

5th Guangzhou Award Report on Local Implementation of SDGs

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Foreword

In 2012, the Guangzhou International Award for Urban Innovation (Guangzhou Award) was co-founded by the City of Guangzhou with the United Cities and Local Government (UCLG) and the World Association of Major Metropolises (Metropolis). The purpose of this award is to advocate urban innovation, accelerate the attainment of the Sustainable Development Goals (SDGs), and encourage international exchanges and city-to-city cooperation to do so.

In 2020, Guangzhou became the first city in China to submit its Voluntary Local Review (VLR). With data, practices and case studies, the Guangzhou VLR demonstrates the city's progress in attaining the SDGs and shares with the world its experiences and efforts in green development and its commitment to promoting "a community of a shared future for mankind".

Though the COVID-19 pandemic has disrupted the implementation of the SDGs, it has not diminished the importance and urgency of sustainable development issues. In the midst of the pandemic, a total of 273 initiatives from 175 cities and local governments in 60 countries or regions applied for the 5th Guangzhou Award, which fully illustrates how cities around the world are determined and committed to improving governance and advancing sustainable development.

The value of the Guangzhou Award lies in peer learning and exchanges of knowledge and experience which is at the heart of the concept of "a Community of Shared Future for Mankind". From the initiatives of the 5th Guangzhou Award, we can find some of the latest ideas and practices of local implementation of the SDGs as well as effective approaches to addressing the challenges of the COVID-19 pandemic. With this report we hope to provide evidence that urban innovation can contribute significantly to the decade of action and the delivery for sustainable development.

We have reason to believe that global cities and local governments have the will and capability to make concerted efforts for sustainable development and to facilitate a green, inclusive, and resilient recovery from the pandemic. Guangzhou will continue to implement the 2030 Agenda, monitor the progress in achieving the SDGs, and explore effective methods for green and inclusive urban development by putting people first. Through the Guangzhou Award, the city will keep on enhancing global urban exchanges and cooperation, sharing knowledge of sustainable development, as well as contributing to accelerating the attainment of the SDGs and creating a better world.

Zhan Decun
Director General of Guangzhou Foreign Affairs Office

Introduction

Current assessments of country progress toward attaining the Sustainable Development Goals (SDGs) suggest the Goals will not be met by 2030.

“At the end of the first quadrennial cycle of the 2030 Agenda, the conclusion we reached is that we are not on track. The unprecedented global consensus in 2015-2016, at the outset of this new agenda, created the opportunity for our societies to transition towards a more sustainable and inclusive development cycle. Yet today this initiative is in desperate need of renewal.”

Mpho Parks Tau, Deputy Minister of the Department of Cooperative Governance and Traditional Affairs (COGTA), Former President of the South African Local Government Association (SALGA), President UCLG¹

Tackling a pandemic, but more importantly, a larger transition towards more sustainable and inclusive development requires cities with vision, a willingness to take risks, and a capacity to innovate and mobilize institutions and people to act quickly and in concert with one another.

Furthermore, this year the HLPF ministerial declaration highlights the damage the COVID-19 pandemic has “laid bare and [which has] exacerbated our world’s vulnerabilities and inequalities within and among countries, accentuated systemic weaknesses, challenges and risks and, threatens to halt or obliterate progress made in realizing the Sustainable Development Goals.” The past 18 months, nevertheless, have also shown how crisis can bring out the innovative side of society, as well as our capacity to work together to solve problems. Tackling a pandemic, but more importantly, a larger transition towards more sustainable and inclusive development requires vision, a willingness to take risks, as well as a capacity to innovate and mobilize institutions and people to act quickly and in concert with one another. Many cities around the world are doing just that.

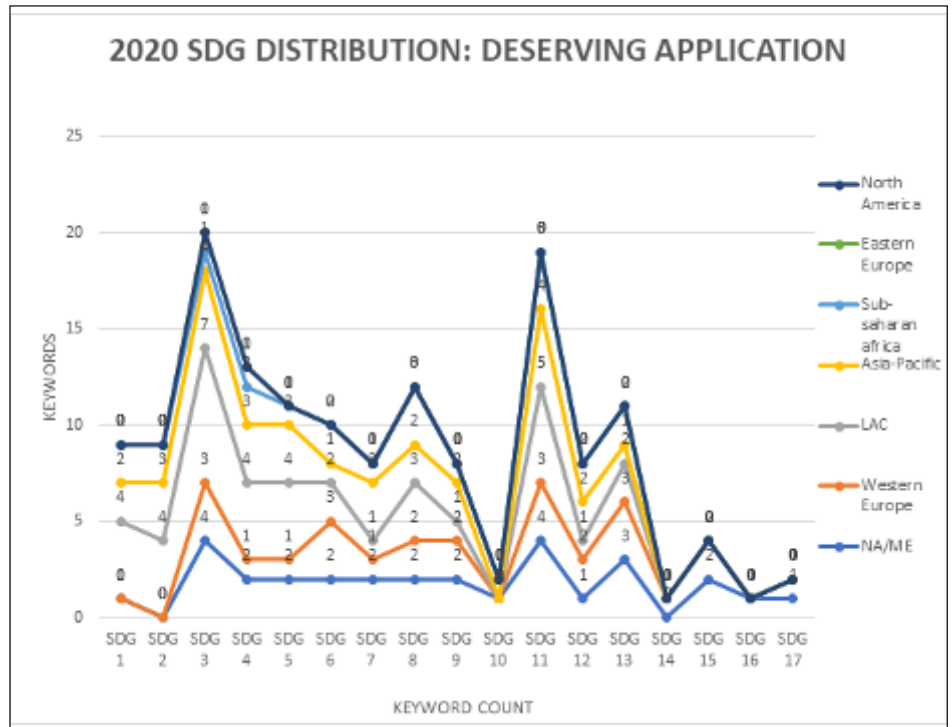
Cities and local governments are a source for ideas and approaches to help the world reach the Goals of 2030 Agenda for Sustainable Development (2030 Agenda). Yet, they are generally overlooked by key international, multilateral institutions. Local governments are demonstrating just how impactful local innovation can be and how important it is to engage cities as partners to reach our collective 2030 agenda.

Cities and regions (hereinafter referred to as cities) have embraced SDG 11, but they are, more importantly, going well beyond it (See figure 1, 2020 SDG Distribution for 45 Deserving Cities). The challenges underpinning the 2030 Agenda and the pursuit of the SDGs are daunting, yet they have not deterred cities and their leaders from effecting changes that get them and their citizens closer to a vision of a more equitable, dynamic, and sustainable world. Cities are innovating through institutional, political, cultural, and ecological inclusion and a “whole of society” approach to governance. This is a paradigm shift driven by local demands, forward-thinking leaders, and institutional

¹ Introduction to UCLG’s GOLD V report ‘The Localization of the Global Agenda, 2020’

changes resulting in public services and partnerships that are at once more agile and comprehensive in outlook and reach than ever before.

Since 2012, the Guangzhou Award for Urban Innovation (Guangzhou Award) has aimed to recognize innovation in improving social, economic, and environmental sustainability in cities and regions. It does so to advance the prosperity and quality of life of their respective citizens. With five cycles of awards completed as of December 2020, the Guangzhou Award Secretariat and its partners have built an urban learning network to share exemplary innovative efforts that create more livable, sustainable, and inclusive communities and, recently,



Cities are innovating through institutional, political, cultural, and ecological inclusion and a “whole of society” approach to governance.

Figure 1. 2020 SDG Distribution for 45 Deserving Submissions of the Guangzhou Award to provide a platform for city engagement in the SDGs and the New Urban Agenda.

Every two years, a Technical Committee of urban experts and practitioners convenes to review and select up to 45 deserving cities and to shortlist, among the 45, 15 cities that exemplify innovative approaches for improving the social, economic, and environmental sustainability of cities and local governments worldwide and more specifically:

- To highlight exemplary models of innovative policies and practices in the local implementation of the Sustainable Development Goals (SDGs) and the New Urban Agenda.
- To motivate cities and local authorities to further promote innovation and to learn from each other.
- To improve city governance.

Innovations are not simply about creative or out-of-the box thinking. In the context of the SDGs and a vision of a more just and sustainable society, innovation that does not produce outcomes is nothing more than an interesting idea. Therefore, new governance and busi-

ness models, initiatives, policies, or partnerships in this report illustrate three related characteristics:

Innovations that demonstrate effectiveness, replicability and significance have the best opportunity to scale, grow and accelerate.

1. **Effectiveness:** The extent to which the initiative has achieved or is well on its way to achieving its stated objective(s) and other socially desirable outcomes, particularly as it recognizes that paradigm shifts away from old solutions and business-as-usual approaches are needed to address 21st century challenges;
2. **Replicability/Transferability:** The influence of clearly articulated lessons learned, particularly as they relate to means, not just measures, in motivating others to adopt new policies or good practices;
3. **Significance:** The importance or relevance of the initiative in addressing problems and issues of public concern as defined by the people and communities concerned.

Among the lessons learned over five cycles of the Guangzhou Award is that innovations that demonstrate all three characteristics—Effectiveness, Replicability and Significance—have the best opportunity to scale, grow and accelerate – exactly what the 2030 Agenda needs. Together, these three characteristics can help scale up both the local and national implementation of the SDGs and highlight the power of cities for ‘building back better in the Decade of Action and Delivery.’² Yet, the complexity of localizing the SDGs also points to continuing barriers that need to be removed at all tiers of government to accelerate the process.

“The Interconnectedness of the Sustainable Development Goals (SDGs) provides, on the one hand, our best shot at tackling the multi-dimensional challenges facing our societies. On the other, it requires significant step up in policy-making efforts and adoption of a truly integrated approach that ensures that [...] multilevel and collaborative governance frameworks that emphasize the need to approach policy-making processes in an integrated way, factoring in all government bodies and members of society.”

Introduction to UCLG’s GOLD V report ‘The Localization of the Global Agenda, 2020’

Governance and fiscal capacity of local governments vary widely. The inertia of bureaucratic and cultural norms can hamper change even when broadly recognized as necessary. New partnerships and collaborations can be fragile undertakings, dependent on good will, trust, management skills, perseverance, and a shared vision. Despite those hurdles, city and local governments are identifying and harnessing the creative solutions needed to build the institutional conditions and public support that attend to the SDGs. Consequently, greater attention is needed to identify and support opportunities to strengthen institutions, as well as the array of actors that can help accelerate and scale up the localization of approaches to the SDGs.

New governance models, especially at the local level, need the support of and integration with national governments. In their survey of voluntary local reviews between 2016–2020, UCLG classified nations based on local and regional government involvement in their respective Voluntary National Review processes. When compared to those classifications, nearly all Guangzhou Award nominees came from countries demonstrating ‘strong’ vertical coordination efforts. The implication is that top-down communications are important to make cities more aware of the SDGs and the need for innovation, and that local opportunities to innovate may be greatly facilitated when cities are coordinating their efforts with supportive national-level institutions.

² Ministerial declaration of the high-level segment of the 2021 session of the Economic and Social Council, Zero Draft, 31 May, 2021

How this report works

This report focuses largely on urban innovation lessons drawn from the Guangzhou Award as they relate to the COVID-19 pandemic response and the eight SDGs under review at the High-Level Political Forum (HLPF) in July 2021. To address interdependencies within the SDGs and the initiatives, the report has been grouped broadly into five areas for analysis and presentation of lessons learned. These five areas are:

1. Cities Taking a Measure of the SDGs
2. Cities Increasing Health and Well-being (SDG 1,2,3)
3. Cities Ensuring Sustainable Economic Growth and consumption (SDG 8,12)
4. Cities Protecting the Climate and Environment (SDG 13)
5. Cities Building Just and Inclusive Societies (SDG 10,16)

The sections that follow present a range of actions and approaches taken by cities across the globe to advance the SDGs, and more. While the lessons learned are taken from a relatively small sample of initiatives, they are regionally representative and have undergone a rigorous assessment and peer review process³. Analysis from previous cycles and expertise from the Guangzhou team and its partners are also reflected throughout the report. The report concludes with a set of lessons relevant for all tiers and sectors of government. The common denominator across all cities is a commitment to be inclusive in the broad sense of the term and in its multiple dimensions, including collaboration. If innovation in governance is the key to achieving the SDGs, then the entry point into effective and expansive governance practices is an embrace of inclusivity.

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1. Cities Taking a Measure of the SDGs (SDG 16, 17)

With immediate COVID-related concerns like reduced fiscal revenues and the social consequences of economic downturn, most cities may not know or understand how their innovative solutions to traditional urban problems may connect to the SDGs or the 2030 Agenda. Although the localization of the SDGs is growing due to efforts by UCLG, Metropolis, and ICLEI fewer than 70 cities have presented voluntary local reviews, mapping their achievements against the SDG targets and indicators. More cities need to understand their role in the global 2030 Agenda and should be encouraged to map their goals and accomplishments against the SDGs. Doing so can help local leaders and inhabitants look at challenges in new ways and understand how “Think Global, Act Local” has measurable impacts at the global scale.

City-level leadership and governance are uniquely suited to testing and scaling innovative ideas to advance the SDGs. Mayors and city administrators work at a scale suited to implement often small but culminate, nimble and well-targeted initiatives in ways that national

³ The sample includes 45 initiatives selected by an independent technical committee of experts from 273 submissions from 175 local authorities and 60 countries. In addition, five initiatives focusing on COVID-19 responses that did not make it into this first list of “deserving initiatives” are included in the analysis.

or central government efforts often overlook. Examples from recent Guangzhou Award cycles, including pandemic-related initiatives, reveal how cities are doing this by building new coalitions and partnerships and improving their communication channels to tackle immediate needs within their communities. In the Capital Region of Denmark (pop. 1.8 million) local authorities saw beyond parochial budgetary and planning issues in favor of a regional plan to build a seamless bicycle superhighway. Over 170 Kms of bicycle lanes have been planned across the Capital region to promote greater reliance on bicycles over motorized vehicles. For technical and logistical reasons, this initiative depended on the buy-in of at least thirty municipal governments.

In the past two cycles of the Guangzhou Award (2018, 2020), cities were asked to define their innovations within the context of the SDGs, an awareness building effort by City of Guangzhou (pop. 20 million) to help cities place their initiatives in a global context, some for the first time. The requirement helps applicants learn about the SDGs and the 2030 Agenda, consider the linkages among the goals locally, and encourages cities to align their investments with the SDGs going forward. Initiatives addressed all seventeen SDGs in the last two award cycles. Of the 45 deserving cities reviewed by the 2020 Technical Committee, only two limited their impacts to a single SDG. SDG 11 (Sustainable Cities and Communities) and SDG 3 (Health and Well-Being) understandably gained the most attention in 2020 due to the COVID-19 pandemic. However, cities creatively connected their pandemic response with on-going initiatives to address issues like poverty, work, education, equity, clean water and climate action. Despite the crisis, many continued to pursue their efforts on non-pandemic-related initiatives such as SDG 13 (improving climate resilience with new water management technologies in the Netherlands) and SDG 9 (sustainable industrialization by building a circular waste economy in South Africa). In nearly every case, SDG 17 - Partnerships for the Global Goals - was applicable because most of the peer-reviewed cities are engaged in innovative public, private and civic partnerships and promote policy coherence by integrating economic, social, and environmental goals and strategies.

With some exceptions, a general lack of awareness compounded by lack of local direction and coordination leaves many city leaders wondering how their work fits into the 2030 Agenda or specific SDGs. Leaders in **Los Angeles, USA** (pop. 4 million) in the United States, however, are finding an innovative way to address that lack of direction by addressing the leadership vacuum challenge of any target or indicator by measuring it. That conundrum hit home for Erin Bromaghim, LA's Director of Olympic and Paralympic Development. "Cities had ostensibly committed themselves, but there were not a lot of examples of what that meant," she said. "The idea was somewhat new without direct connectivity to non-profit or national government support. We didn't have a template on how we were meant to get started."

Los Angeles' solution was to develop a better statistical understanding of what is SDGs were being addressed across the city. The result is two open-source mechanisms for SDG action at the sub-national level: the



Los Angeles, USA Open Source Tools for Action

The city and its Open Source Tools for Action on the SDGs stands out among cities for its: Leadership - L.A. is the only global city currently reporting directly on the SDG indicators; Transparency and Replicability - The tools can be replicated by any sub-national government or organization; Innovation - L.A. is the only city in the world aggregating projects and organizations across the public, private, and non-profit sector and linking them to the SDG and; Foresight - L.A. is using the SDG monitoring and mobilization data to identify gaps to 2030, developing new analysis and visualization tools that will help them and other cities.

SDG Data Reporting Platform (Open SDG) and the SDG Activities Index. The index is crowd-sourced, searchable, and it was designed with open-source code so that government, private and civic partners can share and expand the data freely. Leaders reached out to research universities and NGOs to understand which targets were not just locally measurable but could also be meaningfully impacted by city-level policy (such as traffic fatalities) and which could be taken even further, (such as disaggregating data to measure community outcomes taking into consideration gender, ethnicity, and sexual orientation). The UN Foundation's Krisa Rasmussen praised the cities' efforts. "LA has laid out a clear path and developed a whole process to accelerate the SDG framework and make it applicable to their city. The meticulous documentation is invaluable." The city is sharing their work so other cities can leverage that research and customize it for their own unique set of circumstances.

The Los Angeles SDG index exemplifies how an urban "lighthouse" innovation can forge a successful pathway to localization of the SDGs that can be replicated, scaled and shared with other cities. Local leaders decided to find the resources to solve a problem by engaging the entire community transparently, while also committing to sharing their work with other cities. Doing so will help other cities eventually roll out their own innovative initiatives and learn how to measure and assess their contributions to the 2030 Agenda and the SDGs.

Los Angeles is not the only city that has embraced the advancement of the SDGs. On the East Coast of the United States, **New York City** (pop. 8.4 million) has garnered attention and praise for its plan "Global Vision| Urban Action: New York City's Voluntary Local Review (VLR) of the Sustainable Development Goals (SDGs) Shows Local Progress for Global Action". New York City stood out among applicants in the 2018 Guangzhou Award cycle for its strong, coherent and proactive embrace of the SDGs, which had by then been recently adopted. While the initiative is important for the ways in which it operationalizes the monitoring and reporting of the city's performance within and across a set of policies and sectors in pursuit of the SDGs, it is perhaps as relevant or more so for the stand it took to claim the role of local governments in promoting and achieving the SDGs. This is not only an affirmation of the way global indicators of sustainability are underpinned and conditioned by local action (or inaction), but also of the stature cities have in global debates around climate change and the policy interventions that are needed at the global, national and local levels. New York's VLR has also been praised by proponents of the SDGs for the ways in which it streamlined and reconfigured the ways in which an array of city departments and units worked and communicated with one another.



New York City, USA Voluntary Local Review

New York City stood out in 2018 for its strong leadership and proactive embrace of the SDGs. It has garnered attention and praise for its plan "Global Vision| Urban Action: New York City's Voluntary Local Review (VLR) of the Sustainable Development Goals (SDGs) Shows Local Progress for Global Action".

Lessons Learned

While the SDGs represent the efforts and aspirations of national governments to usher in a century that is more socially, economically, culturally, and environmentally sustainable, it is clear that cities can take a



Cities are an important partner in strengthening the means of implementation of SDG 16 and 17, including mobilizing domestic resources, enhancing policy coherence, sharing knowledge, promoting partnerships and inclusivity, and improving data monitoring and accountability.

lead in launching policies that advance a range of SDGs. Moreover, as New York has demonstrated, they can also be leaders in approaches to monitoring our progress toward the SDGs.

The value of an open-source SDG Data reporting platform such as the one in Los Angeles, United States may: (i) inspire other cities to evaluate how to measure and gather data on local SDGs; (ii) demonstrate a new way to work with local partners and stakeholders to track their progress; and (iii) stress the connection between city and national government level statistics. Capacity-building and cooperation between and across tiers of government help bring innovation to scale, creating a natural momentum towards the attainment of the SDGs,

Cities that commit to work toward the SDGs understand that innovation and organizational changes are required within local government to reach ambitious goals. This includes restructuring and redirecting agencies and departments to think more comprehensively about their missions and how they measure pathways to success.

Cities are an important partner in SDG 17. The SDG encourages national governments to strengthen “multi-stakeholder partnerships as important vehicles for mobilizing and sharing knowledge, expertise, technologies and financial resources.” National governments should take measures to connect city policymakers and bottom-up local innovation efforts with national SDG-related initiatives and support local voluntary reviews.



2. Cities Increasing Health and Well-Being (SDG 1,2,3)

São José dos Pinhais, Brazil Digital Platform and Social Participation Campaign to Improve Public Health Response

The city transformed citizens into public health scouts, anchoring a public health campaign on a mobile app (SISS-Geo) developed by the Brazilian government, and allowing the health department to anticipate and prevent potential zoonotic and vector-borne disease outbreaks.

Health took center stage as never before during 2020, overwhelming other priorities in the urgency of combating COVID-19. Virtually every city around the world faced challenging questions about how to safeguard its citizens while maintaining essential services. While public health strategy—including development and allocation of diagnostics, therapeutics and vaccines and broad restrictions on mobility and various forms of economic activity—was most often set at the national level, cities were in the driver’s seat for local implementation, managing risks and fundamental tradeoffs between transmission and mobility, work, recreation, education, and other facets of daily life. The most successful cities were able to effectively continue to deliver existing programs, and even in some cases to parlay rapid responses to the coronavirus into innovation to meet broader goals. The following examples comprise initiatives that predate COVID-19—yet mirror the types of innovation that emerged in the collective response—and others that were directly responsive to the challenges of the pandemic.

São José dos Pinhais (pop. 265,000), in the Brazilian state of Paraná, is a settlement on the periphery of the metropolitan area of Curitiba—itself long-recognized as a model for innovation for its implementation of bus rapid transit and transit-oriented development more broadly since the 1970s. Situated along the sensitive boundary where urban

expansion encroaches on wildlife habitat, São José is vulnerable to outbreaks of zoonotic and vector-borne disease, including yellow fever, which has spiked in recent years in Brazil and Paraná. To manage disease risks, the municipality launched a highly participatory public health education and outreach campaign anchored in a mobile app (SISS-Geo) designed by the Brazilian government. SISS-Geo allows anyone to register sightings and geographic locations of dead animals or potential contamination with the municipal health department, thus turning citizens into public health scouts. The enhanced data is used by the department to identify potential viral outbreaks up to two months in advance, allowing time to vaccinate thousands of city residents and implement animal protection initiatives to protect wildlife.

In recruiting citizens to safeguard their own health, São José's initiative achieves multiple objectives: greater awareness of public health issues and human-animal interactions; greater agency for citizens; more timely, equitable vaccination campaigns at requisite scale; wildlife protection and conservation; and, ultimately, a reduction in health risks and improvement in regional equity. The initiative is affordable, accessible, and broadly replicable, and addresses multiple SDGs. Moreover, the campaign anticipated the vast proliferation of mobile apps for COVID-19 surveillance and control—at least 50 countries feature digital apps for contact tracing, health monitoring, exposure notification, quarantine enforcement and/or information sharing.



Bandung, Indonesia
OMABA Cooking Centre for
Managing Malnourished Children

the OMABA Cooking Center, community-organized and run largely by women, prepares nutritious food and distributes it by motorcycle taxi to targeted children, reducing malnourishment and stunting. The initiative goes beyond the conventional supplementary food distribution systems and bureaucracy by empowering communities to reach out to children and their families while encouraging entrepreneurship.

In many cities, a core feature of the COVID-19 pandemic was a dramatic expansion in delivery of food and other essential items. In **Bandung, Indonesia** (pop. 1,699,719), the community-based Ojek Makanan Balita (OMABA) Cooking Center has, for most of a decade, delivered food to targeted children, aiming to reduce malnutrition, stunting, and mortality—and has significantly decreased malnourishment and stunting where it has been implemented. Food is prepared and distributed via motorcycle by members, largely women, who gain important skills in food production and entrepreneurship. The project goes beyond conventional supplementary food distribution programs, which, due to government limitations and a lack of agency, have often led to mismatches in supply and demand.

The OMABA Cooking Center holds lessons for urban planners and governments more broadly. It makes use of hyperlocal knowledge, empowering communities and building local capacities, and in so doing fills gaps and redresses central government failures in ensuring access to healthy nutrition for children. In essence, it addresses the last mile problem, identifying and establishing the small but critical final link between people and essential services, which ultimately determines the quality of the system.

Elsewhere, the Municipality of **Antananarivo, Madagascar** (pop. ~1,500,000) has combined technological and community approaches in three ambitious, synergistic food system initiatives. The first uses a mobile app—'Mamboly Aho', or 'I Farm' - to foster information sharing between the municipality and participants - and among participants themselves - about urban agriculture, including ideas and advice about



Antananarivo, Madagascar Improving Local Agricultural Systems and Increasing Food Security

With 80% of children in extreme poverty, the city took a multi-sector holistic approach to reducing malnutrition. Antananarivo has taken a 3-part approach to its food system, with a mobile app ('Mamboly Aho', or 'I Farm') to share urban farming knowledge with and among community members, the 'Better Food for Kids' program, which installs vegetable gardens in schools, and its participation in the Milan Urban Food Policy Pact, through which it monitors its performance on food policy-making processes.

best practices and techniques (e.g., composting) and waste management. Members share their own projects, which can be geo-located to encourage expansion of the network. Another initiative, "Better Food for Kids", has installed vegetable gardens in targeted schools, allowing them to offer balanced meals while contributing to community production and environmental education, and reducing both malnutrition and school dropout. Antananarivo has also joined a select group of cities worldwide in signing on to the Milan Urban Food Policy Pact—the first global monitoring tool to measure city performance on food policy-making processes—and selecting six indicators to track local food priorities.

Together, these initiatives represent a comprehensive approach to enhancing the city food system, from increasing production to expanding access for vulnerable groups to increasing resilience. Indeed, the I Farm app has been an important source for information for citizens during the COVID-19 crisis, since urban agriculture can reduce physical contact and provide new food sources during a time when stay-at-home measures have severely depleted reserves. More significantly, the integrated approach taken here induces and builds on synergies across actors and sectors, increasing resilience in a context of extensive poverty (nearly 78% of people—over 80% of children—in Madagascar live below the poverty line), major health challenges (UNICEF estimates that chronic malnutrition affects almost half of children under five) and significant environmental risks.

A similarly multi-sectoral solution has been adopted by the city of **Chongqing, China** (pop. 31,243,200) in response to the challenge of safe disposal of medical waste arising from COVID-19. Led by the Municipal Ecological Environmental Bureau, this initiative brought together government officials, experts, technicians, medical staff, and volunteers to implement a range of coordinated actions, from developing new emergency medical waste disposal centers to establishing effective regulations and supervision to prevent secondary infection and virus spread.

A key element of the Chongqing initiative was its partnership with the city of Wuhan, at the heart of the COVID-19 crisis. This relationship, which is replicable across China, significantly benefited both cities and their citizens, allowing for the rapid construction of critical infrastructure and exchange of knowledge during a major crisis. City-to-city exchange will increasingly be paramount to achieving the goals of sustainable development.

The initiatives described here are just a few of hundreds that show that, even under duress, cities are capable of remarkable innovation—indeed, crisis often drives innovation. This year, as cities struggled to deliver essential services and safeguard the health of their citizens in the face of severe financial, physical, and institutional constraints, they implemented a panoply of experiments, repurposing systems and space and creating new solutions at unprecedented pace and scale. Such experiments richly illustrate the importance of involving citizens and other stakeholders in safeguarding their own health - an element



Chongqing, China Pandemic Response to Urban Medical Wastes Disposal

Chongqing, China has taken a multisectoral, multistakeholder approach to safe medical waste disposal during the COVID-19 crisis, implementing coordinated actions to create new infrastructure and regulations, and sharing knowledge with neighboring Wuhan, China, an important example of the city-to-city spread of innovation.

in each of the initiatives featured here. They highlight the value of integrating ideas and action across sectors and make clear the linkages between health and other sectors—for example, with urban agriculture in Antananarivo. They show that local authorities can add value to central government action, as São José’s public health department did in building onto SISS-Geo. They show the great potential for city-to-city exchange—as between Chongqing and Wuhan—to help scale good ideas. From cases like Bandung, we learn more about the great underutilized potential of women to contribute to resilience and sustainable development.

The COVID-19 pandemic will be felt for decades to come, reshaping our societies, how we think and act, and our expectations of the future, and yet the challenges of sustainable development in the face of global environmental change far outstrip the current crisis. Perhaps no lesson from this time is more important than a greater awareness of the precarity of our human systems. To meet the challenge of the climate emergency and address the needs of sustainable development more broadly, cities will have to learn to do more with less, coordinate much more effectively internally, across sectors, and externally, with national governments and other cities, harness local knowledge to safeguard the health and welfare of every citizen, and innovate to find solutions that work.

Lessons Learned

Digitalization of citizen engagement and participation can be an effective, affordable, and replicable tool to achieving local implementation of city and regional objectives, especially when it contributes to transparency and accurate communication.

A city’s capacity to understand the physical, social, and economic shocks and stresses across all their sectors (resiliency planning) and harness multi-sector responses to swiftly find innovative solutions is a critical safeguard against threats to public health and should be encouraged. This includes recognizing the enormous potential and power of women-led initiatives.

The COVID-19 pandemic demonstrates how few of the challenges outlined in the SDGs respect or limit themselves to political boundaries. Having strong channels for city-to-city exchange is an effective way of spreading innovative ideas quickly and fostering dialogue and collaboration.

Local implementation relies on coordination between central and local government—central government must provide adequate funding and may be better placed to develop technical solutions, but local expertise, networks, and awareness are critical to effective delivery.

3. Cities Ensuring Sustainable Economic Growth and Consumption (SDG 8, 12)

Urban growth offers opportunities to expand and strengthen local economies and provide decent work and increased quality of life. It usually comes, however, with unsustainable consumption patterns and places great pressure on the environment and public finances. If it is not managed well, urban growth can also skew the benefits to one sector of society at the expense of others. Sustainable economic growth and consumption requires attention and action to support the productive potential of all people, especially those who have been dropped from labor markets by no fault of their own, such as the current pandemic. Cities, which house the majority of the world's population, have the opportunity - given sufficient responsibility and fiscal resources - to target innovative economic policies or develop programs that promote more responsible resource consumption without compromising local quality of life or economic growth. Testing innovative fiscal ideas at the city level can also strengthen local financial capacity, which cities need as they respond to man-made or natural crises.



Quito, Ecuador Eco Efficiency Ordinance

The Eco-Efficiency ordinance for the Metropolitan District of Quito, Ecuador is innovative for its purposeful integration of sustainable environmental, transportation and housing planning policies with equitable public financing objectives. The intent of using land value is to ensure that the burdens and benefits of urban development are equitably shared by the public and private sectors.

In 2016, inspired by cities in neighboring Brazil and Colombia, **Quito, Ecuador**, the capital city, (pop. 2 million) created the Eco Efficiency Ordinance for the Metropolitan District of Quito. The ordinance incentivizes the construction of high density efficient 'green' buildings around key transportation nodes with provisions for affordable housing. The Ordinance helps sustain demand for its new public transit system (Metro) and increases resource and energy efficiency in the building sector, which accounts for nearly 40% of global GHG emissions. The focus on transit nodes in urbanized areas also aspires to curb urban expansion. Most importantly, the ordinance deploys the concept of land value capture to ensure that the city retains its share of the land value increments generated by allowing greater density around the transportation nodes. This bolsters support for green building construction and aims for a more equitable distribution of the financial benefits associated with denser development. The city has relied on partnerships with community leaders and universities to determine the parameters of local area plans, as well as methods for calculating and recovering the fiscal uplift generated by the denser development. Since the Ordinance's launch in 2016, the city calculates that it has generated approximately \$10.7 million USD in new revenue from the sale of development rights.

The Eco-Efficiency ordinance for the Metropolitan District of Quito is innovative for its purposeful integration of sustainable environmental, transportation and housing planning policies with equitable public financing objectives. The intent of using land value is to ensure that the burdens and benefits of urban development are equitably shared by the public and private sectors. The ordinance is also a measurable and scalable innovation in governance that can be shared and adapted by other cities.

Other cities that have embraced ecosystem conservation and more



Sydney, Australia Green Square Urban Renewal

Green Square is anticipated to become Australia's largest urban renewal initiative to date, to be supported by participating public and non-public stakeholders with the aim of being the most liveable, resilient, lively, walkable, accessible, sustainable and unique area of the city for the benefit of an estimated 61,000 residents.



Odisha, India Urban Wage Employment Initiative

When the national government could not respond in ways they needed when migrants rapidly returned to their home cities due to the pandemic the Odisha state government and the state's 114 urban local bodies banded together and announced the Urban Wage Employment Initiative (UWEI). The program tapped into local groups, and asked organizations like slum development associations to manage public works projects and hirings in their neighborhoods.

climate-friendly investment, as well as the use of land value capture to promote more sustainable and equitable models to finance urban development include **Sydney, Australia** (pop. 5.3 million). One of the Shortlisted Cities from the 2018 Guangzhou Award cycle, Sydney's Green Square is anticipated to become Australia's largest urban renewal initiative to date, to be supported by participating public and non-public stakeholders with the aim of being the most liveable, resilient, lively, walkable, accessible, sustainable, and unique area of the city for the benefit of an estimated 61,000 residents. It will host a socially and economically thriving town center, markets, festivals and world-class sporting and community facilities.

The initiative is supported by sustainable mobility infrastructure – a transit-oriented, high-density development aimed at minimizing its environmental footprint. Public policy and government funding for the initiative is committed and a private finance, legal, technical and logistical infrastructure strategy is well advanced as is the monitoring and evaluation methodology to assess the initiative's performance against a range of social, economic, urban and environmental indicators that aim to show that high density living can be compatible with good health and well-being outcomes for residents. Utilizing the value-capture and public-private partnership approach, its economic sustainability is well supported. It will transform an unused, flood-prone swamp and other disused land while remaining close to a broader economic area. The initiative aims to produce 21,000 employment opportunities and Australia's largest storm water harvesting and treatment scheme.

The COVID-19 pandemic induced national lockdowns in India highlight the economic and housing vulnerabilities of a vast segment of the urban labor force, composed largely of domestic migrants working in the informal sector in large cities. The lockdown stress led to the reverse domestic migration of the labor force in large numbers including migrants returning back to **Odisha, India** a relatively poor eastern state on the Bay of Bengal.

When the national government could not respond in ways they needed, the Odisha state government and the state's 114 urban local bodies (urban pop. 7 million) banded together and one month later announced that any urban worker could get a job through the Urban Wage Employment Initiative (UWEI). "That is the kind of rapidness with which we acted." said Mathi Vathanan, Odisha's Principal Secretary of Housing and Urban Development. Inspired by the India's National Rural Employment Guarantee Scheme (NREGS), Odisha is the first state to create an urban wage employment model.

To avoid the bureaucracy and delays of traditional procurement, the program relied on Odisha's network of community-based organizations like women's self-help groups, credit cooperatives, and slum development associations whose took a fee for managing the projects. Workers were paid electronically instead of in cash. The workers have been engaged in a backlog of local public works projects such as building community centers and planting trees. The program has been so successful at mitigating the economic stress due to the pandemic

that the state government has adopted the initiative as a long-term measure for poverty alleviation.

The quick, resourceful response in Odisha is an excellent example of regional and city government cooperation to provide a safety net for vulnerable populations that quite literally is “building the city back better” with every public project. At the time of this report, 7,450 projects have been completed or are on-going, including 601 finished community centers. UWEI is innovative, relevant, and could be replicable in similar contexts in rapidly urbanizing cities.

Cities and regions are also exploring ways to adopt a circular economic model of development, an approach to production and consumption that works to wean itself from reliance on finite resources and re-imagine economic growth and consumption. For cities in the Global South, an important entry point to kick-starting the circular economy lies in recognizing and integrating the informal sector as well as informal settlements into development and production schemes for all.



Cape Town, South Africa Western Cape Industrial Symbiosis Program (WISP)

The result of collaboration between public, private and academic partners., the program is embracing the circular economy idea by designing a platform that aids formal and informal manufacturing and industry firms to transform their waste streams and change a traditionally wasteful linear manufacturing model into a more circular economy business model.

Cape Town, South Africa (pop. 434,000), which has formal and informal industrial economies, is embracing this model through the Western Cape Industrial Symbiosis Program (WISP), a platform that aids with transforming the largely consumptive and wasteful linear economy model into a more circular economy model with the motto ‘One company’s waste is another company’s resource’. The initiative is a free facilitation service that seeks to create mutually beneficial links or ‘synergies’ between member companies, no matter the size, output, or formality status. It connects companies so that they can identify and realize the business opportunities enabled by utilizing unused or residual resources from other members. The resource exchanges divert waste from landfills, generate financial benefits for members, reduce the carbon intensity of production processes and create jobs; ultimately making the manufacturing sector more competitive and resilient to climate change.

WISP is the result of collaboration between public, private and academic partners. The initiative is funded by the City of Cape Town as part of Sustainability Initiatives, and is delivered by Green Cape, a not-for-profit company in collaboration with University of Cape Town. Since 2013, when it began with landfill diversion program, university researchers have conducted material flow analyses (MFA) on industrial areas to determine new circular resource opportunities. Cape Town modeled it on the UK’s National Industrial Symbiosis Program, which was visited. Nonetheless, “the skeleton is based on the UK model, but context always matters,” said WISP program manager Emmanuele Kasele.

WISP demonstrates the continuing need to accelerate city-to-city knowledge sharing and how a city can successfully adapt a concept like the circular economy to local conditions, which in turn, provides a case study for other similar cities to emulate. In Cape Town, Green Cape adapted a formal economic model from the UK into one that leverages a network of formal and informal members. This iterative

innovation can now be used and adapted by other cities with similar informal economies. The program fosters resource efficiency and reduces pressure on limited landfill capacity, but also educates local businesses on the value of their “waste” and encourages them to think differently about the processes and products they create.

Lessons Learned

When enabled by national and local legal frameworks, cities can be encouraged to leverage land-based forms of financing, such as land value capture, to ensure that the burdens and benefits of urban development are equitably shared by the public and private sectors.

Transforming economic models can start with cities. Innovative approaches to the circular economic models that promote decent work can be successfully kick-started at the local level. For cities in the Global South, a critical entry point to the circular economy lies in recognizing and integrating the informal economic sector and settlements into development and production schemes for all.

Projects like Cape Town’s Western Cape Industrial Symbiosis Program (WISP) also demonstrate the continuing need to accelerate city-to-city knowledge sharing and value of multi-sector collaboration. Cape Town adapted a formal economic model from the UK into one that builds a network that includes informal members. This iterative innovation can now be used and adapted by other cities with similar informal economies.



4. Cities Protecting the Climate and Environment (SDG 13)

The legacy of industrial urban and economic development patterns that ignore the natural environment and ecosystems has made cities highly vulnerable to disasters, stresses and shocks. As noted in the previous section, economic development does not need to be incompatible with eco-sustainable development and good resource management. To increase resilience, greater attention and innovation needs to be given to the restoration and protection of natural resources and ecosystems in urban areas. Cities are supporting the achievement of SDG 13 targets with a wide range of innovative programs, from increasing the adaptive capacity of their urban ecosystems to shifting infrastructure systems away from traditional high-emission models.

Breda, Netherlands Green Quays Riparian Restoration

The Dutch city of Breda is planning nature inclusive green quays linked to public green spaces as part of a bigger scheme targeting the urban restoration of the river Mark. This initiative is centered on an innovative Nature Inclusive Quay (NIQ) technology that is specifically designed to support the development of a complex vertical ecosystem, providing favorable conditions for flora and fauna.

Breda, Netherlands (pop. 185,000) hosts rivers and creeks constrained by concrete, deep walls and lacking green riparian corridors. Breda’s initiative ‘Green Quays’ addresses entwined challenges such as unsustainable urbanization, degradation of urban ecosystems, and lack of resilience to climate change. Breda is planning nature inclusive green quays linked to public green spaces as part of a bigger scheme targeting the urban restoration of the river Mark. This initiative is centered on an innovative Nature Inclusive Quay (NIQ) technology that is designed to support the development of a complex vertical ecosystem, provid-

ing favorable conditions for flora and fauna and people.

Green Quays will test a complex set of transferable and innovative solutions for restoring the natural eco-system of urban rivers in dense downtown areas, where there is insufficient space for developing natural riverbanks. Newly developed materials (type of brick stone) and innovative technical approaches (including quay design elements like riparian plant platforms, shelters for macro fauna, and rainwater runoff) will replace traditional concrete walls and extend below parallel street-level walkways, allowing trees and bushes to grow their roots. These technical solutions are supported by social innovation, through an intensive participatory co-design process targeting the engagement of external stakeholders and citizens.

Protecting the climate and environment also requires a major shift in transportation, especially away from automobile use, to reduce emissions and pursue the “well below 2°C” global warming target. The promotion of bicycles as a mainstream mode of urban transportation requires investments in infrastructure and the development of networks that make cycling accessible, appealing, and safe. However, developing and delivering that infrastructure is not a simple planning and engineering task. It is also a deeply political one.



Copenhagen, Denmark Cycling Superhighways

The capital region of Denmark is known world-wide for its exemplary low-carbon shift in urban mobility, with cycling and walking as its backbone. Together with thirty neighboring towns (1,800,000 inhabitants), a bold next step was taken to allow fast safe and enjoyable cycling. The municipalities joined forces to create cycle superhighways – a regional network of seamless cycling infrastructure that gives allows long distance commuting across municipal borders well- paced from roadways without at-grade crossings.

Copenhagen, Denmark (pop. 1,800,000) is known world-wide for its exemplary shift in urban mobility, with cycling and walking as backbone. Together with thirty neighboring towns in the capital region, a bold next step was taken to encourage fast, safe and enjoyable cycling throughout the region. The municipalities joined forces to create cycle superhighways – a regional network of coordinated cycling infrastructure that gives long distance commuters cohesive cycling routes well spaced from roadways without at-grade crossings.

As the cycle superhighways began to roll out, the idea gained political traction across the region, requiring new and innovative models of collaboration to scale the program up effectively. As Head of Office Sidsel Birk Hjuler noted, “we also need[ed] to connect our municipalities not only in and out of Copenhagen, but also across the whole region...That’s how the network evolved and how we ended up with 30 municipalities.” Today, the role of the Office of Cyclesuperhighway’s includes coordination and coalition- building between municipalities with different fiscal and political situations. While the national government provides funds for every cycle superhighway, local governments are expected to contribute as well. “Municipalities understand it is important to make a regional network, but they face local discussions with local budgets. It can be very tough to argue for a regional cycle line when your school is falling apart.” This initiative demonstrates how innovative urban and regional coalition governance strategies can be successfully scaled. Copenhagen dedicated sustainable resources and human capacity to the initiative, grew those resources to match the increasing complexity of the challenge, and built momentum and agreement by demonstrating measurable benefits such as emissions reductions and community satisfaction.



Berhampur, India **Faecal Sludge and Septage Management (FSSM) Regulations**

Historically, the city has not had an underground sewer system and the toilets are connected to septic tanks. In India, where states hold considerable power over urban development, Berhampur Municipal Corporation took an innovative approach to a public health and environmental problem by partnering with local activists. By working with and enhancing the incomes of the collectives, Berhampur is ensuring sustained community participation and ownership for sustainable sanitation practices and promoting women empowerment.

Protecting environmental health can also increase human health. Protecting the climate and environment from the negative impacts of human bio-waste requires global attention, especially in dense and growing cities or ones with informal settlements where lack of hygiene systems is a vector for disease. Sustainable water, sewage and hygiene systems, as with any urban infrastructure, is a technical investment as well as and a governance and cultural/behavioral one.

Berhampur, India (pop. 400,000) is a city in the eastern state of Odisha only 15 km from the Bay of Bengal. Historically, the city has not had an underground sewer system and the toilets may be connected to septic tanks. In India, where states hold considerable power over urban development, Berhampur Municipal Corporation took an innovative approach to local action and passed two resolutions to improve the human and environmental health of their city. The first, the Faecal Sludge and Septage Management (FSSM) Regulations 2018 makes it mandatory for all cesspool emptier vehicles to dispose of faecal waste at the treatment plant. Second, it passed a resolution to partner with local women' collectives to promote, operate and manage the septage treatment plant in the city through a service contract. By partnering with local activists and enhancing the incomes of the collectives, the initiative is ensuring community participation and ownership for sustainable FSSM and promoting women empowerment.

This cost-effective initiative is relevant to most secondary cities in developing countries, where safe and sanitary sewer systems are regularly non-existent. It promotes urban environmental sustainability, and human health while reducing gender inequalities and being gender sensitive. It builds local capacities, empowers women and raises their self-esteem, and helps solve an environmental problem most appropriate to local context.

In **Saint Louis, Senegal**, (pop. 277,000) on the coast of the Atlantic Ocean, the Departmental Council of Saint Louis targeted mangrove restoration through an innovative environmental governance approach connecting the restoration of the mangroves ecosystems with reinforcing strategies for addressing climate change and promoting of more resilient economic activities around the mangrove forests. The mangroves of Saint-Louis (1000 ha.), which are threatened with extinction due to climatic and anthropogenic pressures, were being lost at a rate of loss of 9 ha/year, mostly due to the deforestation for firewood and farming. Mangroves are critically important to global climate action, as they sequester carbon at a rate of two to four times greater than mature tropical forests and store three to five times more carbon per equivalent area than the Amazon rainforest. Over nine years, more than 50 ha. of mangrove have been regenerated, which is equivalent to a sequestration rate of 350 tons of carbon annually. The mangrove growth rate has risen to 7% per year and the clearance rate is down by 25%.

What makes this effort so innovative is the commitment to inter-municipal, inter-generational, and joint civic-public-private collaborative approach to address all the underlying causes of mangrove deforestation. To reduce deforestation, incentives weaned households from their de-



Saint-Louis, Senegal Regional Partnerships for Man- grove Restoration

The Departmental Council of Saint-Louis's (Senegal) ecological restoration strategy is an important and replicable best practice model that will be shared during the forthcoming UN Decade on Ecosystems Restoration 2021-2030. It is an innovative approach to safeguarding mangroves through an inter-communal and participatory local development. Nearly 80,000 people from over 50 organizations were involved in the initiative, representing local authorities, academics and environmental experts who were engaged to support the local private sector, civil society and community organizations.

pendence on the mangroves for fuel and switch to alternative biogas fuel sources. Cultural and behavioral strategies included community awareness programs which invite local elders to schools to tell historical stories about the times when mangroves were abundant in order to encourage young people to get involved.

The Departmental Council of Saint-Louis's ecological restoration strategy is an important and replicable best practice model that will be shared during the forthcoming UN Decade on Ecosystems Restoration 2021-2030. It is an innovative approach to safeguarding ecosystems through inter-communal and participatory local development. Nearly 80,000 people from over 50 organizations have been involved in the initiative, representing local authorities, academics and environmental experts, the local private sector, civil society and community organizations. Saint-Louis has been sharing its knowledge and methods with other communities in Mauritania, Gambia and Guinea Bissau to preserve and enhance their own mangrove ecosystems.

Lessons Learned

Initiatives such as Breda's Green Quays demonstrate that technical solutions are more sustainable when supported by innovative approaches that create strong social and cultural buy-in; whether from co-designing public spaces, supporting fiscal investment, or changing behaviors that ensure innovative solutions have time to take root, innovative technological solutions need the support of local communities.

Ecologically sustainable development requires bottom-up and top-down inter-governmental dialogue and local capacity building. The complexity of challenges posed by climate change needs local adaptation strategies and central government support for urban capacity to plan and manage metropolitan-scale projects. The capacity to capture and demonstrate measurable benefits such as emissions reductions and community satisfaction is an important step in building replicable and sustainable change.

As cities, particularly informal sectors, confront the stresses of rapid growth, a failure to manage water, sanitation and hygiene infrastructure is simultaneously a health and environmental crisis for over 4.5 billion people. Technological solutions exist but need to be accompanied with innovative governance and inclusive service delivery models to create lasting change and healthy water systems.

Local programs that invite and engage different generations within a community to share stories, lessons and aspirations for the future and their relationship with their natural surroundings is an effective model for shifting behaviors that damage critical ecological and climate resources. It can also promote cultural values that place an emphasis on preventing or mitigating climate change.

5. Cities Building Inclusive and Just Societies (SDG 10,16)

While Agenda 2030 and the SDGs set the stage for a “whole of society” approach to public policy, the reality is that inclusive and just societies can be elusive and difficult to build and sustain in the face of stress, shocks, and crisis like the COVID-19 pandemic. The 2020 shortlisted cities, however, provide examples of what is possible when government and civic groups come together support each other’s efforts. Inclusion and social justice are not simply about being identified as a stakeholder, but also about having a direct say and role in one’s day-to-day life and living conditions. It is about designing policies that deepen the inter-connection between people and reducing real and perceived barriers between social and economic sectors of society.



Vienna, Austria Werkstadt Junges Wien

Over the past 50 years, Vienna, Austria, has shifted from a shrinking and aging city into a young and growing one. As such, the city decided it was crucial to create meaningful opportunities for children and young people to experience democracy in a positive, hands-on way.

The goal of Werkstadt Junges Wien is to make **Vienna, Austria** (pop. 1.9 million) the most child-and youth-friendly city in the world. Over the past 50 years, Vienna has shifted from a shrinking and aging city into a young and growing one. As such, the city decided it was crucial to create meaningful opportunities for children and young people to experience democracy in a positive, hands-on way. By showing them that their opinions and ideas matter, Werkstadt Junges Wien creates a feeling of self-efficacy through many small-scale participations offers. But the initiative goes a step further by aiming for a more structural, long-term and large-scale approach. The objective is to put social inclusion of all children and young people living and growing up in Vienna at the heart of policymaking and city administration. The innovative process is enabling children and young people of all age groups and backgrounds to connect to a process where they can freely articulate their own ideas for the city. To date, the impressive results include 193 specific measures and actions underway across the city. The strategy has been adopted by the Vienna City Council and thus is a binding commitment.

Vienna demonstrates a bold new awareness for the interests of children and young people. The city also showed a capacity to innovate by understanding and acting on the idea that a focus on youth ultimately not only empowers children and young people, but it also empowers and energizes the city government and administration. Vienna wanted children and young people to think about their city, but in the end, the city now thinks about children and young people. There is an entirely new awareness that goes beyond the conventional ideas of a voting democracy.

The **Union of Dannieh Municipalities in Lebanon** (pop. 172,000 plus Syrian refugees), like Vienna, turned to its youth to help address critical local problems like unemployment and general wellbeing. Unlike Vienna, the municipalities that make up the Union are neither wealthy nor accustomed to participatory governance methods. The community has an economy that is largely dependent on seasonal exports and tourism, making it very susceptible to economic downturns or swift changes in patterns of consumption. Even prior to the economic



Union of Dannieh Municipalities, Lebanon Engaging the Citizen to be Part of the Emergency Response Plan to Fight against COVID-19

Lebanon's Union of Dannieh Municipalities established an Emergency Response Plan with 15 committees of youth volunteers with a high level of education and specialization. The Emergency Response Plan produced the Crisis Cell, an initiative that has relied on information technology and social networking tools to collect data on residents, in particular those left most vulnerable by the double hit of unemployment and COVID-19.



Unley, Australia Cohousing for Ageing Well – Designing Urban Infill for Ageing in Place

The Australian city of Unley, a local government area in the Adelaide metropolitan region, launched a novel and age-friendly community. The city engaged senior citizens to help draft and apply principles for co-housing options that meet a demand for ageing in place that is affordable, decent, and accessible.

crisis brought on by the COVID-19 pandemic, the municipalities that form the Union of Dannieh had already been weathering high unemployment and a lack of services triggered by Lebanon's ongoing macro-economic crisis. Employment and vital services were scarce, and the communities were in crisis.

In response and after consultations with community members, the Union of Dannieh Municipalities established an Emergency Response Plan with 15 committees of youth volunteers with a high level of education and specialization. The Emergency Response Plan produced the Crisis Cell, an initiative that has relied on information technology and social networking tools to collect data on residents, in particular those left most vulnerable by unemployment and COVID-19. The Cell's database has allowed volunteers to identify, assist and monitor those most in need. The Cell and its staff also encouraged citizens to be more active and involved in their community and with their neighbors, which demonstrated high levels of solidarity and the skills and creativity of the youth volunteers. The key takeaway from the Union of Dannieh Municipalities youth initiative lies in the way it encourages youth to engage with one another and built self-confidence and skills by contributing something of value to the community.

While some cities focused on leveraging the skills and energy of their youth populations to promote healthier and more resilient communities, others pay attention to the welfare and integration of its older citizens. Adelaide (pop. 1.3 million) is one of the most populous metropolitan regions in **Australia**. The **City of Unley**, a local government area in the Adelaide metropolitan region, launched a novel and age-friendly housing initiative. The city engaged senior citizens to help draft and apply principles for co-housing options that meet a demand for ageing in place that is affordable, decent, and accessible.

The Unley initiative aims to establish a new concept and principles of co-housing with shared amenities and desirable environment to enhance social cohesion. The initiative is considered innovative not so much for its amenities and capacity to help senior citizens age in place, but also for its use of an 'Alternative Infill' housing model that helps identify, secure, and build co-housing in well located places for senior citizens by senior citizens. Implementation would not be easy, given how entrenched existing planning and housing development models are in cities like Unley. As noted by a stakeholder, in fraught context where property development has become a political football, even the modest proposal to allow more flexibility for the construction of age-friendly dwellings required extensive hand holding with the city council. "I don't think our internal planning or public support ever wavered, but we had to create a blank slate and show beyond what people have known for 30 years," Active Ageing Project Officer Judith Lowe said. "We started from imagining what could be possible and then worked backwards." Working backwards meant engaging a range of stakeholders in scenario planning exercises that allowed everyone to talk about location, design, and construction options without being weighed down by technical jargon.

With the team's success blocks which were once ineligible for density increases could now see the density of housing units triple. But the zoning code change is only the first step, as private developers must begin taking advantage of the new land use rules. "This initiative is therefore quite revolutionary as it has borrowed the principles of co-housing from other countries and attempted to create an Australian version." As with the Union of Dannieh, the Unley policy succeeds in large part for the way it taps into and harnesses the energy and creativity of populations whose needs are traditionally left out of the policy identification, design, and implementation process. This is a move that provides citizens with a greater sense of dignity and worth and increases equity by giving them a voice in shaping their communities to work for them, too.

Lessons Learned

Local governments are proving that innovative ideas to increase civic participation and engagement improve the resilience of their communities. Despite not yet being a voting block, engaging youth in civic programs shapes inclusive democratic processes and participatory governance that can push SDGs forward.

As societies grow healthier and average age increases, inclusive institutions also look for new ways to accommodate the needs of elder populations to ensure no one is left behind. Cities are developing and implementing policies with the full human life course, in mind. SDGs acknowledge that aging cuts across all 17 SDGs and initiatives should protect and promote the rights of older persons.

Conclusion: Lessons out of 2020 Cycle Analysis

While cities and local governments are a source for ideas and approaches to help the world reach the Goals of 2030 Agenda for Sustainable Development (2030 Agenda), their efforts are generally overlooked by key international, multilateral institutions. Cities are demonstrating just how impactful local innovation can be and how important engaging cities as partners in the "decade of acceleration and action" will be in order reach our collective 2030 agenda. Cities have embraced SDG 11, but they are, more importantly, going well beyond it. The challenges underpinning the 2030 Agenda are daunting, yet cities are innovating through institutional, political, cultural, and ecological inclusion and a "whole of society" approach to governance. This is a paradigm shift driven by local demands, forward-thinking leaders, and institutional changes resulting in public services and partnerships that are at once more agile and comprehensive in outlook and reach than ever before. Lessons from successfully implemented local innovation can help accelerate all SDGs. Urban innovation lessons for SDGs under review this year at the 2021 HLPF can be summarized as follows:

Cities have embraced SDG 11, but they are, more importantly, going well beyond it to envision paradigm shifts driven by local demands, forward-thinking leaders, and institutional changes resulting in public services and partnerships that are at once more agile and comprehensive in outlook and reach than ever before.

1. Governance for the 21st Century: Horizontal and Vertical Partnerships and Collaboration

Traditional and siloed approaches to entangled social, economic, and environmental problems are not sufficient to reach the goals of Agenda 2030. All actors, including cities, need to embrace innovative thinking and seek out new strategies that have the potential to address multiple goals simultaneously. Fortunately, there is no shortage of promising and innovative initiatives emerging from cities that serve issues central to the SDGs. Cities are innovating through institutional, political, cultural, and ecological inclusion, and more deliberate approaches to equitable, agile, and transparent forms of governance including new ways to collaborate with civic and private partners.

To accelerate and scale up initiatives, the way forward is to place a premium on innovation, communication, and networks that can help other cities replicate and adapt successful programs to their respective local conditions. National and local leaders, as well as practitioners and civic groups should encourage one another to innovate, speak and learn from one another, and consider how successful policies honed elsewhere can be applied locally. City networks such as the UCLG, Metropolis, C40, ICLEI and the leadership of Guangzhou are intensely focused on expanding their city-to-city communication networks and education platforms to help cities learn from one another quickly and effectively.

In the context of the SDGs, effective and replicable innovation has less to do with new technology, than with governance and a social fabric that embraces new ideas, experimentation, and more broadly, change. Accomplishing many of the SDGs require system-wide paradigm shifts, and acceleration places even more urgency on calls for innovation, even as communities are reeling from the impacts of the pandemic. Yet cities and local governments are rising to the challenge, laying new groundwork and public support for building innovative institutional and governance models that match the needs of the 21st century. Consequently, greater attention is needed to identify and support opportunities to strengthen institutions, as well as the array of actors that can help accelerate and scale up the localization of approaches to the SDGs. While city-to-city cooperation is growing, new urban governance models and innovation capacity also needs the support of and integration with national governments.

In their survey of voluntary local reviews between 2016 and 2020, UCLG classified nations based on local and regional government involvement in their respective Voluntary National Review processes. When compared to those classifications, nearly all Guangzhou Award applicants came from countries with “strong” coordination efforts, with the implication that not only are those cities more aware of SDGs and the need for innovation, but that local opportunities to innovate may be greatly facilitate when coordinated with supportive national agencies.

A focus on urban innovation and localized efforts to address the SDGs and tackle crises like the COVID-19 pandemic generates a range of lessons on innovation for national, regional, and local governments alike. Some of the lessons learned over the past few years since the adoption of Agenda 2030 include:

2. Cities are Taking a Measure of the SDGs

The saying “you can’t improve it if you don’t measure it” is part the foundation of good governance and critical to the advancement of the SDGs. While the SDGs represent the efforts and aspirations of national governments to usher in a more socially, economically, culturally, and environmentally sustainable century, it is clear that cities can be leaders in monitoring our progress toward the SDGs and active participants in their achievement.

The value of a data reporting platform such as the one in Los Angeles, United States or voluntary reviews like ones performed by New York City, Cape Town or Buenos Aires is in the promotion of city commitment to gathering SDG-related data and inspiring a new way to track progress towards the SDGs. Cities that do commit to work toward the SDGs also understand that organizational changes are required within local government. This includes restructuring and redirecting agencies and departments to think more comprehensively about their missions and to work more collaboratively. Increasing capacity and cooperation help innovation build on itself, creating natural momentum towards the SDGs.

To accelerate innovation national governments should embrace city-driven initiatives in service of the SDGs and take measures to build strong multi-level governance linkages that connect localized efforts to national goals.

3. Cities are Increasing Health and Well-being

Open digitalization of citizen engagement and participation can be an effective, affordable, and replicable tool to achieving local implementation of city and regional health objectives, particularly when transparency and accurate communication are critical for managing systemic stresses like poverty, food security, and health.

A city’s capacity to understand the physical, social, and economic shocks and stresses across all their sectors (resiliency planning) and harness multi-sector responses to act on innovative ideas is a critical safeguard against threats to public health and should be encouraged. This includes recognizing the enormous potential and power of women-led initiatives to reduce poverty, end hunger, and increase their families’ well-being.

The COVID-19 pandemic demonstrates how few of the challenges outlined in the SDGs respect or limit themselves to political boundaries and how quickly health crises can cascade rapidly to affect basic infrastructure and services delivery at the local level. Having strong

channels for city-to-city exchange is an effective way of spreading innovative ideas quickly and fostering dialogue and collaboration.

Equitable health responses that reduce poverty, increase food security and reduce disease vectors rely on local coordination with state and central governments. Central government must provide adequate funding and may be better placed to develop technical solutions, but local expertise, networks, and awareness are critical to fast effective delivery that engage with and reach all segments of society.

4. Cities are Ensuring Sustainable Economic Growth and Consumption

When enabled by national and local legal frameworks, cities can be encouraged to leverage land-based forms of innovative financing, such as land value capture, to ensure that the burdens and benefits of urban development are equitably shared by the public and private sectors.

Transforming economic models can start with cities. Innovative approaches to the circular economic model can be successfully kick-started at the local level. For cities in the Global South, a critical entry point to the circular economy lies in recognizing and integrating the informal economic sector and settlements into development and production schemes for all.

Projects like Cape Town's Western Cape Industrial Symbiosis Program (WISP) also demonstrate the continuing need to accelerate city-to-city knowledge sharing and value of multi-sector collaboration. Cape Town adapted a formal economic model from the UK into one that builds a network that included informal members. This iterative innovation can now be used and adapted by other cities with similar informal economies.

5. Cities are Protecting the Climate and Environment

Initiatives such as Breda's Green Quays demonstrate that technical solutions are most sustainable when supported by innovative approaches that create strong social and cultural buy-in; whether from co-designing public spaces, supporting fiscal investment, or changing behaviors that ensure innovative solutions have time to take root, innovative technological solutions need the support of local communities.

Ecologically sustainable development requires bottom-up and top-down inter-governmental dialogue and local capacity building. The complexity of challenges posed by climate change needs local adaptation strategies and central government support for urban capacity to plan and manage metropolitan-scale projects. The capacity to capture and demonstrate measurable benefits such as emissions reductions and community satisfaction is an important step in building replicable and sustainable change.

As cities, particularly informal sectors, confront the stresses of rapid growth, the failure to manage water, sanitation and hygiene infrastructure is now a health and environmental crisis for over 4.5 billion people worldwide. Technological solutions exist but need to be accompanied with innovative governance and inclusive service delivery models to create lasting change and healthy water systems.

Community programs that invite and engage different generations within a community to share stories, lessons and aspirations for the future and their relationship with their natural surroundings are an effective model for shifting behaviors that damage critical ecological and climate resources. It can also promote cultural values that place an emphasis on preventing or mitigating climate change.

6. Cities are Building Just and Inclusive Societies

Local governments are proving that innovative ideas which increase civic participation and engagement improve the resilience and inclusiveness of their communities. Despite not yet being a political voice, engaging youth in civic programs shapes inclusive democratic processes and participatory governance that can push SDGs forward for the coming generation.

As societies grow healthier and average age increases, inclusive institutions also look for new ways to accommodate the needs of aging populations to ensure no one is left behind. Cities are developing and implementing policies with the full human life course in mind. SDGs acknowledge that aging cuts across all 17 SDGs and that initiatives should protect and promote the rights of older persons.

A Postscript from the Editor

Attaining the Global Agendas, and the SDGs in particular, requires an unprecedented effort in bringing successful solutions to scale. Going to scale requires an enabling policy and legislative environment. It also requires innovation on multiple fronts involving a wide range of actors and stakeholders. Innovation, however, does not come naturally to most institutions. A key ingredient to innovation is change – and change is often equated with risk. What we have tried to do with this paper is to look closely at 50 regionally representative peer-reviewed urban innovations in order to unpack the reasons for their success and to extract lessons learned going forward. This sample includes small cities as well as large metropolitan regions.

The Guangzhou Award exemplifies urban innovation as change in policies, strategies, business models, partnerships, and the use of technology.

What we have discovered from the analysis of these peer-reviewed initiatives is that these changes need to be accompanied by other factors to attain the required outcomes at the required pace and scale. These factors include:

1. Putting people first: This cannot be emphasized enough. For far too long all tiers of government and industry have focused their attention on key performance indicators (KPIs). Rarely have these KPIs been developed in conjunction with the people and communities concerned. This has led to a pursuit of so-called cost-efficiencies and cost-effective solutions that have become the bane of existence of inhabitants worldwide when it comes to solving problems that often require a simple solution. The “simple solution” takes on a whole new meaning if it does not fit into the purview, mandate or mission of a given agency. Putting people first implies that all agencies responsible for delivering public goods and services are ready to listen, hear and act “as one” accordingly;

2. Local leadership: leadership in local government appears in all cases as a critical contributing factor. Local government needs to be in driver’s seat to sustain and bring to scale not only its own initiatives but also bottom-up and community-led initiatives. Local government also needs to be in driver’s seat to initiate and sustain long-lasting changes to consumption and production patterns. The pursuit of the circular economy will depend to very large extent on how cities, metro-regions and their rural hinterlands act as one. But local government cannot act alone and it needs to recognize leadership and product champions at all levels. This form of engagement goes beyond participation. It is about empowering people, communities and industry to strengthen and sustain change through co-ownership, co-creation and building trust;

3. Towards a systems approach: the majority of the urban innovations reviewed in this paper are tackling several SDGs concomitantly. This is not just because the SDGs are mutually reinforcing, it is a conscientious effort by leading-edge local governments to bridge or break down silos and “business as usual” practices. Local governments and their community-based and industry partners are beginning to realize the benefits of leveraging human, technical and financial resources across sectors and jurisdictions. In short, competition is good but collaboration is even better. The COVID pandemic has had, in many instances, the benefit of making local governments and their partners realize that the old way of doing business is not only inadequate to meet existing and new challenges, but that the logic behind “business as usual” and the “silo approach” to management and governance is partly to blame for the not addressing, or even exacerbating, social and economic inequities and lack of environmental sustainability;

4. In pursuit of what is right: Last but not least, a key take away from our analysis is the need to do the right thing. The COVID pandemic has brought to the fore long lasting gaps in equality and equity when it comes to access to health and welfare services, to caring for the elderly and the urban poor. It has shown that our pursuit for efficiency has undermined in many cases our effectiveness. It is re-

freshing to note that some cities took these challenges seriously and went out of their way to protect the most vulnerable in our society. Accelerating the attainment of the SDGs and the Global Agendas will require, in addition to all that has been said in this report and others, that we share collectively our knowledge, expertise and experience in meeting current and future challenges in an unprecedented manner and that we apply them not only for our own benefit but for the benefit of others.



Appendix I.

The 5th Guangzhou Award, 2020 Shortlist Cities

(alpha-ordered by Country/Region)

For further details: <http://www.guangzhouaward.org/>

No.	City/Local Government	Initiative
1.	City of Unley, Australia	Cohousing for Ageing Well – Designing Urban Infill for Ageing in Place
2.	Vienna, Austria	Werkstadt Junges Wien
3.	São José dos Pinhais, Brazil	Digital Technology and Social Participation in Surveillance and Definition of Priority Areas and Act
4.	Chongqing, China	Innovative Emergency Solutions to the Pandemic Challenge for Urban Medical Wastes Diposal
5.	Capital Region, Denmark	Cycle Superhighways in the Capital Region of Denmark
6.	Quito, Ecuador	Eco-Efficiency Tool for the Metropolitan District of Quito
7.	All 114 Urban Local Bodies (ULBs) of Odisha, India	The Urban Wage Employment Initiative – Reducing Vulnerabilities and Enhancing Resilience
8.	Berhampur, India	Promoting Sustainable Environment Conservation and Women empowerment through Faecal Sludge and Septage Management (FSSM)
9.	Bandung City Government, Indonesia	The Roles of Public Health Service through OMABA Cooking Centre for Managing Malnourished and Stunting Children
10.	Union of Dannieh Municipalities, Lebanon	Engaging the Citizen to be Part of the Emergency Response Plan to Fight against COVID-19
11.	Municipality of Antananarivo, Madagascar	Building Resilience in the City Food System of Antananarivo through Adapted Production Systems
12.	Breda, Netherlands	GreenQuays-Urban River Regeneration through Nature Inclusive Quays
13.	Departmental Council of Saint Louis, Senegal	Inter-municipal approach for the safeguard and enhancement of the Mangrove by the Local Authorities
14.	City of Cape Town, South Africa	Western Cape Industrial Symbiosis Programme (WISP) delivered by Green-Cape
15.	Los Angeles, United States of America	Open-Source Tools for Action on the SDGs

Appendix II: The 5th Guangzhou Award, 2020 Deserving Initiatives

(alpha-ordered by Country/Region)

For further details: <http://www.guangzhouaward.org/>

No.	City/Local Government	Initiative
1.	Buenos Aires, Argentina	'BOTI' The WhatsApp chatbot of Buenos Aires City
2.	Buenos Aires, Argentina	Buenos Aires' Barrio 3I Social & Urban Integration Plan
3.	Rosario, Argentina	Alliance for Local Food Policy Transformation in the Post-Pandemic World
4.	Singra Municipality, Bangladesh	Promoting e-Rickshaws as Public Transport and e-Ambulance for Emergency Health Supporting Services
5.	Bogota City, Colombia	Bogotá's Temporary Cycle-tracks Strategy is Contributing to Face the COVID19, Fostering Bike Usage as a Social Distance Instrument
6.	Curridabat, Costa Rica	Curridabat, Sweet City: A Model of Urbanism Based on Pollinators and Ecosystem Services
7.	Trinidad, Cuba	Local Development from Creative Economies
8.	Copenhagen, Denmark	Copenhagen Cloudburst Management Plan, Managing Heavy Rains and Stormwater in Copenhagen
9.	Aswan, Egypt	City of Development, Creativity and Renewable Energy
10.	Paris, France	The Oasis Schoolyard Project
11.	Senate of Berlin, Germany	Easy-to-access Information Strategy on the Corona Virus for Refugees and Immigrant Communities in Berlin
12.	Puri Municipality, India	DRINK FROM TAP MISSION – Pure for Sure Drinking Water Delivered to Each Home 24X7
13.	Tehran Municipality, Iran	Preparation of Neighbourhood Risk Mitigation Plan against Natural Hazards
14.	Netanya, Israel	A Breakthrough City that Serves as an Example to Many Local Authorities When it Comes to Urban Innovation
15.	Yokohama, Kanagawa, Japan	SDGs Future City Yokohama
16.	Changwon City, Korea (Republic of)	Green Hydrogen City of Changwon, the New Hydrogen-centred City of Changwon)
17.	City of Suwon, Korea (Republic of)	Smart Rain City Suwon
18.	Goyang City, Korea (Republic of)	The 'world first innovation' series of Goyang city to respond to COVID-19

19.	Jeonju, Korea (Republic of)	COVID-19 Reaction Policy of Jeonju
20.	Songpa-gu, Korea (Republic of)	Smart Doctor
21.	Guadalajara, Mexico	Metropolitan Agency for Urban Forests of the Metropolitan Area of Guadalajara (AMBU)
22.	Conseil Régional de l'Oriental, Morocco	Territorial Coaching Program: Accelerator of Change at the Service of Citizens
23.	Kerkrade, Netherlands	Super Circular Estate
24.	City of Gdynia, Poland	Gdynia: The Learning City at Home. Municipal Institutions and Units in Contact with Gdynia's Citizens
25.	Departmental Council of Kaolac, Senegal	Moving from a poor and neglected economic sector to a renewed and development promoting sector
26.	Tivaouane, Senegal	Preservation of an agricultural environmental Promotion of sustainable and decent employment for young people
27.	Gauteng Provincial Government, South Africa	Quality of Life in the Gauteng City-Region: a partnership-based data approach to understanding Quality of Life and well-being
28.	Gaziantep Metropolitan Municipality, Turkey	Oğuzeli Central Biogas Power Plant
29.	Kahramanmaraş Metropolitan Municipality, Turkey	Smart Elder Care System (YADES)
30.	Dubai, United Arab Emirates	Role of Dubai Municipality in Mitigating Impact of COVID-19 Pandemic via Artificial Intelligence



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