Public Policy for Sustainability in Asia

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Abstract

Policymakers and researchers have endeavored to conceive of new ways of thinking about sustainability, and recent experiences in Asian countries offer new lessons. This chapter examines challenges and constraints regarding sustainability policymaking, with a focus on resilience, innovation, and civic enterprise in three of Asia's most economically dynamic cities. While the experiences of these cities are instructive with respect to technical and managerialist interventions targeting ring-fenced issues, broader systemic threats to sustainability implicate global narrative dynamics and their diffusion to local contexts – as evident in SDG localization. After introducing and applying the RICE Framework, this chapter reflects critically on the epistemic foundations of sustainability policy that harbor vestiges of a troubled developmental era, particularly how they perpetuate power imbalances and exclusionary policy epistemics.

Keywords: sustainability; public policy; urbanization; Asia; policy capacity; resilience; innovation

I. Introduction

Governance capacity is crucial in confronting the convergent impacts of climate change (Birchall et al., 2023; Koop et al., 2017). For Asian cities, these impacts include sea-level rise, floods, and droughts (Rahmasary et al., 2019; Kovats and Akhtar, 2008). The need for robust policies and response capacities is increasingly urgent, but the effectiveness of urban policies across Asia is mixed. Some urban governments are well capacitized and have developed world-leading programs in sustainability innovation and governance. Other urban governments have historically struggled to respond to emergent challenges that go beyond the

basic scope of governance. For these and other resource-limited governments, efforts to strengthen adaptation and resilience through governance reforms and systemic retrofits are constrained by limitations in three principal areas. First, these governments lack the capacities and institutional flexibility to plan and implement the new-generation sustainability policy initiatives that go beyond physical infrastructures. The consequences are clear when considering their performance on many sustainability and human development indicators, including those constituting the UN Sustainable Development Goals (Almaqtari et al., 2023). Due in part to the region's developmentalist history, bureaucratic structures are often rigid and organizational systems siloed, hindering the integration of sustainability across policy domains (e.g., transport, water, housing, and social support). The second limitation is that policymaking processes are often top-down and lack avenues for public input and participation that are seen by scholarship as crucial for addressing complex societal challenges (Rijal, 2023). Exclusionary policymaking processes, whether in design or execution, not only undermine the political legitimacy of policies but also hinder their effective implementation by failing to target the needs of affected communities. Finally, planning for sustainability-inspired retrofits to physical and institutional infrastructures is an exercise in multi-sector coordination that requires substantial financial commitments (Cho et al., 2023), clearly articulated political will that endures across political cycles (Brunner et al., 2012), and technical expertise for design and delivery (Wesselink et al., 2013; Wang et al., 2012). Many governments across Asia struggle to mobilize these capacities in the interest of sustainability. Despite such challenges, there are opportunities for strengthening sustainability capacities and policymaking processes in urban Asia, and some of the lessons come from the region's own successful cases, as explored in this chapter.

Governance challenges in Asian cities are compounded in complexity and magnitude by a massive global policy crisis. Environmental sustainability will be the defining issue of the 21st century and the impacts and opportunities are not clearer anywhere more than in Asia. Addressing the sustainability challenge implies the need for action across numerous spheres, including energy production, resource extraction, and waste management. In Asia, these issues come up against the region's development ambitions, population change (growth or decline), economic restructuring, and socio-political tensions. Reconciling these interests against global institutional pressure to address climate change places governments in the difficult position of making politically sensitive tradeoffs. Governments in low-income countries must balance the imperative for industrialization with the environmental impacts (e.g., emissions from manufacturing and biodiversity loss from industrialized agriculture), in addition to the social and environmental pressures of rapid urbanization (e.g., overcrowding, stress on public services, and the unsustainability of informal settlements). Governments in wealthy countries face global pressure to champion sustainability transition even as many of their economic interests drive unsustainable practices elsewhere (Newell, 2021). While private sector innovation and investment have yielded some progress addressing sustainability challenges, the coordination, resourcing, and long-term vision needed for fundamental systemic transformation is realizable only through committed government intervention. Indeed, many Asian countries have a history of interventionist policy, particularly evident during the postwar period of developmentalism (Woo-Cumings, 2019),

episodes of economic recovery (e.g., Asian Financial Crisis, Global Financial Crisis, and Covid-19 pandemic), and variable economic forces amidst shifting geopolitical dynamics. Even with reform pressures and neoliberalization movements promoted by the global development community, many governments in Asia have remained robustly capacitized both financially and administratively. For this reason, Asia is an instructive case of government capacity for sustainability.

This chapter examines three cases of relatively ambitious and well-resourced sustainability intervention by urban governments in Asia. The experiences of Singapore, Seoul, and Hong Kong provide numerous examples of how governments intervene to pursue sustainability targets. This analysis examines the cases through the analytical perspective of the RICE Framework (Hartley, 2020), a descriptive guide for understanding how resilience, innovation, and civic enterprise generate the societal capacity to confront complex problems. This chapter proceeds with a background about the concept of sustainability and narratives concerning related policy efforts, followed by brief case descriptions. The chapter concludes by outlining remediation strategies, including re-orienting governance structures and processes around the uniquely integrated needs of sustainability adaptation, building technical capacity that leverages domestic resources and expertise, and enhancing public awareness and participation while fostering political commitment to sustainability at all scales and levels of governance. The chapter argues that addressing capacity constraints relies as much on shifting governance mindsets towards nuanced concepts like emergence and liminality as it does on efforts like physical development and technocratic solutionism.

II. Background: understanding sustainability in Asia

Sustainability as understood in the current policy discourse is synonymous primarily with 'sustainable development,' a concept that began to emerge in mainstream policy circles at the introduction of the Brundtland Report (World Commission on Environment and Development, 1987). In the decades since, the concept of sustainability has moved from the discursive fringe (i.e., scientific research and policy progressivism) to the core objective of the United Nations (UN) Sustainable Development Goals (SDGs) – arguably human history's most comprehensive, collective, and ambitious policy agenda. The phenomenon and impacts of climate change have come into greater scientific clarity since the turn of the century, and the concept of sustainability has been recognized for its manifold dimensions (Manderson, 2006). No longer about weather patterns and environmental degradation alone, sustainability is now seen to shape and be shaped by social, economic, and political forces (Strezov et al., 2017). The concept has become a narrative beacon providing direction to policy initiatives, multilateral agreements, and academic research. At the same time, the breadth of the concept grants interpretive latitude to practical action. The concept guides countries in their efforts to align with global policy norms, provides a benchmark for ranking and comparing countries on progress indicators, and, in some instances, validates national and local policy agendas. In turn, critical theoretical perspectives have been skeptical of the concept, in both its narrative construction and appropriation (Fuchs, 2021). The notion of sustaining something implies the value of preserving current practices and systems. In general, the goal of sustainability

appears to be the maintenance of a societal and economic status quo in the midst of emerging threats – climate change – that would destabilize it. Thus, it is prudent to ask what the concept seeks to sustain and whether the object to be sustained contributes to its own destruction.

Various policy instruments have been used to promote sustainability, including command-and-control approaches focused on regulation (Tang et al., 2020) and less interventionist approaches like market-based instruments and voluntary measures (Guo et al., 2021; Walter, 2020). Regulatory measures rely on government capacities to analyze the causes and effects of policy problem, implement solutions, monitor compliance, and institute penalties. With the advent of neoliberal reforms and new public management, market-based approaches to sustainability issues have grown in popularity (Dent, 2022). Examples are market-making (e.g., carbon credits and emissions trading) and subsidies to steer the behavior of firms in desired directions.

The multi-faceted nature of sustainability suggests the need for holistic approaches that span policy instrument types and policy domains (e.g., industry, transport, housing, education, and health). Compounding this complexity is fragmented and multi-scalar governance. At the global scale, policymaking is shaped by power dynamics in the global political economy, often manifest through development assistance. Global institutions established at a time when wealthy Western countries had their greatest geopolitical power and influence have often promoted particular ideas and ideologies (e.g., liberalization of markets and political systems), which over time became embedded structurally and epistemically in these institutions. More recently, politically sensitive understandings about policy transfer and fit-to-context illustrate how the appearance of discursive flexibility is becoming more institutionalized in development activities (Schouten et al., 2016; Epstein, 2015). This trend coincides with greater efforts to understand how global power dynamics keep developing countries in a dependent position (Telleria et al., 2022).

Even as the global dynamics of sustainability policy evolve, so too have local policy dynamics. However, the latter is more difficult to generalize as the myriad of contexts and experiences reflects differing conditions, institutional dynamics, and political priorities. Only in the past decade has global-to-local transfer of sustainability policy become more institutionalized and capacitized, both formally through the concept of SDG localization (Hartley, 2022) and Voluntary Local Reviews (Narang Suri et al., 2021) and informally through network-based knowledge-exchange regarding best practices (Acuto and Leffel, 2021). In many cases, major global cities and aspirational cities of lesser profile seeking to elevate their status have viewed sustainability as a pathway to external engagement. Signalling to global partners a commitment to shared policy goals gives urban governments an opportunity to claim not only 'good global citizenship' but also thought leadership when their own experiences inform practices elsewhere. The concept of sustainability also provides a focal point for institutional collaboration on a longer-term and more comprehensive basis, going beyond *ad hoc* and one-off collaborations that may end when certain objectives are reached. The concept is general enough to encompass new policy problems as they arise, lending durability to associated networks and institutions. This phenomenon stands in

contrast to alliances and institutions based on ring-fenced policy issues like migration and foreign direct investment. The concept of sustainability can be re-shaped to serve political trends and narratives, including social justice and equity, quality-of-life, 'good governance,' and others. In this way, its malleability enhances its durability.

This chapter continues by applying an analytical framework to three cases of urban sustainability in Asia. The RICE Framework focuses on the concepts of resilience, innovation, and civic enterprises as enablers and drivers of sustainability transition. The three elements of the framework correspond, respectively, to the concepts of institutions, ideas, and actors (see Howlett et al., 2009). The cases examined are Singapore, Seoul, and Hong Kong, all examples of well-resourced governments in cities that face threats regarding sustainability, including social and economic forces that stand to accelerate in the 21st century. The experiences of these cities is applicable to governments seeking to build resilience against sustainability challenges, and are representative of the type of governance models that propelled much of Asia rapid development in recent decades. Additionally, the urban scale is where the most detailed and context-specific policy stipulations on sustainability can be found. The remainder of this chapter outlines the RICE Framework, applies it to the three cases, and concludes with a discussion about current and expected policy challenges.

III. Analytical approach: the RICE Framework

The RICE Framework, introduced by Hartley (2020), is structured around the concepts of resilience, innovation, and civic enterprise as building blocks of urban sustainability. The framework not only helps to systematize what is examined in given case applications but also enables a basic comparison, as is conducted in the following section. The framework is not the only one that can be used for such a purpose, but it has been designed with respect to the peculiarities of the sustainability challenge in Asia. Within the framework, resilience refers not simply to the concept of preparation and response capacity in the face of policy challenges, but to a flexible epistemic orientation regarding how policy problems are defined and addressed. This chapter's analysis carries this concept further to incorporate a critical-theoretical element focused on the narrative and discursive dynamics informing current academic and policy thinking about sustainability. Innovation refers to the creative capacity of society in general, and the private sector specifically, in generating technological capabilities to address ring-fenced challenges concerning sustainability. Civic enterprise refers to the broader societal and systemic capacity needed to enable action on sustainability issues, including collective action by actors independent of government or corporate institutions. These three framework elements – resilience, innovation, and civic enterprise – in combination are necessary but not sufficient in driving the type of transition needed to realize sustainability goals. The remainder of this section describes each element individually in preparation for their application to the next section's case analyses.

The notion of resilience is broadly defined and has long been explored in the literature. It often serves as a guiding principle in policymaking about challenges both acute and long-evolving. Resilience broadly refers to the ability of a system (e.g., an ecosystem,

community, or society) to recover from an event or phenomenon that alters the system's equilibrium. The scope of the concept of resilience depends on the issue under consideration. For example, governments may seek to strengthen resilience to floods and storms through zoning prohibitions on construction in high-risk areas (e.g., wetlands, floodplains, and riparian and waterside areas), design requirements for buildings that minimize financial loss when damaged by storms, improvements to infrastructure for stormwater runoff, and temporary accommodation plans for people displaced by storms. Resilience against financial crises may include temporary income support for unemployed people, strengthening of fiscal reserves and borrowing capacity, and measures to make local or national economies less sensitive to macroeconomic cycles. Regarding sustainability, the policy scope widens considerably to accommodate a variety of scenarios and a range of impacts, including not only issues related to severe weather but also social programs to mitigate the human and economic toll wrought by disruptions to global and local economic activity. Given the embedded determinants of the sustainability crisis, however, understanding resilience for its dynamic and emergent properties requires consideration for the systemic rigidity of modern economic systems and governing thought. This perspective assumes that whatever is taken for granted as fact guides the dominant discourse on framing policy problems and solutions, rendering alternatives radical or infeasible. The type of resilience that accounts for the presence of such perceptual biases can prepare society to accept epistemic disruption and liminality – that is, the realization not only that policy narratives are constructed but that the terms of the analysis itself guide narratives naturally in certain directions (Hartley and Kuecker, 2022). The type of resilience that remains epistemically flexible is elusive because it is the least protective of any given *status quo* and the economic, political, and social interests that benefit from it.

The concept of innovation used in this framework concerns novelty of ideas in the face of systemic challenges. While more attention has been paid in recent scholarship about public sector innovation (De Vries et al., 2016), often regarding governance and institutional reforms, the type of innovation discussed in the context of sustainability often focuses on technological issues. This ecomodernist logic holds that the sustainability crisis is addressable, if not solvable, through the application of increasingly sophisticated technologies (Symons, 2019). When measuring progress through a small number of narrow indicators, technology indeed has a defensible record. Electric vehicles, renewable energy generation, waste processing and recycling, water purification, utilities management through smart grids, and the monitoring of environmental conditions are all possible through a spate of remarkable technological advances. The transition towards alternative energy has helped some countries progress towards their carbon reduction goals, while advanced water purification technologies have broadened access to safe, potable water in low-income countries and neighborhoods. At the same time, a critical-theoretical perspective on innovation would say, as so Hartley and Kuecker (2020), that technological advancements are often ring-fenced, over-sold regarding what they can accomplish, and do not excuse society from critically examining its own unsustainable behaviors. The moral hazard of technology is based on the problematic expectation that it will always advance just enough to outpace the increase in unsustainable behaviors; stated more colloquially, "there will always be a fix."

This narrative is alluring, as it gives policymakers permission to ignore the need for politically inconvenient reflection on social and economic systems.

Civic enterprise for resilience is less mechanical than infrastructure or technological solutions. This concept refers to the collective capacity of society across sectors – public (government), private (commercial), and 'third' (non-government and civil society organizations). While this multi-sectoral mix is captured by the term 'civic,' the idea of 'enterprise' embodies action – how these three sectors collaborate on sustainability related activities. One way to view this collaboration is how it appears in deliberations across the policy cycle – problem-identification, articulation and analysis of options, decisionmaking, implementation, and evaluation (see Surminski and Leck, 2017). At the same time, a critical-theoretical perspective points towards power dynamics inherent in such collaborations. Whether formal as enabled through institutional structures, or informal as through *ad hoc* interactions (e.g., co-sponsorship of an event or program), power dynamics are present in civic enterprise as they are in any social or collaborative setting where there are interests concerned. In societies where there is substantial space and freedom for the third sector and civil society to operate, the interests of the public and private sector have a counterbalance. In other situations, a dominant public sector and political system (e.g., the longstanding and embedded power of a single party) or a dominant private sector (e.g., corporate capture of policymaking and institutions) can crowd discursive space out. As such, the concept of civic enterprise should not be taken definitionally as a balanced set of interests. It must constantly be monitored and critically evaluated.

The application of the RICE Framework brings these three elements together, anticipating that variation across cases will be evident across all three and thus difficult to compare. As such, the purpose of the framework is to guide inquiry into these issues and how they relate to one another. In principle, no single element is possible without the presence of the other two. However, some cases are stronger in one element than in the others. The next section applies the framework to brief analyses of the three examples of urban sustainability in Asia.

IV. Case Studies of Sustainability Policies in Asia

Singapore Green Plan 2030

As a highly advanced city-state with roughly 5.6 million residents, Singapore has experienced rapid development in its relatively brief history since independence in 1965. Having progressed ambitiously through industrialization, Singapore now holds distinct regional and global advantages in a variety of industries, including technology, petrochemicals, finance, and higher education. With a single political party (the People's Action Party, or PAP) having governing control for the entirety of the country's history, policies for economic and social development have been relatively stable, ambitious, and long-term oriented (Hwang, 2020; Woo, 2016). Urban planning has also played a substantial role in national development for the mostly urbanized country, with advanced infrastructure in public transit, information and communications technology (Lin et al., 2021), and public services (e.g., housing, education,

and medical care). Regarding sustainability, Singapore fashions itself a global leader through individual initiatives (e.g., water reuse and 'green' buildings) and broad strategic visions like the Singapore Green Plan 2030.[1]

Singapore Green Plan 2030 is the government's official strategic initiative to coordinate policies and efforts advancing sustainability. Launched in 2021, the initiative is sectorally cross-cutting and driven by a collaboration among several ministries, including Sustainability and the Environment (MSE), Transport (MOT), National Development (MND), Trade and Industry (MTI), and Education (MOE). The plan constitutes five pillars. The first, 'City in Nature,' focuses on protection of natural and park spaces and their sustainable integration with the built environment. 'Energy Reset' concerns the transition to cleaner sources of energy and related technologies, including solar, hydrogen, and geothermal generation, regional power grids, and energy-efficient transport and buildings. 'Sustainable Living' includes a focus on circular economy and zero-waste initiatives, an education-based eco-stewardship program, and broad efforts to orient transportation towards sustainable alternatives. 'Green Economy' focuses on government support for decarbonization across industries including energy and chemicals, along with research and innovation initiatives and support for businesses to pursue sustainability efforts. Finally, 'Resilient Future' addresses preparation for sea level rise, coastal and inland flooding, threats to food security, and rising temperatures (particularly the urban heat island effect; see Chow et al., 2006).

The notion of resilience, in the Singapore case as in the following two, can be seen analytically from two perspectives: as narrative framing device for policy action and as an inherent property of structural reorientation towards sustainability. The Plan includes 'Resilient Future' as one of its five pillars, referring primarily to threats arising from climate change. Going beyond infrastructure, resilience can be seen as the ability of a system to resume a steady state after being disrupted. In a governance context, one source of such stability is the consistency and complementarity of sustainability objectives across multiple government departments. This approach is consistent with Singapore's 'whole-of-government' (Aoki et al., 2023) approach to addressing policy problems, which recognizes interdependencies across policy domains. In this way, resilience can be seen as a goal that a whole-of-government effort ensures and as a structural trait.

The notion of innovation factors substantially into the Plan. The 'Research, Innovation and Enterprise' (RIE) initiative is a core element of the 'Green Economy' pillar, focusing on pure scientific and technological innovation and its translation and commercialization. As the drive for energy transition, zero-waste, and other sustainability visions is dependent in part on technological innovation, the Plan uses policy interventions to boost innovative capacity in the private sector. From a critical perspective, however, this focus reveals the prospect of a capacity gap regarding civic enterprise. While Singapore has often presented its public sector as an innovative body, the Plan makes little reference to the role of governance innovation. The notion of community capacity through NGOs and other types of organizations is not emphasized as much as private sector capacity, although the Plan

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[1] https://www.greenplan.gov.sg/overview/

outlines ways that individuals can help support the goals (e.g., sustainability-focused actions like recycling, buying local produce, and adopting a low-carbon travel routine). Also mentioned is a suggestion that individuals participate in the National Environment Agency's volunteer corps.

Overall, Singapore's Green Plan 2030 is reflective of what may be expected given the country's circumstances and characteristics: sustainability framing around crisis threats and quality-of-life, a push for private sector innovation in advanced environmental technologies, and an approach to civic enterprise that highlights government leadership and sponsorship. The Singapore case illustrates, in sustainability as in many other policy domains, how a traditionally interventionist and developmentalist government leverages neoliberal and commercial forces to steer the private sector towards desired goals – in this case through a narrative focused on pragmatism (Tan, 2012) and other means often associated with authoritarianism (George, 2007). Further, the whole-of-government framework reflects the type of strategic integration and collaborative capacity that can be expected from a government with a long-running ruling party. The value of the Singapore case is not so much in its governance model, which may be difficult and impractical for many countries to replicate, but in the specific innovations, ideas, and technologies at the spot level that can be applied elsewhere and scaled up.

Seoul Solution

Seoul Solution[2] is the Seoul Metropolitan Government's (SMG) urban policy framework, covering all major areas of governance and administration in policy areas like transportation, housing, security, and culture. Under the theme of 'sustainable and inclusive development,' Seoul Solution focuses on local policy outcomes but also projects itself as a global collaborator through transfer of technology and development expertise. Environmental issues are a 'key policy' area within Seoul Solution, covering "energy, waste management, air quality, noise, odor, and restoration of the ecosystem."[3] The description of this policy area also references the ambition to be a 'role model' for other countries. The number of environmental policy initiatives undertaken by SMG is substantial: 38 from 2010 to 2019 (e.g., an air pollution monitoring network, roof gardening support project for private buildings, and volume-based waste fee system for municipal solid waste) and 22 from 2000-2009 (e.g., a building retrofit program, fugitive dust control, and indoor air quality control). 20 initiatives were pursued from 1960 to 2000, addressing a range of issues including air quality, wastewater discharge, recycling, and urban parks.

Regarding resilience, Seoul Solution references an urban framework[4] developed in 2015 by a consulting company with financial support from an international grantmaking body. Focusing on broad policy dimensions across strategy, health, economy, and

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[2] https://english.seoul.go.kr/seoul-views/city-slogan-seoul-a-globally-attractive-city-going-together-with-the-socially-neglected/
[3] https://seoulsolution.kr/en/envi
[4] https://www.seoulsolution.kr/en/content/rockefeller-foudation-city-resilience-framework-crf

infrastructure/environment, the framework appears not to be specific to Seoul and receives no mention in subsequent policy statements. Resilience is mentioned in Seoul Vision 2030 (an administrative masterplan), which is structured around four targets including 'Safe City' efforts that focus on "resilience against climate change, particulate matter, accidents, and disasters" as factors that "threaten the life and safety of citizens and hamper the growth of the city."[5] This narrative approach takes both a macro and micro view of resilience.

In the description of Seoul's current city slogan, SMG states that "Seoul will stand tall as a city of growth and vitality—ensuring creativity, innovation, and urban resilience for a better future," where resilience encompasses housing, health, and disaster management.[6] The description also states "It has become more important than ever to promote urban innovation and invest in new growth industries." It is unclear what 'urban' innovation means specifically, aside from innovation that occurs within urban areas, but it could be inferred that it refers also to innovation involving urban policy and management. At the same time, the declaration also reflects a developmentalist and industrial policy (Westphal, 1990) approach by referencing policy support for designated growth industries. Regarding civic enterprise, Seoul Solution foregrounds collaboration and 'constructive relationships'[7] among municipal and central governance units and international bodies, along with incidental mentions of citizen engagement (e.g., "citizen-led safety and welfare"). SMG also appears interested in reflecting analytically on its own policy experiences and positioning itself as a global source of advice and best practices (e.g., through the Seoul Institute City Diplomacy Research Center).

Hong Kong Climate Action Plan 2050

Hong Kong is uniquely positioned to provide lessons about urban sustainability. The city has among the highest population densities in the world, even as a majority of the city's land area is an undeveloped nature preserve. As a coastal city, it routinely experiences typhoons, and the many parts of the city situated on reclaimed land are vulnerable to sea level rise. Furthermore, political challenges related to the city government's integration with mainland China and economic malaise lingering from the Covid-19 pandemic have to some degree undermined public trust in government (Hartley and Jarvis, 2020; Shek, 2020). Against this turbulent backdrop, Hong Kong's Climate Action Plan[8] was introduced in 2021. It focuses primarily on decarbonization and carbon neutrality, with technology and innovation, public engagement, financing, and administrative support among the principal enablers. The Plan's vision includes elimination of coal-based energy production, implementation of 'smart management' (technology-based efficiency measures), and comprehensive initiatives for 'green' transport and sustainable management of waste.

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[5] https://english.seoul.go.kr/announcement-of-seoul-vision-2030-by-mayor-oh-se-hoon-to-restore-the-hierarchical-mobility-ladder-and-citys-competitiveness/
[6] https://english.seoul.go.kr/seoul-views/city-slogan-seoul-a-globally-attractive-city-going-together-with-the-socially-neglected/
[7] https://seoulsolution.kr/en/content/1695
[8] https://www.eeb.gov.hk/sites/default/files/pdf/cap_2050_en.pdf

The concept of resilience features prominently in elements of the Plan concerning preparation for typhoons and severe storms, specifically the protection of "life, health, and property." The Plan also discusses resilience in preparation for emergencies and dealing with extreme heat. Beyond physical infrastructure, the Plan addresses emergency management and information-sharing with the public. In the Hong Kong 2030+ plan (the city's complementary territorial spatial development strategy), resilience is mentioned alongside 'smart' and 'green' as essential traits of infrastructure. In this context, resilience appears to be primarily technical, without much related content about restructuring of government systems or state-society relations.

Focusing on technology, R&D, and investment as principal indicators and focus areas, the Climate Plan's vision for innovation is likewise mechanically oriented. The Plan outlines ambitions for Hong Kong to be a regional hub for innovation and technology, with innovation appearing to reference private sector activity focused on technology. Regarding civic enterprise, the Plan contains several mentions of multi-sector relationships, including public consultation for a scheme on plastic beverage containers and disposable plastic tableware. One mention is made of 'tripartite collaboration' among the community, private, and public sector, while participation is mentioned in the context of an advisory committee that solicits inputs of young people (and in several other places as an enabler of goal-achievement). According to the Plan, "The Government, business sectors, schools and non-governmental organisations must work together and set an example by promoting and encouraging the public to adopt and practice a low-carbon lifestyle" (p. 23). The only substantive mentions of NGOs are the government's Green Welfare NGOs scheme (a program to encourage organizations to install solar panels) and the role of organizations in publicly modeling sustainable strategies and behaviors. While the Plan emphasizes the importance of cross-sector collaboration, recent political dynamics and the more resolute assertion of government presence in certain realms of society have made the situation in Hong Kong more tenuous for NGOs (Fu and Hor, 2022). The civic enterprise that appears in other cases is more limited in Hong Kong, and primarily involving only the government and private sector.

V. Discussion and conclusion

Sustainability will be the defining societal challenge of the 21st century and for few places is the issue more apparent and urgent than Asia's cities. Throughout the region, decades of developmentalist policy initiatives, in combination with rapid population growth and economic globalization, have driven unprecedented urbanization. Asia's cities are a dynamic and diverse mix of settings where the social and economic impacts of climate change play out in often disruptive and unpredictable ways. This chapter has discussed the policy mandate of urban sustainability through the RICE Framework, which encompasses the concepts of resilience, innovation, and civic enterprise in describing the capacities of urban governments to respond to the convergence of complex societal problems. The cases of Singapore, Seoul, and Hong Kong are broadly representative of the types of challenges and responses faced by well capacitized cities across the region. At the same time, it is appropriate to recognize that rapid urbanization is also happening in under-capacitized countries and regions,

compounding the severity of policy challenges, underscoring the urgency for collaboration, and pointing to the need for further research.

The three cases examined in this chapter share status as development leaders but as coastal cities must also manage environmental vulnerabilities and other governance challenges of various types. Aside from climate threats to Singapore's physical infrastructure, future governance imperatives include the need to maintain adaptability in the face of growing global economic uncertainties and to ensure that policies are understood by and responsive to the needs of all residents amidst growing income and wealth inequality in the country and elsewhere. For Seoul, governance challenges going forward include the need to ensure that policy is adaptable to the types of challenges the city is likely to face in the coming decades, including a declining growth rate in national population even as the city continues to attract more people, and shifting global economic forces that could put pressure on the city's core industries and fiscal stability. For Hong Kong, governance issues facing the city in the coming decades include the need to repair and strengthen state-society relations, the administrative challenge of coordinating sustainability policies across the vast Greater Bay Area urban megaregion (i.e., Hong Kong, Macau, and major cities around China's Pearl River delta), the prospect of declining population growth, and hampered economic competitiveness relative to its city peers in China and across Asia.

This chapter's cases present two broad lessons. First, the ability of governments to effectively address the sustainability crisis is shaped not only by policies and conditions controllable in the present and future, but also by the types of governance systems inherited through the unique developmental histories of each place. The implications of this lesson are that the application of global best practices must be sensitive to context and that lessons learned from such cases should in turn be applied elsewhere with the same caution. Secon, and more germane to the cases in this chapter, techno-optimistic narratives about innovation, technology, and technocratic governance may help governments achieve targets on certain metrics but are less effective in resolving complex and deep-seated policy challenges unique to particular contexts. While the global narrative encourages governments to adopt common policy visions and tools (e.g., technology, reforms, and restructuring), policy ideas emerging endogenously from context should be respected for their authenticity and do not necessarily need to be repackaged into global lessons as a means of validation. This type of policymaking can also be more appropriate and durable because it is embedded in societal context rather than being transferred and copied. Even locally revised global narratives tend to be a policy bricolage, with momentary narrative currency but lacking the epistemic flexibility that allows governments to adaptively address future or unanticipated needs. This phenomenon is possible particularly in cities that strive to signal their 'good-neighborliness' by embracing global policy frameworks and technology trends and innovations.

As such, the pathway to sustainability can be seen as having two lanes: a global express lane and a local turn-off. Often outpacing local capacities needed to realize it, the rapidly evolving global narrative is arguably as much aspirational as practical. As it provides a universal rallying point around general targets, the narrative is used by national and local governments as a North Star to guide policymaking and, if desired, to strengthen the

technocratic legitimacy of policy initiatives. While the dialectic relationship between global and local policy has historically expressed itself in North-to-South policy transfer, the knowledge and experience that informs the global discourse on sustainability will come increasingly from the Global South – particularly in the form of folk, local, or indigenous wisdom that is largely marginalized or given only tokenistic attention in modernist and technocratic policy narratives. As settings where sustainability challenges manifest themselves most acutely and with the greatest social and economic consequence, cities in the Global South will likely provide the most instructive cases.

In closing, there are three practical ways forward for fostering a more effective and context-sensitive sustainability policy agenda. First, at both national and local scales, governments should reorient administrative structures and processes around a broader conceptualization of resilience that moves beyond technical understandings promoted by the private sector and technocratic perspectives. It is alluring but mistaken to expect transformative results from new technology that is grafted onto old ways of thinking and governing. Furthermore, the sustainability crisis has systemic determinants that escape the reach not only of technological fixes but also of 'innovative' policies and reforms. Marginal tinkering with any system – whether mechanical, social, economic, or political – typically yields marginal results, even if it demonstrates progress on narrowly designed metrics that support political declarations of success. Second, if innovation continues to be an indispensably useful narrative tool, governments should focus on expanding its definition and application – not only in technical capacity but also in non-technical realms like governance and state-society relations. If disrupting long-entrenched practices, systems, and epistemics that have engendered the sustainability crisis ever becomes a feasible option, then let a revisited conceptualization of innovation – if we are indeed stuck with the word – be a pathway to this disruption. As the term itself means 'to make new,' making governance new again could be the novel discursive frame that enables substantively creative and disruptive thinking. Finally, governments should strengthen public awareness and participation in fostering a more robust and meaningful setting for civic enterprise. Liberating people to freely think and address challenges in their communities can generate a tapestry of solutions that are durable in their contextual embeddedness. In some cases, these solutions can serve as learning opportunities for scale-up, provided that institutional arrangements avoid exacerbating entrenched inequities through policy framing and transfer.

From an academic perspective, narrative tensions between global and local policy settings provide continuing opportunities to interrogate the replication of power dynamics in the new and highly institutionalized global sustainability policy arena. The narrative packaging and promotion of global policy logics has a troubled history since the early 20th century, enabling the use of concepts like development, modernization, and economic and political liberalization as Trojan Horses for aid dependency and geopolitical patronage. Even seemingly benign objects of policy transfer and benchmarking, like good governance, digital transformation, smartness, and sustainability (including sub-conceptual variants like 'circular economy;' Kirchherr et al., 2023), operate within an institutional ecology that harbors the vestiges of predatory global developmentalism. Whatever narratives await in the next round of the UN global policy goals in 2030 stand to do the same, absent deeper epistemic

reflection. Intensifying the urgency of sustainability, for example through crisis-framing, socio-cultural vulnerabilities, and moral suasion (Newell and Taylor, 2022), is a strategy that must contend with political nihilism, declining institutional trust, and anti-globalist and anti-science populism. Even if the narrative packaging of policy goals is used to improve their legibility and credibility among public audiences, underlying power interests continue to be served when mainstream social, political, and economic systems are, indeed, 'sustained.' The ostensible adoption of transformative reforms obscures these tensions while providing an optimism that is plausible enough to legitimize incumbent political narratives. The endogenous cycle of problem-definition and resolution becomes a policy soap opera where powerful parties cause the problem but also solve it, presenting themselves as adaptable, self-reflective, and ultimately merciful. Increasing evidence of macro-systemic instability undermines this strategy. Whether and how such dynamics operate in Asian cities, including the emergence of alternative paradigms of governance, policy epistemics, and economic systems, will be a topic of continuing intrigue for scholarship.

References

Acuto, M., & Leffel, B. (2021). Understanding the global ecosystem of city networks. *Urban Studies*, *58*(9), 1758-1774.

Almaqtari, F. A., Elsheikh, T., Hussainey, K., & Al-Bukhrani, M. A. (2023). Country-level governance and sustainable development goals: implications for firms' sustainability performance. *Studies in Economics and Finance*.

Aoki, N., Tay, M., & Rawat, S. (2023). Whole-of-government and joined-up government: A systematic literature review. *Public Administration*.

Birchall, S. J., Bonnett, N., & Kehler, S. (2023). The influence of governance structure on local resilience: Enabling and constraining factors for climate change adaptation in practice. *Urban Climate*, 47, 101348.

Brunner, S., Flachsland, C., & Marschinski, R. (2012). Credible commitment in carbon policy. *Climate Policy*, *12*(2), 255-271.

Cho, W., Kim, D., & YS Park, A. (2023). Local Government's Resource Commitment to Environmental Sustainability: Capacity, Conservatism, and Contractual Dynamics. *Urban Affairs Review*, 59(2), 447-475.

Chow, W. T., & Roth, M. (2006). Temporal dynamics of the urban heat island of Singapore. *International Journal of Climatology: A Journal of the Royal Meteorological Society*, *26*(15), 2243-2260.

Dent, C. M. (2022). Neoliberal Environmentalism, Climate Interventionism and the Trade-Climate Nexus. *Sustainability*, *14*(23), 15804.

De Vries, H., Bekkers, V., & Tummers, L. (2016). Innovation in the public sector: A systematic review and future research agenda. *Public administration*, *94*(1), 146-166.

Epstein, G., Pittman, J., Alexander, S.M., Berdej, S., Dyck, T., Kreitmair, U., Rathwell, K.J., Villamayor-Tomas, S., Vogt, J. and Armitage, D. (2015). Institutional fit and the sustainability of social–ecological systems. *Current opinion in environmental sustainability*, *14*, pp.34-40.

Fu, H. and Hor, M. (2022). *The National Security Law of Hong Kong: Restoration and Transformation*. HKU Press.

Fuchs, C. (2021). Critical social theory and sustainable development: The role of class, capitalism and domination in a dialectical analysis of un/sustainability. In *Foundations of Critical Theory* (pp. 131-155). Routledge.

George, C. (2007). Consolidating authoritarian rule: Calibrated coercion in Singapore. *The Pacific Review*, *20*(2), 127-145.

Guo, X., Fu, L., & Sun, X. (2021). Can environmental regulations promote greenhouse gas abatement in OECD countries? Command-and-control vs. market-based policies. *Sustainability*, *13*(12), 6913.

Hartley, K. (2022). Infrastructure and SDG localization: the 21st century mandate. *Environmental Research: Infrastructure and Sustainability*, *2*(1), 013001.

Hartley, K. (2020). New Asian Statism: Toward an understanding of Asia's 21st-century urban transformation. In *Governing Cities* (pp. 97-111). Routledge.

Hartley, K., & Kuecker, G. D. (2022). *Disrupted governance: Towards a new policy science*. Cambridge University Press.

Hartley, K., & Jarvis, D. S. (2020). Policymaking in a low-trust state: legitimacy, state capacity, and responses to COVID-19 in Hong Kong. *Policy and Society*, *39*(3), 403-423.

Hartley, K., & Kuecker, G. (2020). The moral hazards of smart water management. *Water International*, *45*(6), 693-701.

Howlett, M., Ramesh, M., & Perl, A. (2009). *Studying public policy: Policy cycles and policy subsystems*. Oxford university press.

Hwang, G. J. (2020). The political economy of welfare in Singapore: explaining continuity and change. *Policy Studies*, *41*(1), 63-79.

Kirchherr, J., Yang, N. H. N., Schulze-Spüntrup, F., Heerink, M. J., & Hartley, K. (2023). Conceptualizing the circular economy (revisited): an analysis of 221 definitions. *Resources, Conservation and Recycling*, *194*, 107001.

Koop, S.H.A., Koetsier, L., Doornhof, A., Reinstra, O., Van Leeuwen, C.J., Brouwer, S., Dieperink, C. and Driessen, P.P.J.. (2017). Assessing the governance capacity of cities to address challenges of water, waste, and climate change. *Water Resources Management*, 31, pp.3427-3443.

Kovats, S., & Akhtar, R. (2008). Climate, climate change and human health in Asian cities. *Environment and Urbanization*, *20*(1), 165-175.

Lin, B.B., Ossola, A., Alberti, M., Andersson, E., Bai, X., Dobbs, C., Elmqvist, T., Evans, K.L., Frantzeskaki, N., Fuller, R.A. and Gaston, K.J. (2021). Integrating solutions to adapt cities for climate change. *The Lancet Planetary Health*, *5*(7), pp.e479-e486.

Manderson, A. K. (2006). A systems based framework to examine the multi-contextural application of the sustainability concept. *Environment, Development and Sustainability*, *8*, 85-97.

Narang Suri, S., Miraglia, M., & Ferrannini, A. (2021). Voluntary local reviews as drivers for SDG localisation and sustainable human development. *Journal of Human Development and Capabilities*, *22*(4), 725-736.

Newell, P. (2021). *Power shift: The global political economy of energy transitions*. Cambridge University Press.

Newell, P., & Taylor, O. (2022). Fiddling while the planet burns? COP25 in perspective. In *Economics and Climate Emergency* (pp. 271-283). Routledge.

Rahmasary, A.N., Robert, S., Chang, I.S., Jing, W., Park, J., Bluemling, B., Koop, S. and van Leeuwen, K. (2019). Overcoming the challenges of water, waste and climate change in Asian cities. *Environmental management*, *63*, pp.520-535.

Rijal, S. (2023). The Importance of Community Involvement in Public Management Planning and Decision-Making Processes. *Journal of Contemporary Administration and Management (ADMAN)*, *1*(2), 84-92.

Schouten, G., Vellema, S., & Wijk, J. V. (2016). Diffusion of global sustainability standards: The institutional fit of the ASC-Shrimp standard in Indonesia. *Revista de Administração de Empresas*, *56*, 411-423.

Shek, D. T. (2020). Protests in Hong Kong (2019–2020): A perspective based on quality of life and well-being. *Applied Research in Quality of Life*, *15*, 619-635.

Strezov, V., Evans, A., & Evans, T. J. (2017). Assessment of the economic, social and environmental dimensions of the indicators for sustainable development. *Sustainable development*, *25*(3), 242-253.

Surminski, S., & Leck, H. (2017). From agenda-setting to implementation: The role of multisectoral partnerships in addressing urban climate risks. *Earth's Future*, *5*(10), 966-978.

Symons, J. (2019). *Ecomodernism: Technology, politics and the climate crisis*. John Wiley & Sons.

Tan, K. P. (2012). The ideology of pragmatism: Neo-liberal globalisation and political authoritarianism in Singapore. *Journal of Contemporary Asia*, *42*(1), 67-92.

Tang, K., Qiu, Y., & Zhou, D. (2020). Does command-and-control regulation promote green innovation performance? Evidence from China's industrial enterprises. *Science of the Total Environment*, *712*, 136362.

Telleria, J., & Garcia-Arias, J. (2022). The fantasmatic narrative of 'sustainable development.' A political analysis of the 2030 Global Development Agenda. *Environment and Planning C: Politics and Space*, *40*(1), 241-259.

Walter, J. M. (2020). Comparing the effectiveness of market-based and choice-based environmental policy. *Journal of Policy Modeling*, *42*(1), 173-191.

Wang, X., Hawkins, C. V., Lebredo, N., & Berman, E. M. (2012). Capacity to sustain sustainability: A study of US cities. *Public Administration Review*, *72*(6), 841-853.

Wesselink, A., Buchanan, K. S., Georgiadou, Y., & Turnhout, E. (2013). Technical knowledge, discursive spaces and politics at the science–policy interface. *Environmental science & policy*, *30*, 1-9.

Westphal, L. E. (1990). Industrial policy in an export-propelled economy: lessons from South Korea's experience. *Journal of Economic perspectives*, *4*(3), 41-59.

Woo, J. J. (2016). *Singapore as an international financial centre: History, policy and politics*. Springer.

Woo-Cumings, M. (Ed.). (2019). *The developmental state*. Cornell University Press.

World Commission on Environment and Development. (1987). *Our Common Future*. Oxford University Press.