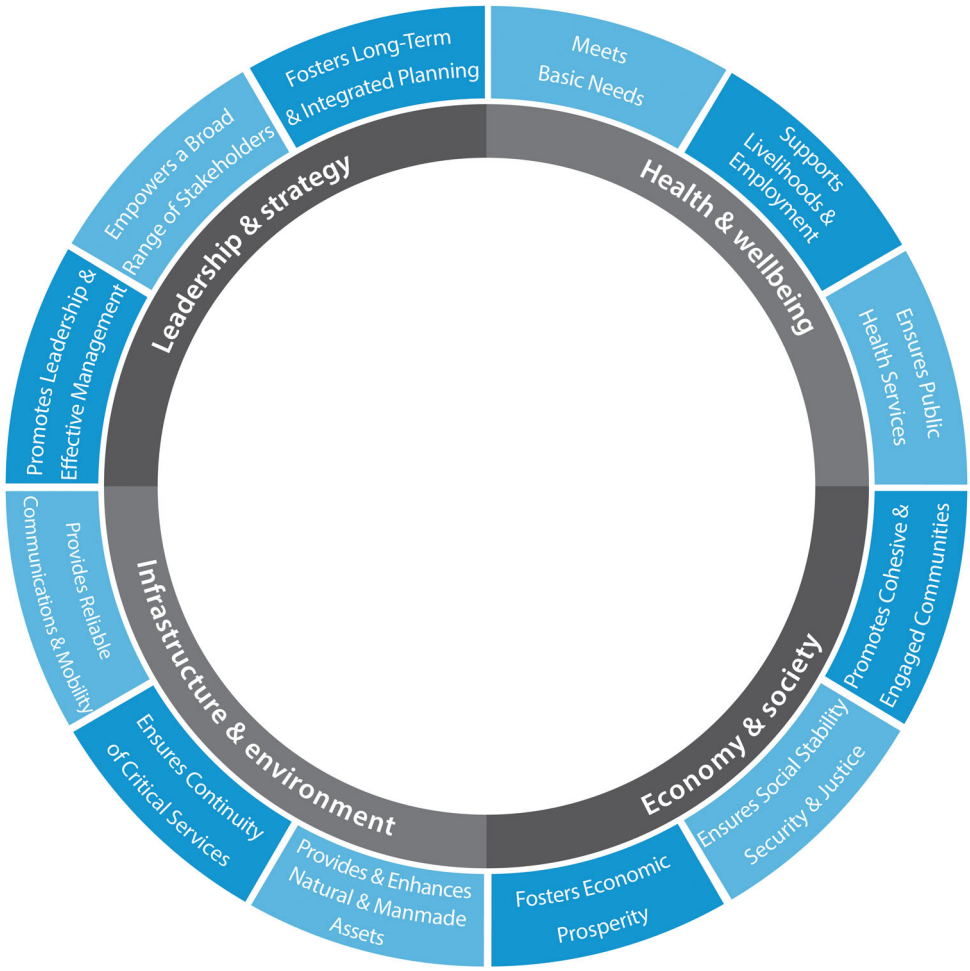

Figure 2. The City Resilience Wheel. *Source:* Rockefeller; Rockefeller Foundation and ARUP (2015).

7. Integrated: Brings together a distinct range of systems and institutions.

Seeking to turn this conception of resilience into a set of implementation goals, 100RC published a separate City Resilience Framework, listing ARUP as a partner, with the wheel redrawn to highlight actions for achieving resilience (Figure 2; The Rockefeller Foundation and ARUP 2015). This is designed for cities to measure "the extent of their resilience, to identify critical areas of weakness, and to identify actions and programs to improve" (The Rockefeller Foundation and ARUP 2015, 2). Thus, health and well-being now are presented in terms of the goals of meeting basic needs, supporting livelihoods and employment, and ensuring public health services. At the same time, publishing its own CityStrength Diagnostic, the World Bank (2018b) also used a wheel to visualize its conception of urban resilience, which identifies five qualities—coordination, robustness, reflective, inclusive, and redundant—that can be found in the "physical assets, human behavior, network systems, and institutional processes" of resilient cities.

Like the sustainability triangle before it, the wheel has become the major pedagogic tool and brand of urban resilience. In the case of the 100RC, the urban resilience wheel is used as a tool to encourage policymakers to visualize the city as constituted by different subsystems, to identify relevant shocks and stresses to these subsystems, and to use indicators to monitor progress. In each participating city, the wheel is rolled out at an agenda-setting workshop (100 Resilient Cities 2018b), at which the designated strategic partner convenes multiple local stakeholders for an initial brainstorming event. As described for the Jakarta workshop, its purpose is to construct a collective understanding of resilience, to create connections among existing stakeholders and identify potential others, and to discuss the major shocks and stresses the city is facing both now and in the future (100

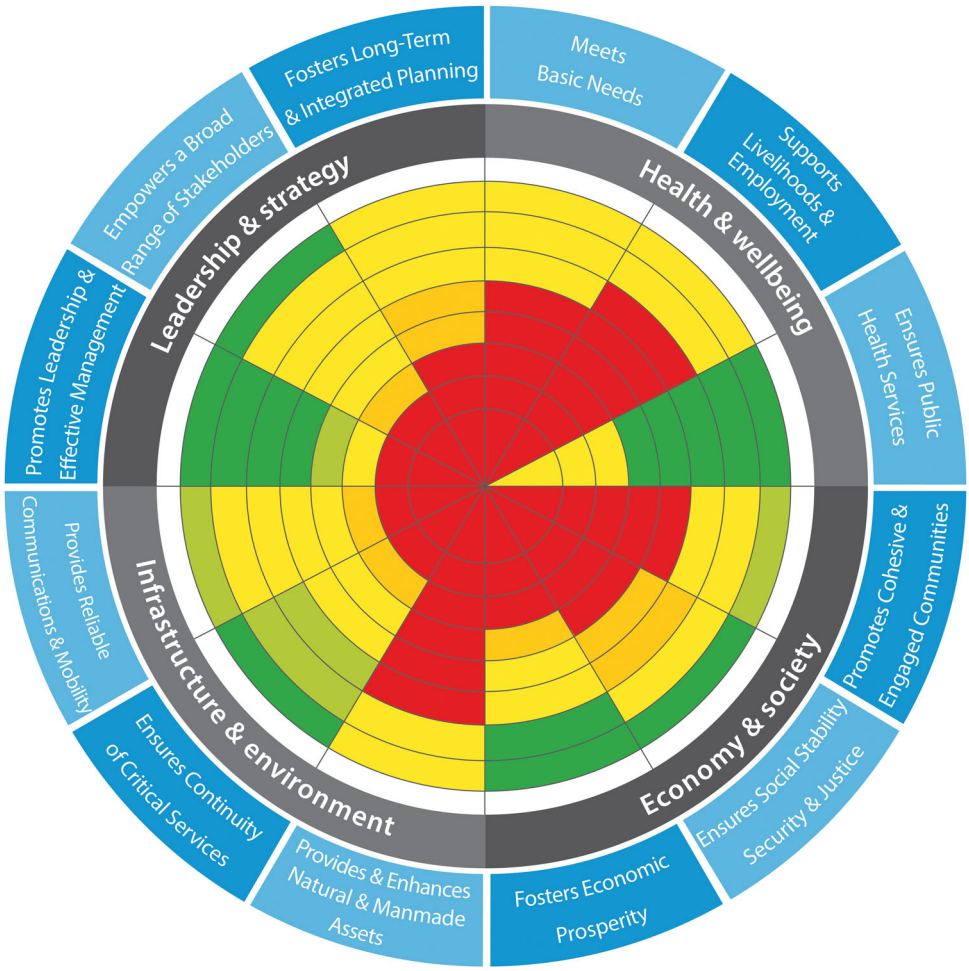

Figure 3. 100 Resilient Cities assessment exercise, Jakarta. *Source:* Jakarta Agenda Setting Workshop, Summary Report, 17 November 2016.

Resilient Cities 2018b). Breaking into small groups, the participants populate the empty center of the Rockefeller resilience wheel with their own assessments of how well their city is performing with respect to each driver (see Figure 3 for the wheel as developed by participants at the Jakarta workshop).

Following the agenda-setting workshop, the next step in rolling out the 100RC framework is to develop a resilience strategy in collaboration with the strategic partner. Echoing the procedural nature of the resilience wheel, this process involves a description and prioritization of areas in need of intervention, alongside a series of strategies, initiatives, and action items. In Semarang, 100RC has already published such a resilience strategy, which identifies six areas of strategic intervention (100 Resilient Cities 2016b). For example, the first is sustainable water and energy, to be achieved through strategies such as improving basic water management, promoting innovation in water provision, and promoting environmentally friendly behaviors. Replicating the cascading indicators and measurement devices of the urban resilience wheel, several initiatives are identified for each strategy, such as improved monitoring, greater sanctions for pollution, water conservation, and so on. All of the member cities' resilience strategies published to date by 100RC (100 Resilient Cities 2019) follow a similar structure, reflecting the consolidated routines of the 100RC process. In Feburary 2019, just before the 100RC closure was announced, Jakarta was one of fifty cities yet to produce resilience strategies.

Local Responses

In their interviews with us, local participants in the Jakarta and Semarang agenda-setting workshops narrated both positives and negatives of the assessment tools and the 100RC process more generally.

One Jakarta public official suggested that its holistic framework was a particular benefit of the urban resilience wheel, because this prompted people to consider connections among the different subsystems of cities and urban governance (interview, DKI Jakarta municipal official, Jakarta, 23 August 2017). The wheel might thereby help overcome existing deep-seated silo thinking among policymakers and administrators. At the same time, however, the concept of resilience and the wheel were considered too abstract and in need of translation to make them more accessible to policymakers as well as a larger public. One interviewee reported, "[100RC] have the tools, they have like the blue wheel, and then there is a specific method and approach, so we adapt that and translate it in Indonesian, because some of it is a bit too complicated, so we tried to make it more understandable for the audience" (interview, 100RC employee, Jakarta, 20 August 2016). Yet it was not simply a matter of translation; the observer also stressed the need "for staying grounded in the everyday reality of the city and a resilience from within." The translation of the meaning of resilience through the local context is made even more difficult because of the many concepts and assessment tools flooding cities across the globe, as expressed by a public official:

> There are many, many global programs … MDG [Millennium Development Goals], SDG [Sustainable Development Goals], now we have a new one, Resilient Cities, before we had Green City, we had Sustainable City. Whatever city. The problem with any single branding or program is that it's really difficult to, what do you call it, interpret into our local action, right? … To interpret it into local government action is very difficult. (interview, DKI Jakarta municipal official, Jakarta, 23 August 2017)

Some participants found the process of using the wheel to identify goals and indicators during the agenda-setting workshop too mechanistic and superficial; to them, the process laid out by AECOM (the consulting firm and 100RC strategic partner in charge of the Jakarta meeting) felt like simply "going through the motions" (100RC agenda-setting workshop participant, Jakarta, August 2017).

Local government participants in the workshop favored certain aspects of the urban resilience framework, such as evidence-based planning and public– private partnerships (PPPs), suggesting a partial buy-in into a neoliberal common sense. Others questioned the 100RC program's claim of inclusiveness, however. For example, attendees at the agenda-setting workshop noted the absence of certain local groups, individuals, and organizations: "It's still a limited group involved, if you want to talk more about inclusiveness, you need to be broader" (interview, 100RC employee, Jakarta, 20 August 2016). Indeed, although the Jakarta agenda-setting workshop included a diverse set of actors from public and private sectors, certain community groups at the margin (e.g., the Urban Poor Consortium) were not represented and thus unable to insert their voice—their ideas and experiences—into the agenda. Others also stressed the need to include provincial and national government representatives into the agenda-setting workshops and subsequent activities, because a number of issues faced by cities can only be successfully tackled through coordination with provincial and national governments (interview, 100RC employee, Jakarta, 20 August 2016).

Throughout, much like the World Bank's development initiatives, the 100RC program is presented as offering a template to be tailored to local conditions. When applying to the 100RC program, cities are asked to identify their particular successes, challenges, shocks, and stresses. Local participants then use the agenda-setting workshop to adjust the wheel to reflect their experiences, knowledge, and priorities. Yet, if local knowledge is to be incorporated, whose local knowledge is prioritized and operationalized into urban projects?

In Jakarta, 100RC is closely aligned with the DKI Jakarta administration: Its CRO was and remains deputy governor for spatial planning and environment. During interviews, the CRO described his already existing Grand Design initiative, which operates as a partnership model with funding provided by international organizations including the World Bank, its International Finance Corporation, the United States Agency for International Development, Cordaid, the American Red Cross, and Plan International (interview, DKI Jakarta municipal official, Jakarta, 23 August 2017). Developed prior to Jakarta joining 100RC in 2017, this involved seven (now nine) thematic areas: green buildings, waste management, water and sanitation, urban farming, child-friendly city, groundwater resources, disaster risk reduction, air pollution, and slums.[2] The CRO describes his Grand Design initiative as consistent with the vision of 100RC, and in his role as CRO he is actively working to bring the two together. He convenes regular meetings to

advance the 100RC strategy, also acting as the public face for a resilient Jakarta. His presentations to international audiences describing Jakarta's resilience strategy incorporate themes from the Grand Design initiative into his vision of a resilient Jakarta—seamlessly moving between the 100RC resilience wheel and details about Grand Design initiatives.[3] This selective uptake uses local political power, enrolling his Grand Design initiative into 100RC. Selective uptake and incorporation are one of the ways in which empowered local policymakers can take advantage of the financial opportunities and legitimacy accompanying supranational global programs like 100RC. Jakarta bureaucrats have also demanded "support" for other existing (and controversial) initiatives in exchange for participation in the 100RC project, such as the Great Garuda Sea Wall (Colven 2017), demanding that 100RC research and outputs inform and reflect city priorities (interview, DKI Jakarta official, Jakarta, 16 June 2017).

Although government officials might be able to strategically incorporate existing local priorities into the 100RC process, participants reported that there was little flexibility for them to change the overall 100RC framework as developed by ARUP and the Rockefeller Foundation; it is seen as universally applicable. One aspect of the 100RC framework of particular concern to a number of government officials and local experts interviewed has been the dominant role of global consultancies (interviews and informal conversations, DKI Jakarta officials and 100RC observers and advisors, Jakarta, July 2018). Interviewees expressed apprehension about the central role that global consultancies play in the 100RC process, voicing a fear of colonization by global players that might marginalize local expertise and practices.

The Jakarta case, however, also suggests that selective uptake is not available to all potential stakeholders, which returns to questions of inclusiveness, or the lack thereof. For example, although Jakarta is experiencing an affordable housing crisis, like so many megacities in the Global South, local antieviction and housing activists have not been invited to the stakeholder meetings, suggesting that they lack the power to bring the issue of affordable housing for the urban majority, and their proposed solutions to it, to the table where Jakarta's urban resilience agenda is crafted. On the surface, this exclusion of marginalized voices seems to run counter to the 100RC program's goal of inclusiveness.

Implementing Urban Resilience: Marketization

With a frame in place for resilience discourses and expertise, and with city administrators and residents enrolled, urban resilience needs to be implemented. As one Semarang 100RC participant noted, the Rockefeller template generates a "master plan for the future. … And then, what next? Because it's a good plan, but if you want to realize it, that's not as easy as writing it down" (interview, advisor to 100RC Semarang, 25 August 2017). The two-year 100RC investment culminated with a resilience strategy for Semarang (100 Resilient Cities 2016b) but little in the way of an implementation plan. Indeed, as two 100RC employees acknowledged, implementation and institutionalization remain a problem for many cities—recognized as a core lesson in program assessments (interview, 100RC employee, New York, 4 October 2016).[4]

According to the 100RC theory of change and World Bank norms, marketization should be at the center of local implementation and institutionalization: "Resilient cities can only be built with collaboration from the private sector" (Rockefeller Foundation 2017, 4). Local respondents agree. One Jakarta observer stated that "any part of the [resilience] strategy they pick should have some [orientation] toward the private sector. … Something to do with property development" (interview, advisor to 100RC Jakarta, Jakarta, 24 August 2017). Others argued that, although the shocks and the stresses facing Jakarta are complex and multifaceted, these projects also are about "PPPs and financial investment." The city cannot afford to fund new water and sanitation infrastructures from its own budgets but must "open the barriers" for "alternative financing" (interview, DKI Jakarta official, Jakarta, 16 June 2017).[5] Indeed, a central operative in the 100RC Jakarta project highlighted that one benefit from working with the Rockefeller Foundation is that it "can help us get funding to solve our problems … a grant … loan, whatever" (interview, DKI Jakarta official, Jakarta, 24 August 2016).

The 100RC and World Bank strategies for implementing urban resilience are dominated by marketization. Mobilizing a discourse about the existence of an untapped resilience dividend, this has two components: attracting private-sector partners to provide resilience expertise in 100RC cities

and attracting private finance to invest in resilience in and beyond cities (Martín and McTarnaghan 2018). The Rockefeller Foundation's (2017) *Catalyzing the Urban Resilience Market* prioritized marketization, identifying four areas of focus: water management, big data management, community engagement technologies, and innovative financing.

The Resilience Dividend and Private-Sector Partners

Judith Rodin, who steered the Rockefeller Foundation toward its resilience agenda as former president, promoted the idea that preventative investments in resilience (reducing vulnerability, improving response capabilities, innovation and revitalization) can be profitable while enhancing socioecological well-being, even in the absence of exogenous disasters. She dubbed this the resilience dividend:

> Building resilience … enables individuals, communities and organizations to … withstand a disruption more effectively, and it enables them to improve their current systems and situations. But it also enables them to build new relationships, take on new endeavors and initiatives, and reach out for new opportunities, ones that never have been imagined before. This is the resilience dividend. (Rodin 2014, 292)

Rodin (2014) presented a broad vision for realizing such a dividend, stressing civil society participation.

With the resilience dividend discourse in hand, 100RC solicited private-sector practitioners to join a curated list of 100RC platform partners, alongside NGOs, research institutes, and public-sector and multilateral agencies, for cities to select from at the implementation stage. In the case of Semarang, 100RC platform partner Digital Global provided satellite imagery for free, which was considered extremely helpful for improving planning and governance around disaster management and urban development (interview, 100RC employee, Jakarta, 20 August 2016). Semarang also worked with Ushahidi, a social enterprise that creates technological platforms for crowdsourcing information to inform policy, and Grobak Hysteria, a local community arts NGO, to produce a *peta kota* (city map; Ushahidi 2017). Ushahidi trained Grobak Hysteria in mapping technologies, and Grobak Hysteria brought their connection to the city's communities, enabling a crowdsourced map of assets—including buildings, "small shops, public areas, facilities … [anything that people] think is important for them" (interview, advisor to 100RC Semarang, Jakarta, 25 August 2017). The maps also detailed challenges, including crime or water problems. Inviting contributions also through neighborhood murals, paper maps, and online platforms, the Ushahidi platform can "analyze or report to the government so they can act" to address issues identified by the public (interview, advisor to 100RC Semarang, Jakarta, 25 August 2017). This is seen as "demonstrably connect[ing] citizens with city government … for resilience" (Resilience Network Initiative 2017).

With respect to water management (important in both Jakarta and Semarang), a goal of the 100RC process was to "signal to the private sector what tools and services cities need" (Rockefeller Foundation 2017, 3). In collaboration with 100RC, the global utility company and platform partner Veolia sought to develop a monitoring tool to increase access to clean water. "Many cities recognize the social and economic value of potable water, but are unable to secure the capital required to provide it to all of their citizens" (Rockefeller Foundation 2017, 15). This "Cleaner Water Tool" can "measure co-benefits" of investments in improving water systems, also identifying "financing structures that leverage monetary value of those co-benefits to encourage investment" (Rockefeller Foundation 2017, 15).

Within 100RC, using platform partners to trial new tools and technologies is seen as enabling a city to assess which resilience needs "the marketplace [i.e., city/consumer demand] is responding to" (interview, 100RC employee, New York, 4 October 2016). Moreover, encouraging collaboration within the resilience complex—between city governments, private utilities, and philanthrocapitalists—helps propagate inherently "entrepreneurial practice" (interview, 100RC employee, New York, 4 October 2016). Evaluations and assessments of such marketized experiments in service provision should ensure that there is the "proof of impact" expected by "investors, insurance, credit agencies, and these other financial actors" (interview, 100RC employee, New York, 4 October 2016).

The Urban Institute was contracted by 100RC to undertake such an assessment across the network, examining a sample of platform partners. It concluded that the marketization of partnerships is incomplete (Martín and McTarnaghan 2018): The

market created is not delivering stable, productive partnerships; there is rapid turnover of listed private-sector platform partners with no evidence that they are innovating resilience-related products; and their prime motivations seem to be accessing new markets and reaping reputational benefits. In some cases, cities also employ PPPs to subsidize the risk exposure of private partners who perceive the returns as too low or the risks as too high.

The Resilience Dividend and Marketizing Investment

Attracting private-sector finance to invest in urban resilience is the second component of building a resilience market. In the context of neoliberalization, state agencies have limited recourse to public funding (with declining tax revenues, austerity measures, and state deregulation and privatization) and thus are expected to devolve implementation to the private sector. Yet, as a World Bank urban resilience expert noted, "Roadblocks … are preventing investment in this area [urban resilience]. … The estimate is [that] $400 billion to $1.1 trillion is needed just to make infrastructure climate and disaster proof (interview, World Bank employee, Washington, D.C., 29 September 2016), let alone to create the expansive social programs seen as integral to urban resilience. 100RC likewise recognizes that "all cities need more money" (interview, 100RC employee, New York, 4 October 2016) that simply "is not flowing" (interview, World Bank employee, Washington, D.C., 29 September 2016). Thus the Rockefeller Foundation and the World Bank set about determining "the obstacles and … some of the measures that can overcome them" (interview, World Bank employee, Washington, D.C., 29 September 2016).

The term *dividend*, redolent of financialization, presents urban resilience as an opportunity for private-sector participants to realize a competitive return on investment (ROI). To attract such investors, Rockefeller set about hiring consultants to make the resilience dividend visible and calculable.[6]

One such consultant, the Overseas Development Institute, a UK-based development NGO, worked with the World Bank to define a triple resilience dividend: saving lives and avoiding losses, unlocking economic potential, and the cobenefits of disaster risk management investments (Tanner et al. 2015). Arguing that "existing methods … undervalue the benefits associated with resilience," Overseas Development Institute suggested that recognizing and accounting for this triple dividend is key to "strengthening the business case" for urban resilience (Tanner et al. 2015, 9, 10).

To undertake the difficult task of unlocking this, Rockefeller contracted the RAND Corporation to develop a Resilience Dividend Valuation Model (RDVM; Bond et al. 2017). The RDVM is an off-the-shelf application of inclusive wealth models, developed by mainstream economists to quantify sustainable development (in a way deemed more comprehensive than gross domestic product) by measuring collective and intergenerational well-being (Arrow, Dasgupta, and Maler 2003; see also Stiglitz, Sen, and Fitoussi 2010). The inclusive wealth of any regional or metropolitan economy "comes from the fact that the value of each capital stock is theoretically equal to the net present value of its contribution to the flow of well-being. … By adding up the value of all of the capital stocks, we can measure … the value of the system" (Bond et al. 2017, 22). The resilience dividend is then the difference in inclusive wealth between "two discrete worlds: one in which a resilience project is implemented, … and one in which a counterfactual is implemented" (Bond et al. 2017, 22). The RDVM functions to mobilize the idea of a resilience dividend for humans and the more-than-human world (Arrow, Dasgupta, and Maler 2003), realizable through the invisible hand of the market, even in an imperfect economy.[7]

Rockefeller also contracted with Global Infrastructure Basel, a "Swiss foundation based in Basel working to promote sustainable and resilient infrastructure" (Global Infrastructure Basel 2018), to adapt its Standard for Sustainable and Resilient Infrastructure to measure urban resilience. Further, in 2016 Rockefeller launched the Resilience Measurement, Evidence and Learning "Community of Practice" to "strengthen the evidence base for resilience investments" (see https://www.measuringresilience.org/), with 100RC running resilience value realization workshops with its partner cities (Ruibal 2017).

Armed with these calculative devices, 100RC sought to implement the resilience dividend by harnessing what practitioners call "resilient multi-benefits" (interview, 100RC employee, Jakarta, 19 September 2016). From the perspective of the 100RC, this dividend is simply a "more holistic CBA [cost–benefit analysis]" whose net benefits should

suffice to persuade private-sector firms to invest in resilience (interview, 100RC employee, New York, 4 October 2016). A Jakarta 100RC project manager described how the construction of light rail infrastructures would not only bring transportation benefits but also enable residents to access better job opportunities while improving public health by reducing air pollution (interview, 100RC employee, New York, 4 October 2016). In another example, 100RC suggests that disaster early warning systems not only reduce losses in life but also build trust in government and promote social cohesion (interview, 100RC employee, New York, 4 October 2016).

The World Bank became central to leveraging private finance for urban resilience, because one of their key assets is the "financial instruments that [they] can bring" (interview, World Bank employee, Washington, D.C., 29 September 2016). Financial instruments include the grants and loans central to bank business but also "the guarantees, the stimulation of the insurance market: a whole range of financial products" that accompany the World Bank imprimatur (interview, World Bank employee, Washington, D.C., 29 September 2016). *Investing in Urban Resilience* (World Bank 2015) identifies three kinds of urban resilience-related investments: pure public goods, investments generating below-market ROI, and those generating "market-viable" ROI (44). From the Bank's perspective, it can help by marketizing the former two categories. The barriers to financing these are presented as local absences, the lack of "good" (i.e., private-sector friendly) urban governance, data, appreciation for the importance of resilience, planning capacity, adequate public sector funds, and more. The Bank offers cities expertise and resources to overcome these through its "capacity to translate an assessment of a situation into a bankable investment" (interview, World Bank employee, Washington, D.C., 29 September 2016). It is presumed that private-sector investors can be attracted to resilience, narrowing the funding gap, if provided with full information about market-viable resilience opportunities or if below-market returns are redressed via PPPs that lower their exposure risk. Yet the World Bank struggles to persuade "people to invest in [urban resilience for] the poor" and "crowd in the hundreds of billions of dollars in private capital" (interview, World Bank employee, Washington, D.C., 29 September 2016). Providing "full information" is not likely to suffice to create marketization if investors do not accept the calculations, if the ROI is uncompetitive, or if the estimated risks associated with (often unproven) resilience projects are too high.

Conclusions

In this article we analyze how urban resilience is being rolled out as a global policy solution for cities seeking to adapt to unexpected economic, social, and environmental shocks and stresses, particularly those associated with climate change. Under the aegis of the Rockefeller Foundation's 100RC, the global urban resilience complex has consisted of a network of cities and global resilience actors, a conception of resilience and assessment rubric represented by the resilience wheel, and resilience dividend discourses coupled with marketization practices intended to attract private-sector involvement. The World Bank has also played a key role in leveraging investment. The 100RC template entails instituting changes in urban governance by appointing a talismanic CRO and participatory agenda setting, crafting a resilience strategy under the guidance of global consultants as strategy partners, and assembling platform partners and private-sector investors for implementation. Our study has investigated the urban resilience complex with respect to two cities in Indonesia. Beyond Jakarta and Semarang, though, close to one hundred cities from across the globe occupy various stages along this Rockefeller-designed sequence, having implemented "2,600 actionable, tangible initiatives, and … leveraged more than $3.35 billion to-date to implement projects that will make cities more livable, sustainable, and resilient" (Berkowitz 2019).

Our focus on globalizing and localizing discourses and practices suggests that the current manifestation of the complex bears the hallmarks of philanthrocapitalism and neoliberal policy. Agenda setting and the resilience strategy are guided by private-sector global consultancies identified by Rockefeller, and marketization is presented as the key to implementation. Geographically, northern institutions and corporations are the drivers, whose expertise and experience are expected to enable resilience everywhere. This also entails the sharing of "best practice strategies" through interurban networks stretching across cities in the Global North and South.

Yet, in the wild, implementation does not always fully accord with the 100RC urban resilience template. When it touches down in Indonesian cities, the resilience wheel rubs against local practitioners and decision-making practices. Even though they

appreciated their systemic, city-wide focus, actors in our two case study cities found the resilience assessment tools overly complex and mechanistic and the planning process as lacking inclusion, especially of key pro-poor organizations. It is noteworthy that in Jakarta, a somewhat reluctant latecomer to the 100RC network, the CRO engaged in a selective uptake of the 100RC agenda by drawing on the 100RC discourse to advance preexisting initiatives. Furthermore, despite the neoliberal rhetoric, a market for private-sector platform partners was not realized in either city, where public-sector, nonprofits, and multilateral agencies functioned as platform partners. In terms of financing urban resilience, even the World Bank recognizes that not all resilience activities can be made bankable for private-sector investment. Local efficacy thus remains an open question.

Like any complex governance system, the global urban resilience complex itself needs constant work of various kinds to prevent immanent dissolution. Indeed, the complex is confronted by dissolution since the Rockefeller Foundation canceled the six-year-old 100RC program with the stroke of a pen. Even with 100RC in abeyance, however, urban resilience as a global agenda persists through the lingering effects of its practices and networks. Indeed, given United Nations Sustainable Development Goal 11 of making "cities and human settlements inclusive, safe, resilient and sustainable," it is unlikely that urban resilience will disappear from the agenda of philanthropic and multilateral organizations (see https://sdgs.un.org/goals/goal11). In the case of Rockefeller, $8 million was returned to 100RC after its CROs petitioned the Rockefeller Foundation to support the transition to a new phase (Chadwick 2019; see https://www.rockefellerfoundation.org/about-us/news-media/rockefeller-foundation-launches-new-climate-resilience-initiative-commits-initial-8-million-continue-supporting-global-network-cities-chief-resilience-officers/). A threefold Climate and Resilience program was also created, including the 100 Resilient Cities Network, the Adrienne Arsht-Rockefeller Foundation Resilience Center within the Atlantic Council—with $30 million from Rockfeller and the goal of "one billion resilient people by 2050"[8]—and a new Urban Resilience Infrastructure program.

The evolution of the global urban resilience complex under the 100RC underlines how powerful actors, and their political economic strategies, can shape resilience initiatives in and beyond cities. As philanthrocapitalists, such as the Rockefeller Foundation, become increasingly interested in resilience, they also have the financial capacity and institutional and political networks to assemble global consultancies and other actors to quickly shift the agenda. The specific agenda of the 100RC and World Bank builds on a neoliberal discourse to promote solutions that are presented as simultaneously bankable, pro-poor, and beneficial to the environment, even though our cases show that this is contested and contingent on the ground. Nonetheless, the cases also show that the 100RC and World Bank are yet to make good on this promise; much further research is needed to account for the ultimate effects of these programs, in a diversity of cities, and as new actors begin to work in and through the global urban resilience complex.

Acknowledgments

We thank Emma Colven for advice at various stages of the research; our interviewees for contributing their time and expertise; and Jamie Peck, Jathan Sadowski, four reviewers, and James McCarthy for generously reading previous drafts of this article. All errors remain the responsibility of the authors.

Funding

The research that informs this article was funded by the Social Sciences and Humanities Research Council of Canada, the U.S. National Science Foundation Directorate for Social, Behavioral and Economic Sciences (Grant No. BCS-1636437), the American Association of Geographers, and the UCLA International Institute.

Notes

1. In the nonprofit world, the question of how to intervene in society has become known as the organization's theory of change.
2. At the time of the interview, projects within two of these themes were being set up and implementation planned.
3. For instance, at HABITAT 3 in Quito and the World Cities Summit in Singapore in 2016: https://

www.academia.edu/37819520/PRESENTATION._Resilient_Jakarta_-_City_Resilience_Strategy_and_Grand_Designs_for_Jakarta, accessed March 2, 2019.

4. 4. See also the 100RC midterm evaluation (Martín and McTarnaghan 2018) and final report on lessons learned (100 Resilient Cities 2019).
5. Water and sanitation services in Jakarta have long been a domain of contestation between public and private provision; in other words, seeking private-sector investment for water infrastructures would not necessarily be novel. The provision of piped water was privatized to two different contractors in the late 1990s. Since the privatization, inequalities in access to water, although historically sedimented, have remained and worsened. The private contracts have been battled over in court over the last two decades, with the state finally retaking control over water provision in February 2019. See Furlong and Kooy (2017) and Kooy and Bakker (2008).
6. This closely tracks such currently popular initiatives as social impact bonds and no net loss/net positive benefit, presented as exemplifying how private-sector involvement can deliver societal and environmental benefits alongside an ROI (Rainey et al. 2015).
7. This highly abstract formulation from within mainstream neoclassical economics is the kind of model that heterodox and geographical political economists have been highly critical of for, for example, presuming that the capitalist economy approximates (intertemporal) equilibrium.
8. See https://www.onebillionresilient.org/ (accessed November 30, 2019). The Atlantic Council is a security-oriented Washington beltway institution under U.S. leadership.

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Appendix A: Table of Interviews

Interview no.	Interviewee	Date	Location
Interview 1	Indonesian academic	11 August 2016	Jakarta, Indonesia
Interview 2	DKI Jakarta official	15 August 2016	Jakarta, Indonesia
Interviews 3 & 4	Indonesian activist	16 August 2016, 4 August 2017	Jakarta, Indonesia
Interviews 5 & 6	Advisor to 100RC	19 August 2016, 24 August 2017	Jakarta, Indonesia
Interview 7	100RC employee	20 August 2016	Jakarta, Indonesia
Interview 8	World Bank employee	22 August 2016	Jakarta, Indonesia
Interviews 9 & 10	DKI Jakarta official	24 August 2016, 23 August 2017	Jakarta, Indonesia
Interview 11	Indonesian academic	25 August 2016	Jakarta, Indonesia
Interview 12	DKI Jakarta official	25 August 2016	Jakarta, Indonesia
Interview 13	World Bank official	15 September 2016	Phone interview to Jakarta, Indonesia
Interview 14	100RC employee	19 September 2016	Phone interview to Bangkok, Thailand
Interview 15	World Bank employee	28 September 2016	Washington, DC
Interviews 16 & 17	World Bank employee	29 September 2016, 4 November 2016	Washington, DC
Interview 18	100RC employee	4 October 2016	New York
Interview 19	100RC employee	4 October 2016	New York
Interview 20	DKI Jakarta official	16 June 2017	Jakarta, Indonesia
Interview 21	Advisor to 100RC	25 August 2017	Phone interview to Semarang, Indonesia

Note: 100RC = 100 Resilient Cities.

Appendix B: Reports and Other Documents

100 Resilient Cities, Rockefeller Foundation. 2016. City orientation presentation. Presented at the City Orientation, Jakarta, Indonesia, November 2016.

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