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第五届广州国际城市创新奖入围城市案例调研报告

广州国际城市创新研究会 编

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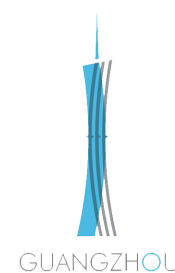
第五届广州国际城市创新奖 入围城市案例调研报告

Learning From the 5th Guangzhou International Award
for Urban Innovation

广州国际城市创新研究会 编

Edited by Guangzhou Institute for Urban Innovation

- 城市创新加快实现可持续发展目标
- Catalyzing SDGs Through Urban Innovation



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序 I

Foreword I

2012年，广州国际城市创新奖（下称“广州奖”）由广州市与世界城市和地方政府联合组织（UCLG）、世界大都市协会共同创设。十年来，广州奖致力于表彰全球城市创新优秀实践和推动全球城市可持续发展，至今已成功举办五届，累计收录全球1 361个治理创新案例，覆盖近100个国家和地区的580多个城市，获得联合国人居署等国际组织的高度认可与支持，已成为全球地方层面推动实现联合国可持续发展目标、落实《新城市议程》的重要平台。

第五届广州奖在全球疫情背景下举办，共收到来自全球60个国家和地区的175个城市的273个项目申报。从这些申报项目中，可以看出，危机与挑战并没有阻止我们前进的步伐，而是让全球城市更加坚定地改善治理以有效应变，推动可持续发展以主动求变，保护生态环境以积极防变。

广州作为人口超千万的特大城市，始终坚持践行创新、协调、绿色、开放、共享的新发展理念，推动绿色发展，建设美丽广州。同时也积极参与全球城市治理，倡导城市治理和城市创新

The Guangzhou International Award for Urban Innovation (Guangzhou Award) was co-hosted by the United Cities and Local Governments (UCLG), the World Association of the Major Metropolises (Metropolis) and the City of Guangzhou in 2012. Over the past decade, the Guangzhou Award has been recognizing cities for their outstanding urban innovation practices, while promoting sustainable urban development around the globe. With successful five cycles, Guangzhou Award has received a total of 1 361 initiatives from more than 580 cities in over 100 countries and regions. It is highly recognized and supported by international organizations like UN-Habitat as an important platform to accelerate the implementation of Sustainable Development Goals (SDGs) and the New Urban Agenda at the local level.

Amid the global pandemic, the 5th Guangzhou Award received 273 initiatives from more than 175 cities in over 60 countries. From these initiatives, we can see that crises and challenges have not hindered our progress, but instead have made global cities more determined to improve governance and effective response, to promote sustainable development, and to preserve the environment.

As a megacity with more than 10 million inhabitants, the City of Guangzhou always gives priority to green development to build a beautiful Guangzhou, adhering to the new concept of innovative, coordinated, green, open, and shared development. At the same time, Guangzhou also actively participates in

方面的交流互鉴与务实合作，加快落实2030年可持续发展议程。

广州市积极优化公共服务供给，打造全龄友好型城市，建设更高水平健康城市；推进超大城市治理现代化，强化规划引领，推进城市更新，改善人居环境；厚植绿色生态本底本色，发展绿色产业，创建绿色城市，加快生态绿色低碳转型。

未来，我们希望继续通过广州奖平台，积极落实全球发展倡议，分享发展经验，共享发展成果，促进全球城市治理创新交流合作，推动全球城市治理现代化，实现全球城市共同发展、可持续发展、包容性发展。

詹德村

广州市人民政府外事办公室主任
世界大都市协会亚太区秘书长

global urban governance, and advocates exchanges, mutual learning, and practical cooperation among cities in urban governance and innovation, accelerating the implementation of the 2030 Agenda for Sustainable Development.

Guangzhou is taking the initiative to provide higher-quality public service and build a healthier and more friendly city that cares for all age groups. It is modernizing the governance in the megacity and optimizing planning as a driving force for urban renewal and a better urban living environment. It is also preserving its ecological environment by developing green industries and building a green city that accelerates the ecological and low-carbon transformation.

In the future, through the platform of Guangzhou Award and by implementing the Global Development Initiative, we hope to continue sharing lessons-learned and achievements of innovative urban development and contribute to the cooperation and dialogues in the pursuit of better urban governance through innovation, achieving common, sustainable, and inclusive development for all cities around the world.

Zhan Decun

Director General of Guangzhou Foreign Affairs Office
Metropolis Regional Secretary for Asia and the Pacific

序 II

Foreword II

在过去的一年，我们遭遇了全球性危机，这些危机在地方层面上有着重大影响。城市化时代的高速发展日新月异，也为应对当前和未来的挑战提供了良机。世界城市 and 地方政府联合组织（UCLG）将始终站在最前沿，推动城市发挥积极作用，通过携手努力，实现2030年可持续发展议程这一共同目标。

广州国际城市创新奖由世界城市 and 地方政府联合组织、世界大都市协会和广州共同主办，至今已举办五届，是共同努力实现2030年议程的先锋力量。广州奖是一项大胆而又鼓舞人心的实践，更是大家携手努力的成果。城市创新实践中不乏采用基于自然的解决方案的案例，这些案例通过推动建设绿色、包容和有韧性的城市来改变我们与环境的关系。

当下，多边合作比以往任何时候都要重要，广州奖将我们聚集在一起，突出强调经验交流、城市合作、能力建设和开发创新学习工具的重要性，因此我们不能落下任何一个参与其中的城市。

广州奖为学习创新方法提供机会，帮助城市解决相似问题、改善服务供应

This past year has confronted us with global crises that have major implications at the local level. The urban era, with the changes associated with its rapid development, offers opportunities to address current and future challenges. United Cities and Local Governments (UCLG) has been, and continues to be, at the forefront to promote the instrumental role of cities, by working together, in achieving the common goal of the 2030 Agenda for Sustainable Development.

The Guangzhou Award, jointly held by UCLG, Metropolis, and Guangzhou for the fifth cycle, ranks high among these common efforts. The prize is a bold and encouraging practice of joint endeavors, with innovative urban governance practices appealing to nature-based solutions that transform our relationship with the environment by promoting green, inclusive, and resilient cities.

At a time when collaboration at the multilateral level is most relevant than ever, the Guangzhou Award brings us together, stressing the importance of lessons learned, city-to-city collaboration, capacity-building, and the production of innovative tools for learning, so no single participating city must be left alone.

Guangzhou Award is an opportunity to learn alternative ways of solving alike problems, improving service provision,

和打造宜居城市。广州奖让我们在合作中相互学习，该奖项不仅向世界展示了广州，还将广州等创新城市塑造为在全球范围内学习和分享知识，为今世和后代创造福祉，推动国际视野和全球团结的有力案例。

第五届广州奖将成为利用基于自然的解决方案进行城市创新的指路明灯，也将成为全球各地世界城地组织会员的灵感源泉。毫无疑问，我们现在面临着全球性挑战，只有通过多边合作、共担责任和抱着坚韧乐观的态度才能找到解决方案。广州为塑造更美好的世界指明了前进的方向。

艾米莉亚·塞兹
世界城市 and 地方政府联合组织秘书长

and making cities more liveable for our communities. As we learn from each other out of collaboration, this Prize not only presents Guangzhou to the world, but is also a powerful case of the international vision and worldwide solidarity driven by inspiring cities such as Guangzhou, ready to learn and to share knowledge in an international community of practice for the benefit of present and future generations.

This cycle will serve as an important beacon for nature-based solutions for urban innovation, and an inspiring source for the UCLG membership around the world. As the challenges we face today are indisputably global, solutions are only to be found through multilateral collaboration, shared responsibility, and resilient optimism. Guangzhou shows the way forward for a better world.

Emilia Saiz
Secretary General of UCLG

序 III

Foreword III

城市一直都是创新的策源地。人才、联结、协作的聚集，构成一套适宜的城市系统，同时大型都市圈面临的固有难题也激发了创造性思维。如今，城市人口已经占到世界总人口的一半以上，气候危机席卷全球，城市创新对于应对联合国可持续发展目标中包含的人类主要挑战至关重要。

在过去的十年中，广州奖一直致力于让全世界范围内的人们认可大都市和城市创新的价值。此外，广州奖还搭建了一个宝贵的城市创新项目库，为全球所有城市提供了范例、基准和灵感。因此，地方层面构思和实施的切实可行的解决方案，可以产生远超现有规模的巨大的影响力，也可供其他地区借鉴学习。

然而，创新本身并不是目的，只有当它能够对人类生活和地球健康产生积极影响时，它才有意义。影响既需要是系统性的，也是需要是非常具体的。本调研报告关注的正是广州奖入围城市案例带来的切实影响及其借鉴意义。

本调研报告评估了各大洲的城市提

Cities have always been spaces of innovation. The concentration of talent, connections and collaboration provides the right ecosystem, while the difficulties inherent to large agglomerations become incentives for inventive thinking. Nowadays, with more than half the World population living in cities, and the climate crisis in full swing, urban innovation has become vital to face the main challenges of humanity, included in the United Nations' Sustainable Development Goals.

In the past decade, the Guangzhou Award has given public international recognition of the value of metropolitan and urban innovation. More than that, the Guangzhou Award has created an invaluable repository of creative initiatives that can serve as examples, benchmarks and inspiration to cities around the world. Practical solutions conceived and implemented at the local level can thus multiply their impact well beyond the metropolises where they started and become resources for others.

Innovation, however, is not an end in itself, and it is only meaningful if it can have positive impacts on the lives of people and the health of our planet. Impact needs to be both systemic and, also, very concrete. This report by the Guangzhou Institute for Urban Innovation focuses precisely on the tangible impacts of urban innovations recognised by

出的解决方案的系统性影响和全球范围内的借鉴意义。同时，读者将在报告中看到市民的真实故事，这些市民都受到项目的直接影响。瑞萨（Resa）克服了营养不良的问题，现在在印度尼西亚万隆快乐地踢足球；米（Mie）在丹麦哥本哈根安全地骑自行车上班；罗桑德拉（Rosângela）通过观察巴西库里蒂巴都市区附近的自然环境，帮助避免了黄热病的暴发；路易（Louis）的公司在南非开普敦的循环经济中蓬勃发展。

本调研报告中的故事和对案例的分析是学习和灵感的重要来源，也体现了广州奖的重要性。世界大都市协会很荣幸能从一开始就共同承办这一奖项。我希望城市管理者 and 居民能够通过阅读本调研报告和案例分析，从中受到启发，探寻属于自己的创新解决方案，筑造城市和大都市的美好未来。

乔尔迪·巴克尔
世界大都市协会秘书长

the Guangzhou award, and on learning from these initiatives.

This timely report assesses the systemic impacts and global relevance of the solutions created by cities on all continents. At the same time, the reader will find in it the real stories of individuals directly impacted by them. People like Resa, who overcame problems of malnutrition and now plays football happily in Bandung (Indonesia); Mie, who cycles safely to work in Copenhagen (Denmark); Rosângela, who helped avoid a yellow fever outbreak through her observations of nature near Curitiba (Brazil); or Louis, whose company thrives in the circular economy in Cape Town (South Africa).

The stories and the analysis contained in this report are great sources of learning and inspiration. They are a tribute to the importance of the Guangzhou Award, which Metropolis is honoured to co-host from the beginning. I hope in reading this report and the case studies, city managers and dwellers will be inspired to look for their own innovative solutions for a better urban and metropolitan future.

Jordi Vaquer
Secretary General of Metropolis

广州国际城市创新奖（下称“广州奖”）入围城市案例调研报告通常由专家、学者和媒体专业人士前往各个城市或地区进行实地考察后完成。但由于新冠肺炎疫情影响，第五届的实地考察难以进行。因此，我们特地邀请了专门关注城市事务的记者兼自由作家格雷戈里·斯克鲁格斯（Gregory Scruggs），对15个城市创新优秀案例中的主角和利益攸关方进行了专访。

以下是第五届广州奖评选过程的简要回顾。2020年12月，独立专家技术委员会对273个第五届广州奖申报项目进行了初评。项目覆盖全球60个国家和地区，共有175个城市参与评选。技术委员会从中遴选出45个专家推荐城市，再在45个城市中选出15个入围城市。15个入围城市接受了同行评审，受邀参加于2021年11月举办的广州奖入围城市答辩会，向观众展示各自的创新案例。独立评审委员会的成员也参与其中，并在答辩会后通过独立评估选出5个获奖城市。

第五届广州奖入围城市案例调研报告的目如下：第一，报告为广州奖评审委员会成员提供额外视角和补充信息。第二，报告以及各城市的原始申报实践和在答辩会上的展示，为广州国际

Under normal circumstances, this collection of peer review reports would have been undertaken by different experts, scholars and media professionals, traveling to different cities or regions. However, owing to the COVID-19 pandemic, this was not possible. We therefore asked Gregory Scruggs, a journalist and freelance writer specialized in urban affairs, to interview the protagonists and, where possible and available, the stakeholders involved in these fifteen outstanding initiatives in urban innovation.

Just a quick note on the process for the 5th cycle (2020) of the Guangzhou Award. All of the 273 submissions received from 175 cities and 60 countries and territories for the 5th cycle of the Guangzhou Award were assessed by an independent Technical Committee of experts in December 2020. This committee came up with two lists—a list of 45 deserving initiatives and, from those 45, a shortlist of fifteen. All fifteen shortlisted cities were then subject to the peer review, and were also invited to the Guangzhou Seminar on Learning from Urban Innovation (November 2021), where each of the cities presented their initiative to a large audience. Embedded in the audience were members of an independent Jury who decided after the seminar and in closed-door deliberations on the five award-winning initiatives.

This peer review report has served and continues to serve several purposes. First, it provides members of the Jury of the Guangzhou Award with an additional perspective and supplementary information. Second, the report, together with the original submissions and the presentations that each

城市创新研究会及其合作伙伴开展案例研究、分析最新趋势、发现问题、吸取经验提供基础资料。例如，《第五届广州奖地方执行可持续发展目标报告》在2021年联合国可持续发展问题高级别政治论坛举办期间发布。第三，报告有助于广州国际城市创新研究会及其合作伙伴将知识、专长和经验的供给与需求相匹配，以支持全球议程，尤其是可持续发展目标和《新城市议程》的实施。

欢迎将本报告用于研究、宣传和能力建设活动，并提供反馈意见。

游建华（编者）

广州国际城市创新研究会执行主任

of the cities made during the seminar, provides the basis for the Guangzhou Institute for Urban Innovation and its partners to develop case studies, analyzes emerging trends and issues and lessons learned. One such report is: “The 5th Guangzhou Award Report on Local Implementation of SDGs” released during the 2021 UN High-level Political Forum on Sustainable Development. Third, the report helps the Institute and its partners to match supply with demand for knowledge, expertise and experience in support of the implementation of the Global Agendas—most notably the Sustainable Development Goals and the New Urban Agenda.

Please feel free to use this material for your own research, advocacy and capacity building activities, and please let us have your feedback.

Nicholas You (Editor)

Executive Director

Guangzhou Institute for Urban Innovation

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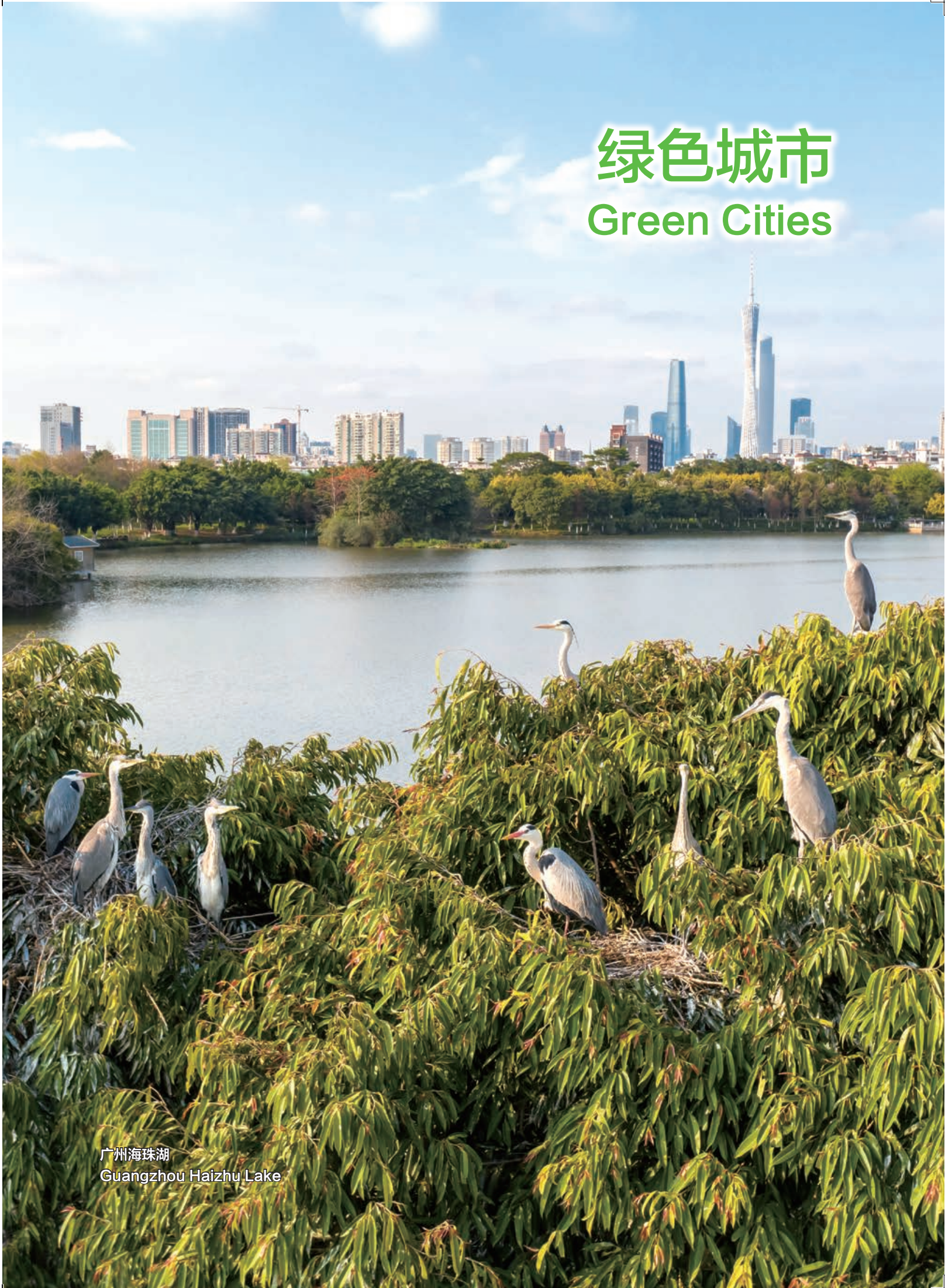
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绿色城市
Green Cities



广州海珠湖
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Capital Region, Denmark:

Cycle Superhighways in Capital Region of Denmark



在年轻的时候，米·阿勒斯特德（Mie Allersted）选择居住地时有两个主要标准：最近的超市有多近？最近的酒吧有多近？但当现年41岁的阿勒斯特德遇到她的丈夫并有了三个孩子后，她的标准发生了变化。

When Mie Allersted was younger, she had two main criteria when selecting a place to live in: How close was the nearest supermarket, and how close was the nearest bar? But once Allersted, now 41, met her husband and had three children, her priorities changed.

“我们希望有更多的空间，”她说，“我们现在正在寻找有托儿所、学校、儿童游泳场所、接近大自然和往来车辆较少的地方。”

即便在六年前，阿勒斯特德准备举家迁往离她工作的银行不太远的郊区，她也不想改变自己在哥本哈根的出行习惯。她说：

“我们从小就没有汽车，所以公共交通便利而且可以骑自行车去哥本哈根非常重要。这就是自行车超级高速公路的意义所在。我们住的地方离市中心有相当长的一段距离，所以这也是考虑的因素之一。”

阿勒斯特德所说的自行车超级高速公路，指的是丹麦在自行车基础设施方面的一项创新，即建造宽阔、笔直、平整的自行车道，且与公路保持良好的间隔，没有交叉区域。自行车高速公路跨越城市边界，将大都市各地区连接在一起，以方便长距离自行车通勤。

“We were looking for a little more space,” she said. “And we were now looking at where there are daycares, schools, swimming places for the kids, access to nature, and less traffic.”

But even as Allersted sought to move her family to the suburbs six years ago without straying too far from her compliance job at a Danish bank, she did not want to give up her mobility habits from Copenhagen. “None of us had grown up with having a car, so it was a very big priority that there was some public transport, and it was possible to get to Copenhagen by bike,” she said. “That’s where cycle superhighways enter the picture. There is a good stretch from where we live to the city center, so that was one of our considerations.”

By cycle superhighways, Allersted refers to a Danish innovation in cycling infrastructure to build wide, straight, smooth cycle paths well-spaced from roadways and without at-grade crossings. Cycle superhighways cross municipal boundaries and stitch together the metropolitan region in order to facilitate long-distance cycling commutes.



对于阿勒斯特德来说，这意味着她可以在50分钟内骑着电动自行车，从位于瓦勒瑟的家穿过另一个城郊，到达位于哥本哈根市中心的办公室，全程21千米。尽管在行程中，自行车超级高速公路部分占到了总路程的三分之二，但在高速公路上花费的时间与在市中心最后三分之一的路程所花时间相同，因为在市中心要等红绿灯。

阿勒斯特德刚搬到瓦勒瑟时，是乘坐公共交通工具上下班的。很快，她就改成了骑自行车上班、坐火车回家。但是有了三个孩子后，通勤变成了她每天唯一的锻炼机会。她发现骑车通勤所花的时间与坐火车差不多，不过在办公室洗澡、更衣要多花15~20分钟。

阿勒斯特德选择自行车超级高速公路的理由正是地方官员在2009年成立自行车超级高速公路办公室（下称“办公室”）时的想法。哥本哈根市确立了一个目标，即让一半的通勤者骑自行车出行。但作为大都市区的中心城市，官员们很快意识到，需要与周边城市合作。一位项目

For Allersted, that means she can traverse 21 km from her home in Værløse through another suburban town and to her office in central Copenhagen in 50 minutes on her electric bicycle. Even though the cycle superhighway portion of her journey is two-thirds of the total distance, she is able to cover that stretch in the same amount of time as the final one-third of her journey through the city center where she must wait at traffic lights.

When Allersted first moved to Værløse, she commuted by public transport. Soon she switched to biking one-way and riding the train home. But with three children, the commute turned into her only opportunity for daily exercise. She finds it takes about the same amount of time as traveling by train, although showering and dressing at her office adds an additional 15-20 minutes when she travels by bicycle.

Allersted's adoption of the cycle superhighway is precisely what regional officials had in mind when they established the Office of Cycle Superhighway in 2009. The city of Copenhagen already had a goal for half of all commuters to travel by bicycle, but as the central city of a larger metropolitan region, officials quickly realized they needed to work with surrounding municipalities. The effort



经理承担了这项工作，工资由哥本哈根市负责。这位经理负责协调周边15个城郊的主干道和高速公路沿线的自行车超级公路。

随着自行车超级高速公路的推广，这个想法越来越受欢迎。早期的成功让人们产生了另一种认识。“我们不仅需要连接哥本哈根内外的各大城市，还要连接整个地区，”办公室负责人西德尔·伯克·胡勒尔（Sidsel Birk Hjuler）说，“这就是整个网络的发展过程，我们最终实现了与30个城市的互联互通。”

办公室的全职员工后来增加为五名。丹麦首都大区地区政府为该项目拨款300万丹麦克朗（约合49.2万美元），各市人均自愿捐款总额为150万丹麦克朗（约合24.6万美元）。办公室位于哥本哈根市，该地区最先进的自行车基础设施技术专家大多仍居住于此。

started with a single project manager whose salary was paid by the City of Copenhagen and who coordinated cycle superhighways along arterial roads and highways in 15 surrounding suburban municipalities.

As the cycle superhighways began to roll out, the idea gained traction. That early success led to an additional realization. “We also need to connect our municipalities not only in and out of Copenhagen, but also across the whole region,” said Head of Office Sidsel Birk Hjuler. “That’s how the network evolved and how we ended up with 30 municipalities.”

The office subsequently grew to five full-time employees. The Capital Region of Denmark, a regional government, contributes 3 million DKK (US\$492,000) and the municipalities voluntarily contribute per capita for a total contribution of 1.5 million DKK (US\$246,000). The office resides in the City of Copenhagen, which remains home to the region’s foremost technical expertise on cycling infrastructure.

截至2021年，该项目已建成174千米自行车超级高速公路，共有9条路线，旨在在该地区建设超过850千米高质量的自行车超级高速公路。办公室主要考虑单程通勤范围在5~30千米的长途通勤者，平均通勤距离为11千米。

布莱恩·迪根（Brian Deegan）是英国公司城市运动（Urban Movement）中的步行和骑行技术总监，他说：“丹麦的自行车超级高速公路是一项惊人的成就。能在如此长的距离内达到如此高的质量，真是令人难以置信。”

办公室的工作是对具有不同财政状况的城市进行协调。办公室已经为所有自行车超级高速公路争取到了国家政府资助，也期待地方政府对其提供资助。伯克·胡勒尔说：“城市明白建立区域网络的重要性，但他们也要考虑地方预算。如果连当地学校都破败不堪，那争取建设区域性的自行车道就很困难了。”

办公室的30个城市成员之间存在着巨大的差异，有拥有强大税基的富裕郊区，也有最偏远的海尔斯半岛，那里有许多避暑胜地，但几乎没有税基来支持基础设施建设。办公室面临的挑战是如何让骑手感受不到这些差异。伯克·胡勒尔说：“我们希望自行车超级高速公路保持连贯一致，这样通勤者就感觉不到不同城市之间的差异了。”

迪根强调了这点：“关键的创新点在于能够在不同的条件下保持自行车路线的连贯性，所有骑手又都能一眼识别出其共性与特色，这一点值得最高褒奖。”他还提到，自行车超级高速公路的维护标准特别高。“办公室雇用了自行车运动员持续监测道路网络，报告一切微小的道路表面缺陷，这为自行车基础设施提供了世界最佳的服务水平。”

As of 2021, there are 174 km of cycle superhighways across nine routes with an eventual goal of 850 km. The office considers long-distance commuters those who travel between 5 and 30 km one-way, with the average distance 11 km.

“The Danish Superhighways are an amazing achievement,” said Brian Deegan, Technical Director for Walking and Cycling at the UK firm Urban Movement. “It is incredible how they can achieve such high quality over such long distances.”

The Office of Cycle Superhighway’s job is one of coordination between municipalities with different fiscal situations. While the office has secured funding from the national government 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,” Birk Hjuler said. “It can be very tough to argue for a regional cycle lane when your school is falling apart.”

Among the 30 municipalities that participate in the regional office, there is a wide variation from affluent suburbs with robust tax bases to the most distant member, Halsnæs, which has many summer homes but little tax base to support the infrastructure. The office’s challenge is to make these political discrepancies invisible to the cyclist. “You want to be coherent and consistent so that no commuter can feel the difference from one municipality to the next,” Birk Hjuler said.

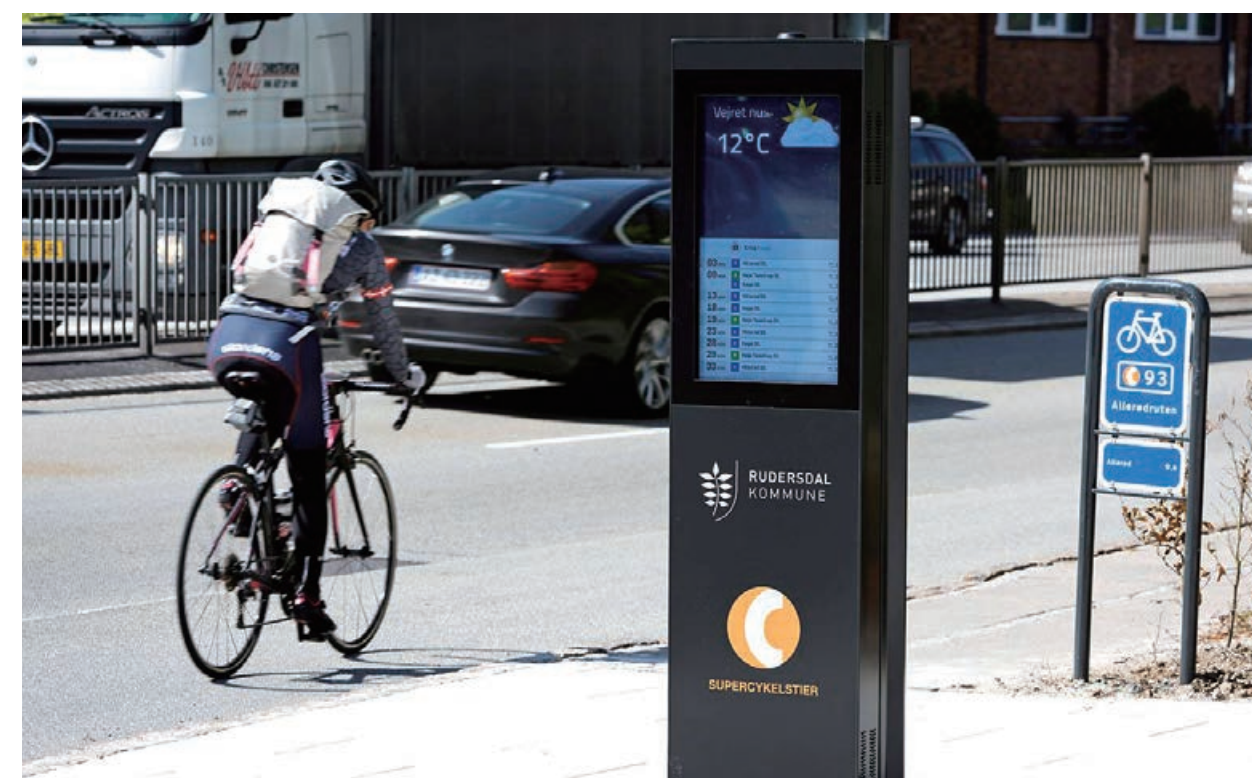
Deegan singles out this aspect. “The key innovation is that the cycle route continuity is maintained in different contexts and the approach and style is instantly recognizable by all users,” he said. “This is worthy of the highest praise.” He also noted the exceptionally high maintenance standards. “The office employs sporting cyclists to constantly monitor the network and report back any minor surface defects. This is a level of service unheard across the world when it comes to cycle infrastructure,” he said.

由于政治局势波云诡谲、预算成本反复波动，部分自行车超级高速公路需要长达八年的时间才能建成。早期有几个城市甚至退出了合作，但后来随着项目势头不断增强，他们又重新加入了合作。伯克·胡勒尔说：“这种合作的脆弱性和美妙性在于，没有什么能把这些城市捆绑在一起，但他们还是希望合作。”办公室也受地区政府管辖。地区政府每四年举行一次换届选举，下一次选举将于2022年11月举行，此后当选官员将制定新的预算方案。在之前的三轮预算中，办公室一直保留下来。

与此同时，自行车超级高速公路的概念不断推广。2021年，日德兰半岛东部和瑞典马尔默市周边地区也开始规划建设自行车超级高速公路，还有人开始讨论建立欧洲自行车超级高速公路网络。迪根认为，哥本哈根激发了伦敦建造自行车超级高速公路的灵感。为此，迪根公司多次前往丹麦进行技术考察。他说：“这对我们这些正在推动自行车出行的国家来说是一种鼓舞。”

Due to vagaries of politics and budget, some cycle superhighways have taken as long as eight years to complete. In the early days, a few municipalities even backed out of the collaboration, but later rejoined as the effort gained momentum. “Both the fragility and beauty of this collaboration is that nothing binds these municipalities together, but they want to collaborate,” said Birk Hjuler. The office is also at the whim of the regional government, which has elections every four years. The next ones will take place in November 2022 after which elected officials will set a new budget, though in the three previous budget rounds the office has always been renewed.

Meanwhile, the cycle superhighway concept is spreading. East Jutland began planning for a cycle superhighway in 2021, as did the Swedish region around the city of Malmö. There is talk of a European network of cycle superhighways. Deegan credited Copenhagen with inspiring London’s cycle superhighways, for which Deegan’s firm made multiple technical study trips to Denmark. “This is an inspiration to the rest of us in the bicycle developing world,” he said.





荷兰 布雷达： 绿色码头——基于自然包容性码头的 城市河流更新

Breda, Netherlands:

Green Quays—Urban River Regeneration Through Nature Inclusive Quays



近40年来，荷兰布雷达市六六民主党（D66）议员在每次议会会议结束时都会说一句同样的话：“我们认为港口和新马克河必须重新开放。”

For nearly 40 years, the city councilors in Breda, Netherlands who belonged to the D66 political party ended every council meeting with the same message: “We think the harbor and the River Nieuwe Mark have to be reopened.”

他所提到的港口和河流位于马克河和阿河的汇流处，布雷达也因此得名，在荷兰语中意为“宽阔的阿河”。新马克河及其港口曾经是布雷达钢铁工业的命脉，但随着二战后汽车产业的出现，城市发展的重心发生了改变。在20世纪50年代，城市领导人决定在原来的港口上铺路，并将河流改道，修建人工运河。1966年，布雷达成为欧洲第一个使用地下停车场的城市。

由于D66议员不断重复这一观点，后来这一观点逐渐成为了普遍共识。市政府新马克河日光化项目负责人罗尔·基尔（Roel Kiel）说：“在上世纪末，人们意识到他们在交通规划上有所失误。他们并不希望汽车出现在城市中心。”

2007年，坚持不懈的D66议员们终于如愿以偿。荷兰军方撤离了在港口沿线铺砌的一处设施，市政府也采取措施纠正了他们近60年来的错误。新马克河得以重见天日，自由地在布雷达的中心流淌。

基尔说：“对我们的城市来说，这件事有着特别的意义，因为我们不会每天都这样创造出一条新的河流。”十年来，布雷达的市民终于可以再次在新马克河的河畔漫步，市中心沿河的新住宅、酒店、咖啡馆和餐馆都蓬勃发展起来。小船可以停靠在港口，当地人可以在人造海滩上玩站立式冲浪板。街头生活和经济活动的增加减少了贩毒和市中心的暴力事件。

基尔说：“整个市中心的西侧又恢复了生机。”

但是，重新开放新马克河并不足以满足布雷达市民的需求，他们强烈要求市政当局为城市增加更多的自然景观。新马克河河道两旁都是石头码头，没有一株植物。39岁的多媒体设计师斯特夫·格德哈特（Stef Goedhart）就是批评者之一，他住在离河边几步之遥的地方。他说：“市

The harbor and river in question are the confluence of the Mark and Aa Rivers, which give the city its name: brede Aa, meaning the “wide Aa” or “broad Aa” in Dutch. The river and its harbor were once the lifeblood of Breda’s steel industry, but priorities changed with the advent of the automobile in the post-war era. In the 1950s, city leaders chose to pave over the harbor and divert the river to man-made canals. In 1966, Breda became home to Europe’s first underground parking garage.

With their constant refrain, the D66 councilors were early adopters of what later became a common attitude. “At the end of the last century, people realized they had made a planning mistake,” said Roel Kiel, project leader for the municipal effort to daylight the River Nieuwe Mark. “You don’t want cars in the city center.”

In 2007, the persistent councilors got their wish. The Dutch military vacated an installation along the paved harbor and the municipality moved to correct their nearly 60-year-old mistake. The River Nieuwe Mark saw daylight once again and began flowing freely through the center of Breda.

“For our city, it was a special thing to do because you don’t make a new river every day,” said Kiel. Over the decade since Breda residents could stroll the banks of the River Nieuwe Mark once again, the city center has blossomed with new residential properties, hotels, cafes, and restaurants along the river. Small boats dock in the harbor and locals recreate on stand-up paddleboards from an artificial beach. The increased street life and economic activity have diminished drug trafficking and city center violence.

“The whole west side of the city center came to life again,” said Kiel.

But uncovering the river was not enough to satisfy Breda residents, who clamored for more nature in the city. The typical Dutch waterway is lined by stone quays with nary a plant in sight. Stef Goedhart, a 39-year-old multimedia designer who lives walking distance from the riverfront, was one of those critics. “The city center is the

中心是夏天城里最热的地方，也是荷兰最热的地方之一。布雷达的城市绿化相当好，但也有很多石头，这就更需要打造绿化区。”

hottest place in town in summer and also one of the hottest places in Holland,” he said. “For a city, Breda is quite green, but there is also a lot of stone. There is more need to green up areas.”

市政厅清楚地了解到市民对更多绿化的诉求。基尔说：“因为人们批评这座城市石头太多，我们设计师的想法也随之改变了。我们开始募集资金，寻找设计合作

The call for more greenery was heard loud and clear at city hall. “When the city was criticized for too much stone, it changed the mind of our designers, and we searched for funding and design partners to help us



伙伴来帮助我们进行更加环保、更能适应气候变化、更具生物多样性的设计。”

因此，2018年，在布雷达空间规划部的支持下，“布雷达绿色码头”（Green Quays Breda）项目应运而生。市政机构与荷兰领先的技术大学代尔夫特理工大学（TU Delft）建立了合作关系，设计了可以让植被沿石墙垂直生长的码头。代尔夫特理工大学最终提出了一个设计方案，即在墙面上分层铺设板桩、混凝土和石头，而石头和混凝土之间的基质，可以滋养植物和种子。

with a greener, more climate-adapted and more biodiverse design,” said Kiel.

Thus was born the Green Quays Breda initiative in 2018 under the auspices of the Breda Department of Spatial Planning. The municipal agency forged a partnership with the Delft University of Technology (TU Delft), the country’s leading technical university, to design a quay that could accommodate vegetation growing vertically along the stone wall. TU Delft ultimately came up with a design that layers sheet pile, a concrete wall, and stones on the wall. There is a substrate between the stone and the concrete to nourish plants and seeds.



“这是一种思维模式的转变，这也是我们第一次不仅仅关注水，还把临水的墙壁视为潜在的新型垂直生态系统，”荷兰建筑评论家特雷西·梅茨（Tracy Metz）说，“和堤坝一样，典型的城市码头都是用砖砌成的硬质景观，传统的做法是让它们远离植被，以避免植物根系破坏堤坝内部和码头的结构完整性。”随着荷兰有着数百年历史的水利基础设施不断被淘汰，梅茨相信布雷达的创新在未来可以广泛应用于整个低地国家的公共工程。

这一设计目前还处于测试阶段，沿河安装了12块面板，为期一年，以观察它们在培育植物生命和保持结构完整性方面的表现。2021年5月，测试大约完成了一半。这12块板子总共花费了20万欧元。布雷达的目标是将河道两岸的长度扩展到175米，计划耗资250万欧元。项目总成本预计为3 500万欧元，其中三分之二的资金由欧盟和地方政府拨款资助。

梅茨对这种潜在的高成本表示质疑。“当然了，这是一种创新，实验总是昂贵的。但我还是不禁会想，这些绿色码头的生态效益是否值得如此大的花费，”她说，“我们必须扪心自问：我们还能用这一大笔资金投资什么其他的项目来减缓或适应气候变化？”

然而到目前为止，对于普通市民来说，项目的成效远远大于成本。“虽然现在还处于实验阶段，但我还是很高兴能看着这一项目不断发展，”格德哈特说，“有了新的绿墙，一些野生动物就会回来，新的绿色码头还可以给这个地区降温。”

“This is a paradigm shift, the first time that we look not just at the water but regard the walls along the water as a potential new vertical ecosystem,” said Netherlands-based architecture critic Tracy Metz. “The typical urban quay is a hardscape made of bricks. And indeed, just like with dikes, the traditional response has been to keep them free of vegetation, as roots can undermine the structural integrity of both the innards of the dikes and the masonry of the quays.” With centuries-old water infrastructure beginning to crumble across Holland, Metz believes that Breda’s innovation could be broadly applicable for public works across the low countries.

The design is currently in a test phase, with 12 panels installed along the river for one year to observe how well they both nurture plant life and maintain their structural integrity. In May 2021, the test was about halfway complete. The 12 panels cost €200,000 total. Breda has a goal of expanding to a length of 175 meters along both sides of the river at a cost of €2.5 million. The total project cost is estimated at €35 million, with two-thirds of the funding already allocated by the European Union and local government contributions.

Metz questions this potentially high cost. “Of course this is innovative, and experiments are always expensive, but I still can’t help wondering whether the ecological contribution of these green quays merits such major expense,” she said. “We have to ask ourselves: what other climate mitigation or adaptation investments could we have done with big bucks like this?”

For everyday citizens, however, the benefits so far outweigh the costs. “It’s nice to see how it’s growing even though it’s just an experiment,” Goedhart said. “With the new green walls, you can bring wildlife back and cool down the area with the new green quays.”



塞内加尔 圣路易斯： 地方政府跨市红树林养护项目

Saint-Louis, Senegal:

Inter-Municipal Approach for the Safeguard and Enhancement of the Mangrove by the Local Authorities



在非洲，一些河流从大陆内部流出，沿着西非海岸，汇入大西洋。在许多这样咸淡水混合的河流三角洲里，脆弱的红树林在这种低盐度的海水中茁壮成长。红树林是主要的生物多样性热

Along the West African coast, rivers from the interior of the continent empty into the Atlantic Ocean. At many of these river deltas, where freshwater commingles with saltwater, fragile mangrove ecosystems thrive in this low-salinity marine environment. Mangroves

点之一，可以保护其生长的土地免受洪水侵袭，还能虾和贻贝等水生生物提供栖息地。

塞内加尔河也不例外，在历史名城圣路易斯和塞内加尔圣路易斯省的其他四个城市的河流三角洲上生长着近2 800公顷的红树林。然而，自20世纪70年代以来，这些红树林不断遭到破坏。快速的城市化进程让人们开始修建堤坝，抽干了红树林的水源，让土地干涸以建造住房。除此之外，人类还砍伐红树林以收割作物或制作木炭。自然水循环已被人为导致的气候变化所破坏，该地区也可能会持续数年没有稳定的降雨。

据2009年的一项研究估计，塞内加尔河三角洲的红树林正以每年10公顷的速度消失。这一惊人的统计数据为共享三角洲的地方政府敲响了警钟。“我们拥有着西非最北端的红树林，”圣路易斯市政府秘书长阿玛斯·迪亚（Amath Dia）说，“如果我们什么都不做，那么最后红树林将会消失。”

起初，只有圣路易斯市采取相关行动，试图阻止红树林退化并开始修复工作。虽然三角洲87.4%的红树林都位于圣路易斯，但相关的环境问题不仅仅局限于此地。邻近的城市也应发挥其作用。自1996年以来，塞内加尔就允许签订跨市协议，并于2013年根据《分权法案三》让协议正式发挥效用。在国家政府的许可下，圣路易斯与四个邻近城市签署了一项跨市合作协议以共同应对红树林危机。

“法律允许我们合作解决问题，”迪亚说，“但我们并不向彼此发号施令，每一个城市都是自主的，都发挥着自己的能力。”

这五个地方政府得到了区域发展局（ARD）和为地方政府提供技术服务的非

are biodiversity hotspots and protect the land behind them from flooding. They also provide habitat for aquaculture resources like shrimp and mussels.

The Senegal River is no exception, with nearly 2,800 hectares of mangrove growing in the river delta inside the jurisdiction of the historic city of Saint-Louis and four other municipalities that are located in the Senegalese department of Saint-Louis. Since the 1970s, however, these mangroves have been suffering. Rapid urbanization has led to the construction of dykes that drain water sources for the mangrove in order to dry out land for housing. Humans cut down mangroves to harvest plants or make charcoal. The natural water cycle has been disrupted by anthropogenic climate change and the region may go years without consistent rainfall.

In 2009, a study estimated that the Senegal River delta's mangrove was disappearing by 10 hectares per year. That alarming statistic was a wake-up call for the local governments that share the delta. “We have the northernmost mangrove in West Africa,” said Amath Dia, Secretary-General of the Saint-Louis Departmental Council. “If we don't do anything, we'll end up with zero hectares.”

At first, the municipality of Saint-Louis proceeded alone in an attempt to stop mangrove degradation and begin restoration. But this environmental issue was not confined just to Saint-Louis even though it is home to 87.4% of the delta's mangroves. Instead, the neighboring municipalities also had a role to play. Senegal has allowed inter-municipal agreements since 1996 and formalized them in 2013 under Act III of Decentralization. With permission from the national government, Saint-Louis recruited four neighboring municipalities to form an inter-municipal agreement to address the mangrove crisis.

“The law allows us to come together and address problems together,” Dia said. “But we are not the bosses of the municipalities. Each one is autonomous with its own competencies.”

The five local governments are supported on the

政府组织“伙伴关系”（Le Partenariat）的支持。这些执行伙伴开展了多种多样的活动来改善当地红树林生态系统的健康。他们为学龄儿童开展环境教育项目，招募社区老人分享红树林在鼎盛时期的价值。据估计，在过去的九年里，近8万人参与了该项目。他们还种植了红树林，使超过50公顷的红树林得到了再生。现在红树林每年的生长速率达到7%，而退化率则下降了25%。

这份跨市合作协议还促使五个地区的地方当局采取具体措施保护红树林：首先，就城市边界开发达成一致，以避免新建建筑项目造成红树林进一步破坏；其次，将垃圾填埋场从脆弱的红树林区域搬离；最后，将公共资金投资于水资源管理基础设施。

尽管已经取得了上述成功，但由于跨市协议的性质使然，每个地方成员都是独立自主的，导致彼此间就项目参与度讨价还价。迪亚说：“每个城市的红树林数量不一样，所以很难判断参与情况。圣路易斯的红树林比较多，而甘顿比较少。圣路易斯资源更多，但甘顿的土地面积更大。”



ground by the Agence Régionale de Développement (Regional Development Agency, or ARD) and an NGO, Le Partenariat (The Partnership) that provides technical services for local governments. These implementing partners execute a diverse range of activities to improve the health of local mangrove ecosystems. They run environmental education programs for school children and recruit community elders to share stories about the value of the mangroves in their abundant heyday. The partners estimate they have reached 80,000 people in the last nine years. They also plant mangroves and estimate that more than 50 hectares have been restored, the ecosystem is now growing at 7% annually, and the rate of degradation has been reduced by one-fourth.

The inter-municipal agreement has also led the five local authorities to take concrete steps to protect the mangroves. First, they agreed on an urban development boundary to prevent further destruction of mangroves for new construction. Second, they moved a landfill away from a sensitive mangrove zone. Third, they have invested public funds in water management infrastructure.

Despite these successes, the nature of an inter-municipal agreement, in which each member is autonomous, leads to considerable give and take. “There is not the same amount of mangrove in each municipality, so engagement is difficult to judge,” Dia said. “Saint-Louis



对于多年来一直致力于红树林保护和修复的民间社会团体来说，这种地方合作是向前迈出的可喜一步。红树林保护社区网络主席穆萨·尼昂（Moussa Niang）说：“跨市协议的重要性在于允许各城市协同工作。这样一来，如果一个城市想做一个项目，他们将事半功倍。这比城市各自为政要好。”

尼昂将红树林保护社区网络描述为当地政府的“铁手腕”，并认为当地人花费大量精力绘制的红树林生态系统图，能够为城市发展边界等公共政策提供信息。

尽管圣路易斯的努力令人鼓舞，但国际红树林专家并不认为这种跨市协议非常前沿。红树林行动项目执行主任阿尔弗雷多·夸图说（Alfredo Quarto）：“在多个小地方开展行动是一个好主意，但还有让

has more mangrove, Gandon has less. Saint-Louis has more resources, but Gandon has more land area.”

For civil society groups who have been working on mangrove protection and restoration for years, this level of local cooperation is a welcome step forward. “The importance of the inter-municipal agreement is permitting the municipalities to work in synergy,” said Moussa Niang, president of the Community Network for Mangrove Protection. “That way, if each municipality wants to do a project, they can double their effort. It’s better than each structure working on its own.”

Niang describes her network as the “bras armé” (strong arm) of local government, with people on the ground that have spent considerable effort mapping the mangrove ecosystem in order to inform public policies like the urban development boundary.

While Saint-Louis’s efforts are encouraging,



全国都参与的方法。”他指出，萨尔瓦多的环境部和坦桑尼亚的森林服务局这两个国家政府机构采用的红树林修复方法是最佳实践。

夸图还觉得圣路易斯的项目在细节上有所欠缺。“他们是在泥滩还是海草带种植红树林？种植哪种红树林？我真的没办法对他们正在做的事情做出太多判断，也无法评估项目的有效性，”他说，“虽然项目整体听起来不错，但细节才是最重要的。”

但对圣路易斯及其相邻城市来说，跨市协议的价值并不限于红树林的修复。大西洋沿岸的沙质半岛朗格·德·芭芭莉（Langue de Barbarie）曾经出现了裂缝，导致数栋房屋被毁，但当时事故所在城市却没有清理废墟的计划。后来，该市与圣路易斯签订了一份跨市协议，将土地转让给圣路易斯，以便清理这些被毁房屋。

迪亚说：“这些机制对于调节冲突，特别是财政冲突来说有非常重要的意义。”



international mangrove experts did not consider the inter-municipal agreement to be particularly cutting-edge. “It is a good idea to include more than just one small place, but we see approaches that can be taken by the whole nation,” said Mangrove Action Project Executive Director Alfredo Quarto. He pointed to El Salvador’s Ministry of the Environment and Tanzania’s Forest Services Agency as two national government entities that have adopted mangrove restoration best practices.

Quarto also felt that Saint-Louis’s efforts were short on details. “Are they planting in mudflats or seagrass bands, and what kind of mangroves? I couldn’t really judge much about what they are doing to assess how effective it is,” he said. “While it sounds generally good, the specifics are what counts.”

But for Saint-Louis and its neighbors, the value of the inter-municipal agreement goes beyond mangrove restoration. When a breach in the Langue de Barbarie, a sandy peninsula along the Atlantic coast, led to the destruction of several houses without a plan to address the wreckage, an inter-municipal agreement helped negotiate a land transfer to the Saint-Louis local authority so that it could clean up the properties.

“These mechanisms are very important to regulate conflicts, especially financial ones,” said Dia.

包容城市 Inclusive Cities



广州海珠湖畔的花田
Flower fields by the Guangzhou Haizhu Lake



澳大利亚 安利：

“老得其所”城市填充计划

Unley, Australia:

Cohousing for Aging Well—Designing for Aging in Place



利比·库兹（Libbie Cootes）有个习惯，就是每十年搬一次家。但随着年纪渐长，这位64岁的兼职顾问最终在澳大利亚阿德莱德市郊的安利市扎下了根。为什么选择安利市呢？库兹解释说：“我平常出行都骑自行车。我没有汽车，也没有家人帮忙。我想住在靠近阿德莱德市中心的地方，因为我非常喜欢听免费讲

Libbie Cootes has a habit of moving house about once a decade. But as she ages, the 64-year-old part-time counselor has finally planted roots in Unley, a suburb of Adelaide, Australia. Why Unley? “I’m a cyclist, I don’t own a car, and I don’t have family as backup. I wanted to be somewhere in close proximity to the center of Adelaide because I’m a great lover of free lectures and the fresh fruit and vegetable markets,” she said. “My

座，也喜欢逛新鲜水果和蔬菜市场。我定居的前提条件是必须有适合骑单车的平地，而且要靠近城市。当我年老体衰时，还需要住在靠近公共交通的地方。”

这个绿树成荫的郊区满足了库兹的所有条件。她说：“我也喜欢这里的氛围，没有被高层公寓和钢筋水泥包围。”

安利市常住人口约4万人，距离阿德莱德中央商务区仅两英里（约3.2千米），其对外吸引力持续增强，房地产市场火爆。2020年第4季度，安利市房屋的平均售价为109.5万澳元（约合84万美元），成为阿德莱德市区最昂贵的住宅房地产市场。

对于曾当过教师和社会工作者的库兹来说，自己的收入难以负担起安利市现在的房价。但她早在2000年就在当地的房地产市场买了一栋占地365平方米的住宅。2016年，库兹拆除了这栋房子，重新设计了她的家，有三间卧室和两间浴室，还带一个花园。她打算在这里安享晚年，自己住在带有独立浴室的主卧室，家庭护工住在用推拉门隔开的另一个房间。

prerequisites were: I needed somewhere flat for cycling and close to the city. And for when I become old and decrepit, I need close proximity to public transport.”

The leafy suburb checked all the boxes and then some. “I also like the ambiance of where I live,” she said. “It’s not all high-rise apartments and concrete jungle.”

With a population of about 40,000, Unley is an increasingly desirable suburb just two miles from the Adelaide CBD with a hot property market. In the fourth quarter of 2020, the average Unley house cost A\$1.095 million (US\$840,000), making Unley the most expensive residential real estate market in metropolitan Adelaide.

Cootes considers herself low-income—her previous careers included a teacher and a social worker—so one of Unley’s current houses would be out of her price range. She entered the local property market back in 2000 when she bought a house on a 365 m² lot. She demolished the house in 2016 and designed her current home, which has three bedrooms and two bathrooms with a garden. She anticipates ageing in place by living in the master bedroom with en suite bath and hosting an in-home care aide in her additional living space that is separated by a sliding door.



安利市积极老龄化项目官员朱迪思·洛（Judith Lowe）表示，可能还有很多人的情况和库兹一样。她说：“安利市是长寿郊区，以健康长寿闻名，居民平均寿命为89岁。人们在这里长大，也希望留在这里。”安利市于2014年加入了世界卫生组织的“关爱老年人城市项目”（World Health Organization’s Age-Friendly Cities Project），是澳大利亚第一个加入该项目的城市。

但是，如果安利市其他老年居民也想在像库兹那样的房子里居家养老，而不搬到退休公寓或养老院，就没那么容易了。安利市有着严格的分区和建筑规定，一般要求最小建筑面积为800平方米。

大型建筑的最低面积要求维持了房地产市场的价值，这在经济上有利于现有房主，但却不利于安利市的整体经济增长和发展。

建筑师达米安·麦迪根（Damian Madigan）表示：“若郊区分区模式一切照旧，老年人无法缩小住房规模，年轻人也没房可买。”安利市试图改革分区规定，以促进填充式开发和为“老得其所”的共同住宅建设。在此过程中，麦迪根一直在提供建议。

在安利市，如何调整合规的建筑类型是个颇具争议的问题。由于安利市已经成为著名的房地产目的地，当地许多房产成了人们眼中的豪宅；因此长居此地的市民不希望修建新建筑，认为新建筑会破坏传统建筑、减少植被覆盖，还可能改变所谓的当地“特色”。如果房地产开发商获得了城市填充的建筑许可，自由市场往往会让多层联排别墅取代独栋住宅，分割街区给面积更小的住宅更是困难重重。此外，南澳大利亚州面对房价日益上涨、难以承受的情况，制定了新住房建设的规划政

There are likely many more people in Cootes’ situation, said Judith Lowe, Unley’s Active Ageing Project Officer. “Unley is a longevity suburb,” she said. “People have grown up here and wish to stay, and we have the benefits of good health and long lives, with a median lifespan of 89.” Unley joined the World Health Organization’s Age-Friendly Cities Project in 2014, the first Australian city to do so.

But if other ageing Unley residents want to live in a home like Cootes rather than move into a retirement unit or residential aged care, they are out of luck. Unley has a strict zoning and building code, which generally requires a minimum lot size of 800 m².

Those large lot minimums keep the property market valuable, which financially benefits existing homeowners, but create negative effects for Unley’s overall growth and development.

“In the business-as-usual model for suburbs, there is nowhere for older people to downsize to and nowhere for younger people to buy in,” said architect Damian Madigan, who has been advising the city as it seeks to overhaul its zoning code to accommodate infill development and cohousing geared toward ageing in place.

Changing what type of buildings are permitted in Unley is a contentious issue. Longtime Unley residents do not wish for new construction that in their view leads to the destruction of heritage buildings and reduction in tree cover, and that otherwise changes the so-called “character” of the suburb, which has become a prestige real estate destination with many properties considered luxury homes. Subdividing blocks to allow for smaller houses is difficult and when property developers can secure building permits for urban infill, the free market tends to replace single-family homes with multi-story townhouses. Moreover, the state of South Australia has established planning policies to new housing construction in a country facing increasingly unaffordable housing prices. Those state policies overrule local regulations and have led to taller buildings along

策。这些州级政策凌驾于地方法规之上，让交通走廊沿线出现了更高的建筑。

令人担忧的是，对于房地产开发，有关部门之间总在“踢皮球”，相互推诿责任。在这一背景下，即使是提出一个小建议，比如更灵活地建造长者友好型住宅，也需要与市议会充分商议。洛表示：“在内部规划和公众支持方面，我们从未动摇，但我们要从一张白纸开始，向人们展示超越他们30年来认知的东西。我们先构想可能取得的成果，再逆向展开工作。”

通过邀请建筑师向公众展示长者友好型的填充式建筑物和共同住宅的设计，帮助市民构想这些调整会给安利市带来怎样的改变，以满足自己或亲戚的养老需求。麦迪根说：“我们描述了与朋友共居的生活方式，还有50岁的丧偶女性搬来照顾父母的情景。一旦开始描绘情景，人们就能理解了。但如果谈项目阻力和制度规章，就很难引起共鸣。”

最终，麦迪根的公司开发了一套包含超大、大、中、小面积房型的设计，不会完全改变安利市街区的外观和氛围。“一直以来，郊区的建设都比较保守。这种建设方案其实非常合理，因为部分简陋的填充式建筑物会损害郊区旧有住房的特色，”麦迪根说，“人们普遍认为，建造更多住房会增加水泥路面，减少大量植被覆盖。”

麦迪根团队最后成功说服市议会通过了新的住房设计，让部分因分区规定而住房单位密度较小的街区，密度增加了三倍。但分区规定改革只是第一步，私人开发商必须善于利用新的土地使用规则。麦迪根说：“这一倡议相当具有革命性，它借鉴了其他国家的共同住宅理念，并试图创建一个独具澳大利亚特色的版本。但项目也存在风险，这个“澳大利亚版”的共

transport corridors.

In this 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,” Lowe said. “We started from imagining what could be possible and then worked backwards.”

Enlisting an architect to show actual designs of what age-friendly infill and cohousing could look like helped the public envision how these tweaks could change Unley to accommodate their own family’s needs as they or their relatives age. “We described friends living together collaboratively or a 50-year-old widow moving in to care for parents,” said Madigan. “As soon as you start scenario planning, people understand it. If you talk setbacks and codes, that language doesn’t resonate.”

Ultimately, Madigan’s firm developed a suite of designs for extra-large, large, medium, and small lot sizes that would not radically change the look and feel of the average Unley block. “Traditionally there has been a very conservative approach to the suburbs and it’s been quite justified because a lot of bad infill has been served up and we lose the older housing stock that gives them character,” Madigan said. “There is a general sense that if we put in more housing, we are going to increase hard surfaces and lose tree canopy.”

With the team’s success of convincing the city council to allow these new housing designs, blocks which were once ineligible for any increase in density 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 cohousing from other countries and attempted to create an Australian version, with the risk that



同住宅项目对开发商或潜在居民的价值还有待证明。”

澳大利亚国家心脏基金会积极生活项目主任特雷弗·希尔顿（Trevor Shilton）认为，尽管这个概念缺乏验证，但有这样的远见也是非常重要的。他说：“人口老龄化是未来几十年影响澳大利亚的最主要趋势之一。共同住宅设计项目将促使安利市继续推进建筑规定改革，从而推动积极老龄化、优化流动性准入标准。”

库兹在安利市积极老龄化委员会任职，她认为，尽管经济利益根深蒂固，但居民需求是不可忽视的。“总有人希望自己的土地不断升值，又不想降低社区的格调，”她说，“但有时我在食品合作社做志愿者的时候，有些单身的女同事看到我的房子都跟我说，‘这太棒了！你可以和别人合租，既能抵消购房成本，还能留有自己的私人空间。’”

this Australian version has no proven value to developers or potential residents yet,” Madigan said.

Even without proof of concept, such foresight is nevertheless key according to Trevor Shilton, Director of Active Living at the National Heart Foundation of Australia. “Australia’s ageing population has been identified as one of the largest megatrends affecting the country in coming decades,” he said. “As a result of the co-housing design project, the City of Unley is continuing to advocate that building code variations provide for active ageing and mobility access standards.”

Cootes, who serves on the City of Unley’s Active Ageing Committee, believes the demand is there despite entrenched financial interests. “There will always be people who want their land value going up all the time and don’t want to lower the tone of the neighborhood,” she said. “But sometimes I volunteer at a food co-op and a few of the others are single women. When they see my house, they tell me ‘This would be great. I could share my house to offset the cost and still have my private space.’”

包容城市

► Inclusive Cities



奥地利 维也纳：

儿童和青年计划

Vienna, Austria:

Werkstadt Junges Wien



1993年，维也纳主办了世界人权会议，这也是自冷战结束以来的首次人权会议。2014年12月，在世界人权会议20周年之际，曾见证过这个历史性会议的奥地利首都维也纳市，将他们的城市宣言定为：维也纳——人权之城。

In 1993, Vienna hosted the World Conference on Human Rights, the first such gathering since the end of the Cold War. When the Austrian capital reflected on the 20-year anniversary of that historic conference, it led the city council to adopt a declaration in December 2014: “Vienna—City of Human Rights.”

在过去的几年里，市政府一直在商榷如何将这一宣言付诸行动，关键问题就在于如何发挥儿童和青年的作用。维也纳曾经是一个不断萎缩的老龄化城市。但从2009年到2019年的十年间，维也纳的人口增长率高达12.9%，是欧洲主要城市中人口增长最快的城市。

这种突飞猛进的人口增长造成了两种态势。第一，截至2018年，约五分之一的维也纳公民年龄在19岁以下，而维也纳16岁以上的公民才享有投票权。第二，截至2019年，近三分之一的符合投票年龄的人口不是奥地利公民。因此，有相当多的维也纳市民没有正式地参与到政治生活当中。

2019年正值联合国《儿童权利公约》通过30周年之际，维也纳市议会决定让该市的儿童和青年也参与市政府的社会决策，即便他们中的大多数人没有投票权。市议会在全市范围内举办了一系列研讨会，在会上向维也纳的年轻居民提出四个简单的问题，以征求他们对改善城市的直接建议和反馈。该项目名为“维也纳儿童和青年计划”（Werkstadt Junges Wien），在2019年一年的时间里，举办了1 309场研讨会，共覆盖22 581名儿童和青年。随后，市议会 will 将反馈结果收录至2020年6月通过的官方《儿童和青年战略》。

项目经理贝蒂娜·施瓦兹迈尔（Bettina Schwarzmayr）将这一系列研讨会称为城市的“年度服务检查”。会上提出的四个问题是：（1）维也纳哪些地方是值得嘉奖的？（2）维也纳有哪些地方需要改善，要如何改善？（3）我们该如何照顾城市，实现长治久安？（4）怎样能够让你感到安全和舒畅？

施瓦兹迈尔与其团队齐心协力，尽可能广泛地接触儿童和青年。考虑到青少年

For the last several years, the city government has been wrestling with how to turn that declaration into action. One issue came to the forefront: the role of children and youth. Once an ageing and shrinking city, Vienna experienced the fastest population growth of any major European city from 2009-2019, growing at a rate of 12.9%.

This breakneck growth rate has created two dynamics. First, by 2018, one in every five Viennese residents was below the age of 19 in a country where the voting age is 16. Second, by 2019, nearly one-third of the voting age population were not Austrian citizens. Consequently, a significant number of Viennese do not have a formal role in the political system.

When the 30th anniversary of the United Nations Convention on the Rights of the Child arrived in 2019, the Vienna City Council resolved to incorporate the city's children and youth into municipal government even if most of them cannot vote. The result: a series of workshops citywide that asked four simple questions of young Viennese to solicit direct feedback on how to improve the city. Called Werkstadt Junges Wien, or Repair Shop Young Vienna, the program hosted 1,309 workshops reaching 22,581 children and young people over the course of a year in 2019. The city council then incorporated the results into an official Children and Youth Strategy adopted in June 2020.

Project manager Bettina Schwarzmayr described the series of workshops as an “annual service check” for the city. The four questions were: (1) What does Vienna deserve a medal for? (2) What needs to be repaired in Vienna and how would you repair it? (3) How do we take care of the city to make it last? (4) What do you need to feel safe and well?

Scharzmayr and her team made a concerted effort to reach out to the broadest possible range of children and youth. While teenagers may have more awareness of issues, half of workshops were conducted with children



可能对相关问题有更多的认识，有一半的研讨会是针对6至10岁的儿童开展的。施瓦兹迈尔团队还确保受访者不仅包括学习成绩优异的、讲德语的、土生土长的奥地利公民，还包括移民、寻求庇护者、残疾人、流浪汉或孤儿。该项目团队充分利用包括学校、青年俱乐部、移民权利组织、流浪汉收容所在内的维也纳社会机构网络，为各机构提供基本培训，以便他们按照自己的时间、节奏和语言来举办研讨会（最后共用到了174种语言）。项目组织者保护受访者的隐私，并聘请社会科学专家对数据进行编码和分析。

欧洲青年论坛的伊万·内罗蒂（Ivan Neirotti）表示：“项目面向全市邀请了全体儿童和青年，展现出其包容的工作态度，这也打破了人们的‘惯性思维’，即认为尤其在该年龄段，来自上层阶级家庭的孩子往往享有更多参与社区活动的机会。”

项目的第一步是成立顾问委员会来设计研讨会的工具箱，而以前建立的关系加快了项目的进展。市议员玛丽娜·汉克

between the ages of 6 and 10. The team also ensured that respondents were not just the German-speaking native-born Austrian citizens with top marks in school, but also youth who were immigrants, asylum seekers, disabled, homeless, or orphans. The project team tapped into the city's broad network of civil society institutions, from schools to youth clubs to immigrant rights groups to homeless shelters. The city created basic training for each of these institutions to conduct the workshop on their own time, at their own pace, and in their own language. (The workshop toolbox was ultimately made available in 174 languages.) Project organizers guaranteed privacy to the respondents and hired social scientists to code and analyze the data.

“The fact of inviting all children and young people of Vienna shows the will of having an inclusive approach, going beyond the ‘usual suspects’ of engaged youth, which, especially at that age, belong to upper class families more prone to take part in community initiatives,” said Ivan Neirotti of the European Youth Forum.

Preexisting relationships expedited the process, which started with an advisory board to design the workshop

(Marina Hanke)说：“在维也纳，我们已经建立了一个涉及儿童和青年的庞大组织网络，这些组织乐意为这一目标群体进行城市设计。所有的人的心态都很开放，很快就加入了本项目。”

青年童子军运动组织红猎鹰 (Rote Falken) 也加入了该项目。15岁的弗洛里安·格鲁伯 (Florian Gruber) 和亚尼克·兰普雷希特 (Yannic Lamprecht) 是红猎鹰的成员。2019年12月，他们与10名童子军成员会面，讨论“城市服务检查”的四个问题。他们关注的首要议题是环境保护、教育、医疗保健和城市规划（优先考虑通往游乐场的步行路线）。不久以后，他们又联合来自全市各地的研讨会小组在市政宴会厅开展研讨。

格鲁伯说：“我本以为这只是一个小小

toolbox. “In Vienna we already had a big network of organizations working with children and youth and they all are pretty committed to designing the city for this target group,” said City Councilmember Marina Hanke. “All were very open and joined very fast.”

One organization that joined the effort was the Rote Falken (Red Falcons), a youth scouting movement. 15-year-olds Florian Gruber and Yannic Lamprecht are members of the Red Falcons. In December 2019 they met with 10 of their fellow scouts in a meeting room to discuss the four questions. Environmental protection, education, health care, and city planning that prioritizes walkable routes to playgrounds topped the group’s agenda. Shortly thereafter, they joined workshop groups from across the city in a large municipal gala hall.

“I was thinking it would be a small project. I was surprised that it was getting this big,” said Gruber. “People



项目，没想到规模如此之大。”兰普雷希特则表示：“大家都非常认真地对待这个活动。”

项目规模扩大后，红猎鹰的成员遇到了来自全市不同背景的青年，他们之间有着许多共同点。“我们讨论的都是一些重要的话题，比如减少汽车数量、公园和游乐场的禁烟规定，以及学校的性教育，”兰普雷希特说，“我们大多数人都希望看到一个更清洁、更环保、更美好的城市。”

对维也纳市政厅来说，向公众宣传并不是什么新鲜事。汉克说：“维也纳已经形成了一种公民参与的文化。当一个新公园建成时，我们会从年轻人一直问到老年人：你需要什么？”

但维也纳儿童和青年计划的规模、开放

took it very seriously,” said Lamprecht.

In the larger setting, the Rote Falken boys met youth from different backgrounds across the city, but found much common ground. “We were all discussing big topics, like fewer cars, smoking bans in parks and playgrounds, and sexual education in school,” said Lamprecht. “Most of us had the same imagination of a cleaner, greener, and better city.”

For Vienna city hall, public outreach is not new. “There is already a culture of civic participation in Vienna,” said Hanke. “When a new park is created, we ask everyone from young people to the elderly: What do you need?”

But the scale, open-ended nature, and follow-through of Werkstadt Junges Wien were unique. “Politicians were unusually brave to allow the agenda-setting 100% by



性和后续发展都是独一无二的。施瓦兹迈尔表示：“政治家们非常有勇气，允许儿童和青年100%地制定议程。”最重要的是，当局官员还必须确保将研讨会上讨论的结果能够付诸实践。汉克说：“我们有一个坚定的政治承诺，那就是不能只问他们一次，然后感谢他们的建议就算结束了。”

虽然实施不到一年，但儿童和青年战略已经初显成效。维也纳市长迈克尔·路德维希（Michael Ludwig）专门为儿童和青年们举办了一场新闻发布会，介绍该市如何应对疫情。此外，维也纳正在为遭受家庭暴力侵害的女性修建9个新的庇护所，其中一个专为女童和年轻妇女服务。维也纳还将拨出100万欧元用于推动4到19岁青少年的参与性预算。

在维也纳儿童和青年计划取得成功之后，德国和奥地利的一些小城市也开始探索如何将这一项目应用于自己的社区。施瓦兹迈尔说：“四个如此简单的问题很容易被复制学习。”

虽然，维也纳在全球城市生活质量指数排名中一直位居榜首，但是该市的年轻人明白其优势和待改善之处并存。“维也纳是一个美好的城市，许多地方都非常棒，但也有一些地方需要改善，”兰普雷希特说，“每个大城市都是这样。对政治保持兴趣并努力让世界变得更美好，这很重要。”

the target group,” said Schwarzmayer. Most importantly, elected officials also had to ensure that the workshops led to action. “There was a firm political commitment that we don’t just ask them once and say thank you for your ideas,” Hanke said.

While less than a year old, the children and youth strategy has already yielded results. Mayor Michael Ludwig hosted a press conference just for children and youth about the city’s pandemic response. The city is building nine new shelters for women victims of domestic violence, with one shelter dedicated to girls and young women. Vienna will also allocate €1 million for participatory budgeting geared to 4-19 year olds.

In the wake of Werkstadt Junges Wien’s success, smaller cities in Germany and Austria have inquired about how they can adapt the process to their own community. “Four such simple questions are easily replicable,” Schwarzmayer said.

And while Vienna consistently ranks #1 on global quality of life indices, the city’s own youth acknowledge both the city’s relatively privileged position and the room for improvement. “It is important to say that Vienna is a wonderful city and in Vienna many things are very, very great, but there are things which can be improved,” said Yamprecht. “This is true in every big city. It’s important to be interested in politics and to make the world a better place.”

包容城市

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印度 伯翰普： 污物处理项目

Berhampur, India:

Promoting Sustainable Environment Conservation and Women Empowerment Through Faecal Sludge and Septage Management (FSSM) in Berhampur



小时候，安妮塔·莫汉蒂（Anita Mohanty）和祖母住在一起，而祖母的房子里没有厕所。由于缺少基本的卫生设施，莫汉蒂每个早上都感到非常难为情，因为她要在房子外面露天如厕。“大白天在外如厕实在是太尴尬了，”她

As a child, Anita Mohanty lived with her grandmother, whose house did not have a toilet. That lack of basic sanitation meant for a humiliating morning ritual when Mohanty would go outside to defecate openly. “It was an embarrassing situation to go to the toilet in the daylight,” she said. “During the afternoon, it was too

说，“到了下午，让妇女和孩子都提着桶到室外大小便，这真的太让人难堪了。”

童年的经历促使莫汉蒂进入了卫生、粪便污泥和腐化物管理部门工作。如今，她是女性自助团体城市联合会阿格拉塔（Agrata）的秘书，这个联合会代表着印度伯翰普女性自助团体及其7 000多名成员。莫汉蒂所在的部门在印度发挥着至关重要的作用，因为印度长时间以来严重缺乏安全的饮用水、卫生设施和个人卫生设施。据估计，由于缺乏适当的卫生设施，2017年仍有4.5亿人在露天场所如厕。

2014年，印度总理纳伦德拉·莫迪（Narendra Modi）宣布发起“清洁印度”（Swachh Bharat）运动，承诺到2019年结束人们只能露天如厕的状况，计划建造1亿间厕所。2017年，印度国家城市发展部发布了《国家粪便污泥与腐化物管理政策》。上述两项国家指令赋予了伯翰普市政公司以解决城市卫生问题的工具，这个有着39.1万人口的城市，从有人使用厕所的那一刻起，到粪便到达污水处理厂，整个过程中的所有问题伯翰普市政公司都可以着手解决。

第一，市政公司获得了国家资金，用于快速建设社区厕所和家用厕所。第二，当地政府在2018年通过了自己的地方法规，规定所有化粪池清理车必须在处理厂处理排泄物，不遵守规定者将受到重罚。第三，公共部门与女性自助团体合作建造和管理新的社区厕所。

这些措施是必要的，因为在伯翰普的7万户家庭中，约有45%的家庭没有厕所。即便是有厕所的家庭也是将粪便倒进露天排水沟，而不是化粪池或下水道系统。人们将装满粪便的塑料袋称为“飞行马桶”，他们通常会在早上将其丢在公共场所，污染土壤和水源。

difficult for a woman or a child to move with a bucket to go and defecate openly.”

That childhood experience motivated Mohanty to work in the sanitation and fecal sludge and septage management sector. Today she is the secretary of Agrata, a city-level federation of women’s self-help groups representing 7,000 members in Berhampur, India. Her sector is vital in India, a country that historically has suffered a severe shortage of water, sanitation, and hygiene (WASH) facilities. In 2017, an estimated 450 million people were still practicing open defecation in the absence of proper sanitation.

In 2014, Prime Minister Narendra Modi pledged to end open defecation by 2019 with a plan to build 100 million toilets called Swachh Bharat (Clean India) Mission. In 2017, the national Ministry of Urban Development issued the National Policy on Faecal Sludge and Septage Management. Those two national directives gave the Berhampur Municipal Corporation, the local government for a city of 391,000 people, the tools to address the city’s sanitation problems from the moment someone uses a toilet all the way until fecal waste goes through a wastewater treatment plant.

First, the municipal corporation secured national funds to build community and household toilets at a rapid pace. Second, the local government adopted its own local regulations in 2018, which mandate any vehicle emptying a cesspool or septic tank to dispose of their contents only at a treatment plant, with a heavy penalty for non-compliance. Third, the public sector partnered with women’s self-help groups to construct and manage new community toilets.

These steps were necessary because around 45% of the 70,000 households in Berhampur lacked toilet access and households with toilets dumped into open drains rather than septic tanks or sewer systems. So-called “flying toilets,” or plastic bags filled with excrement and disposed of in public by the user, were common in the mornings,

伯翰普市政公司委员西德什瓦尔·巴里拉姆·邦达尔（Siddheshwar Baliram Bondar）说：“全城到处都有露天如厕的现象，这种情况真的很难改变。”

但在“清洁印度”运动中，有大量公共资金用于支持厕所修建。政府为每个家庭提供1万卢比（约合137美元）用于建造厕所，为每个社区提供150万卢比（约合20 558美元）用于完善卫生设施。据估计，一个家庭建一个厕所需要花费2 000卢比（约合27.41美元），还需要建造一个化粪池，并将粪便机械化运输至化粪池，然后让废水处理厂处理粪便废物。当地政府预计将承担社区卫生综合设施费用的40%。

伯翰普最终建造了9 000个家庭厕所和600个社区卫生综合设施。在社区厕所里小便是免费的，大便每天收费2卢比（约合0.03美元）。项目修建的基础设施使伯翰普达到了每8个居民享有1个厕所的国家标准。在奥里萨邦政府的资助下，伯翰普还建造了污水处理厂来处理废水。国家评级系统将伯翰普定级为最高评级“无露天排便++”（ODF++）。

“从政府那里获得资金是比较容易的，”邦达尔说，“但是改变行为是很困难的。”

为此，伯翰普市政府聘请了当地的女性自助团体。20世纪90年代以来，这些团体一直活跃于小微企业和制造业活动中，包括缝纫、腌制、制陶、制水瓶等活动。这些活动通常是在家里进行的，因此让这一团体参与到社区厕所修建中来极具挑战。

邦达尔说：“在印度的传统中，女性更多地被限制在家里。但我们让她们参与了讨论。因为她们也要使用厕所，那么最好就让她们亲自参与厕所修建，就像我们为自己的房子选择瓷砖的颜色一样。她们

leading to soil and water pollution.

“There was rampant open defecation across the city,” said Berhampur Municipal Corporation Commissioner Siddheshwar Baliram Bondar. “The situation was really difficult.”

But the Clean India Mission liberated massive public funding to build toilets. The government provided 10,000 rupees (US\$137) per household toilet and 1.5 million rupees (US\$20,558) per community sanitary complex. Households were expected to contribute 2,000 rupees (US\$27.41) per toilet and must construct a septic tank and arrange for mechanized transport of the septic to a cesspool, which would then be treated at a wastewater treatment plant. Local government was expected to contribute 40% of the cost of a community sanitary complex.

The city eventually installed 9,000 household toilets and built 600 community sanitary complexes. At the community toilets, urination is free and defecation costs 2 rupees (US\$0.03) per day. The resulting infrastructure brought Berhampur up to the national standard of one toilet for every eight residents. The city also built septage treatment plants to handle the effluents with funding from the Odisha state government. A national rating system declared Berhampur “open defecation free plus-plus (ODF++),” the highest possible rating.

“Getting the money from the government is the easier part,” Bondar said. “But behavioral change is the more difficult part.”

To that end, Berhampur hired the city’s network of women’s collectives, or self-help groups, which have been active since the 1990s for small-scale entrepreneurial and manufacturing activities: sewing, pickling, ceramics, water bottles. These activities are typically conducted in the home, which made for a challenge to engage the groups on community toilets.

“In the Indian tradition, women are more confined to the house,” Bondar said. “But we involved them in our discussion.



将负责厕所的施工和设计部分。”

市政公司为公民提供了培训，并雇用了合格的建筑、管道和电力工人。莫汉蒂说：“的确，修建厕所与从事小型食品生意或服装销售都不一样。刚开始的时候有点困难，但如果是我们亲手修建的厕所，我们会更想使用，心里有种要有效维护它的主人翁意识。”

粪便污泥现在由经过认证的操作员运送到污水处理厂。废水会被转化为肥料用于花园和苗圃，每公斤价值15卢比（约合0.21美元）。这一制成品加上厕所使用费使得该项目在财务上具有可持续性。邦达尔说：“过去排放到下水道的粪便污泥现在正在为当地创造财富。”

伯翰普早期采用的应对印度国家卫生挑战的综合性措施赢得了全球“水、环境卫生与个人卫生（WASH）项目”专家的高度评价。低成本马桶制造商SATO的首席执行官兼厕所委员会联盟主席艾琳·麦库斯

You will be using the toilets, so it's better that you construct them. Just like we select the tile color in our own house, you will be doing the construction and design part.”

The municipal corporation provided training and hired qualified manpower for construction, plumbing, and electricity. “It is true that building toilets is really different from getting into any other small food business or selling clothes,” said Mohanty. “There were difficulties in the initial period but if we construct the toilet ourselves, we will be more motivated to use it. There was a sense of ownership to maintain it efficiently.”

Fecal sludge is now transported to wastewater treatment plants by certified operators. The wastewater is turned into fertilizer for gardens and plant nurseries with a value of 15 rupees (US\$0.21) per kilogram. This end product, as well as toilet user fees, keep the project financially sustainable. “The fecal sludge that used to flow through the drains is now generating wealth,” Bondar said.

Berhampur's early adoption and comprehensive approach to India's national sanitation challenge earned

克（Erin McCusker）说：“这是一种创新的方法，既全面覆盖了价值链，又鼓励了利益攸关方的参与。全球只有少数几个国家尝试让自助团体参与到提高认识和改变行为的一部分过程中。尝试伯翰普这种模式的地区和地区则少之又少。”

对莫汉蒂来说，这个结果意味着她的童年记忆已经成为过去。“当我开始使用厕所，尊严和安全感就随之而来了，”她说，“我再也不会感到尴尬了。”

high marks from global WASH experts. “This is an innovative approach in both its comprehensiveness across the value chain and also in its approach to stakeholder engagement,” said Erin McCusker, CEO of low-cost toilet manufacturer SATO and Chair of the Toilet Board Coalition. “Only a few states are trying to involve self-help groups in the process of generating awareness and behavior change, but not in the whole process, and very few urban areas are experimenting with this model.”

For Mohanty, the outcome means her childhood memories remain just memories. “Once I started using the toilet, dignity and safety came to me,” she said. “I stopped being embarrassed.”



印度尼西亚 万隆：

OMABA烹饪中心

Bandung, Indonesia:

The Roles of Public Health Service Through OMABA Cooking Centre for Managing Malnourished and Stunting Children



以拉·霍提玛萨里（Elah Hotimahsari）6岁的儿子瑞萨（Resa）是个精力充沛的男孩，喜欢骑自行车和踢足球。但在蹒跚学步的年纪，他

Elah Hotimahsari's six-year-old son, Resa, is an energetic boy who likes to ride his bicycle and play football. But as a toddler, he was a sickly child. Hotimahsari, 27, lives with her husband, a construction



曾体弱多病。霍提玛萨里今年27岁，和丈夫住在印度尼西亚万隆的一个城市村庄里，她的丈夫是一名非正规部门的建筑工人。每次瑞萨生病，她都会带儿子去属于国家公共卫生中心网络的当地卫生所。

“营养学家说他的营养状况有问题，”霍提玛萨里说，“但我不知道怎么给他提供良好的营养。”

为此，公共卫生中心把霍提玛萨里带到附近的烹饪中心，教她如何在有限的预算内准备有营养的食物。该烹饪中心还为霍提玛萨里准备饭菜，并通过摩的将饭菜送到她的家中。

该村的烹饪中心是万隆地区公共卫生中心的一项有针对性的应对措施。此前，中心发现该村5岁以下儿童存在营养不良和发育不良的状况。“由于不健康的生活习惯，当地的婴儿死亡率很高，”公共卫生服务负责人索尼·桑达里（Sonny Sondari）博士说，“这令我感到十分担忧。”根据国家人口和计划生育委员会的数据，西爪哇省有30%的5岁以下儿童（约270万人）因

worker in the informal sector, in Cisaranten Kidul Village, an urban kampung in Bandung, Indonesia. With every bout of illness, she would take her son to the local puskesmas, Indonesia's national network of public health centers.

“The nutritionist said there was a problem with his nutrition status,” Hotimahsari said. “I didn't know how to provide good nutrition for him.”

So, the public health center directed Hotimahsari to the neighborhood cooking center, which taught her how to prepare nutritious food on a limited budget. The center also prepares meals and delivers them to Hotimahsari's home via moto-taxi.

The cooking center in Cisaranten Kidul Village is a targeted response by the Riung Bandung Puskesmas, the district public health center serving Bandung city, which identified malnutrition and stunted growth in the village in children under five. “We had high rates of infant mortality caused by unhealthy behavior,” said Dr. Sonny Sondari, the head of the Public Health Service. “That was concerning to me.” According to the National Population and Family Planning Board, 30% of the children under five in West Java, some 2.7 million, have stunted growth due to malnutrition.

营养不良而导致发育不良。

印度尼西亚已经实施了“补充食品恢复计划”（PMT-P），旨在为5岁以下的儿童提供营养饼干。但许多儿童不喜欢这种饼干的味道，他们的父母就会转手倒卖这些没吃完的饼干。2013年，桑达里和她的同事与营养部门讨论起这个问题，萌生出一个新想法。万隆统计健康办公室负责人阿亚尼·拉克萨纳加拉（Ahyani Raksanagara）说：“如果每天都提供饭菜给居民一起吃，保证营养充足，那就更好了。”OMABA项目应运而生。

据该市估计，该村共有32 667名居民，其中6 000个家庭有5岁以下儿童。为了让项目服务覆盖整个社区，公共卫生中心与当地的家庭福利项目局（PKK）取得了联系。PKK是由国家资助的组织，覆盖所有村庄，以促进当地的发展。PKK的女性成员对该项目响应积极，但需要专人指导。因此，市政府招募了万隆理工营养卫生学院的专家做项目指导。该学院为项目建造了一个移动厨房，在全村举办烹饪示范

Indonesia already had access to PMT-P, a nutritional biscuit for children under five, but many children did not like the taste and their parents would instead sell the uneaten foodstuff. When Sondari and her colleagues discussed the issue with the nutrition department in 2013, a new idea emerged. “It’s better if you cook every day and the residents will accompany you for good nutrition,” said Ahyani Raksanagara, head of the Bandung Statistical Health Office. Thus was born Toddler Food Ojek, known by the Indonesian acronym OMaBa.

The city estimated there are 6,000 families with children under 5 in the village, which is home to 32,667 residents spread across a large kampung. In order to reach the entire neighborhood, the public health center reached out to the local Pemberdayaan Kesejahteraan Keluarga (Empowering Family Welfare Group, or PKK), a state-sponsored organization that exists in every village to promote local development. The women members of the PKK responded favorably, but needed guidance. Hence the city government enlisted the Bandung College of Health in Polytechnical Nutrition. The College built a mobile kitchen, hosted cooking demonstrations across the village



活动，并向印尼国家石油公司募集企业社会责任基金。

在项目的最初3年里，PKK的女性成员亲自烹饪。项目为每个儿童提供每天1万印尼盾（约合0.70美元）的补贴，用于在当地市场购买食材。项目在最初的3个月，每周6天为11名儿童提供膳食，并要求他们每个月到村公共卫生中心测量身高和体重。当地儿童轮流参加该项目，这样在他们的父母完全负责其营养时，也能测量到他们的身高和体重。

3年后，PKK的女性成员决定与当地人民一起烹饪，以提高效率。她们收到了额外的捐款，在村里的中心位置建立了一个烹饪中心。摩的会把准备好的米饭、鸡肉卷和蔬菜汤派送到各个地点，该服务覆盖的最远村庄在7千米外的狭窄街道旁。拉克萨纳加拉说：“我们每天都会变换菜品，让孩子们对辅食保持兴趣。”

由于全国都面临着儿童营养不良和发育不良的问题，西瓜哇和东爪哇的其他城市也学习了这一烹饪中心的模式。国际食品非政府组织Rikolto的印度尼西亚项目负责人诺尼·卡班（Nonie Kaban）说：“印

and solicited corporate social responsibility funds from Pertamina, the national oil company.

For the first three years, PKK women cooked by themselves. The donated funds provided an allowance of 10,000 rupiah (US\$0.70) per child per day for ingredients purchased from local markets. The initial phase provided meals six days per week for 11 children over three months, who were required to have their height and weight evaluated every month at the village public health center. Children rotate in and out of the program so that their height and weight can also be measured when their nutrition is the sole responsibility of their parents.

After three years, the PKK women decided that it would be more efficient to cook together. Additional donated funds allowed them to build a cooking center at a central location in the village. Moto-taxis pick up prepared meals of rice, chicken roll, and vegetable soup and deliver them to points as far as 7 km away in the sprawling village of narrow streets. “Every day we change the varieties so the children will be interested in eating the supplement food,” said Raksanagara.

The cooking center model has already been replicated in other cities in West and East Java as the issue is a national problem. “Indonesia’s population is growing rapidly and the growth becomes a concern when one-third of Indonesian



度尼西亚的人口正在迅速增长，如果有三分之一的印尼儿童（约800万）发育不良，人口增长就会出现問題。OMABA项目是一项致力于改善儿童饮食营养的创新项目。多方之间的创新合作是该项目实现可持续性发展的关键因素。”

伊诺克·苏凯西（Enok Sukaesih）是一名志愿厨师兼送货员。炸天贝块是她在烹饪中心最喜欢做的食物。“我们每天都在烹饪中心一起工作，很快乐，有时还会唱歌，”她说，“以前很多人相互不认识，但现在有了共同的目标、互相帮助。”

实现妇女赋能是一种积极的发展。卡班说：“这场运动具有非常强烈的性别特征，因为主要参与者都是女性。甚至许多骑摩的人都是女性。”

每当摩的停在霍提玛萨里家门口时，瑞萨都能吃上蔬菜汤、天贝和鱼冻等食物。霍提玛萨里说：“他现在非常健康，不用经常去公共卫生中心了。”

children, about 8 million, are stunted,” said Nonie Kaban, Head of Program for Indonesia at international food NGO Rikolto. “OMaBa is an innovative movement in terms of improving dietary nutrition for toddlers. Innovative collaboration among many parties is the key success factor of the sustainability of this program.”

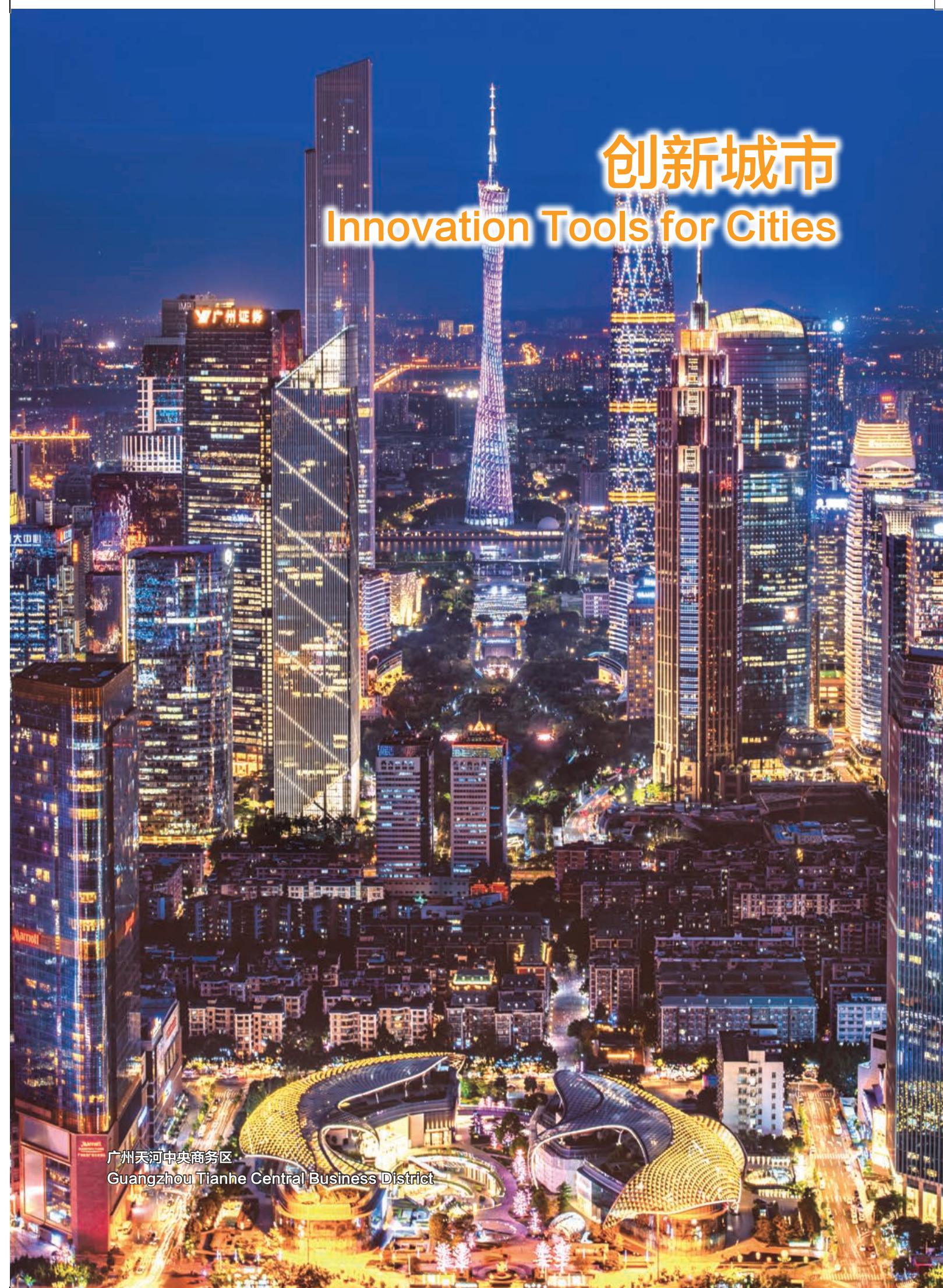
Enok Sukaesih is a volunteer cook and delivery person. Tempeh nuggets are her favorite food to make at the cooking center. “Every day we work together in the cooking center. We are very happy. Sometimes we sing,” she said. “So many people before didn’t know each other, but now we have a purpose to help each other.”

This reliance on women is a positive development. “This movement has a very strong gender dimension because the main actors are women,” said Kaban. “Even many of the motorbike riders are women.”

When the moto-taxi pulls up to Hotimahsari’s house, Resa eats meals like vegetable soup, fermented tempeh, and fish jelly. “He’s very healthy and does not go to the public health center very often anymore,” said Hotimahsari.



创新城市 Innovation Tools for Cities



广州天河中央商务区
Guangzhou Tianhe Central Business District



巴西 圣若泽杜斯皮尼艾斯： 黄热病优先监控

São José dos Pinhais, Brazil:

Digital Technology and Social Participation in Surveillance and Definition of Priority Areas and Actions for the Control of Yellow Fever in Brazil



哈 罗多·小格雷卡 (Haroldo Greca Junior) 是一名在巴西的圣若泽杜斯皮尼艾斯市政府工作的兽医，他一直在关注可能从动物传染给人类的新型疾病。该市的范围从巴拉那州最大城市库里蒂巴市人口稠密的郊区一直延伸到大西洋

As a veterinary doctor working in municipal government, Dr. Haroldo Greca Junior is always on the lookout for new diseases that might jump from animals to humans. Greca Junior works in São José dos Pinhais, Brazil, a municipality whose boundaries stretch from the densely populated suburbs of Curitiba,

雨林的茂密山坡。由于地处亚热带，当地从未关注过黄热病的危害。黄热病是一种由蚊子传播的季节性疾病，通常只在热带地区传播。几十年来，巴拉那州从未出现过病例。

然而，在21世纪10年代末，当地卫生系统发出了警报：黄热病疫情正在巴西由北向南蔓延。在2016至2018年的黄热病传播浪潮中，紧邻北部各州的地区有多人感染黄热病并不治身亡，而巴拉那州成了病毒的下一个目标。

“我研究过黄热病，但从未亲历过，”小格雷卡说，“很明显，黄热病迟早会在这里传播开，我们该怎么办呢？”

2018年1月，小格雷卡参加了一项关于如何处理猴子的培训课程。疫情期间，猴子是黄热病高发群体，而因病死去的猴子有时也会把这一疾病传染给人类。课上的部分培训内容是例行公事，比如演示如何佩戴口罩和手套并安全地处理一只死去的猴子。但有一项内容非常重要，就是巴西领先的公共卫生研究机构非奥克鲁斯研究所 (Fiocruz) 最近开发的智能手机应用程序SISS-Geo平台。这一平台允许公众通过照片和地理标记的位置轻松报告发现的野生动物尸体。

“我们需要这个平台，”小格雷卡说。他的团队由3名生物学家和1名兽医组成，负责监测人畜共患病，即会从动物传染给人类的疾病。但他们负责的地区比库里蒂巴市大3倍，其中还有2/3的面积位于森林中。

“我发现这个平台非常有趣，但我一直问自己，要如何使用这个东西，”小格雷卡说，“农村地区的人们大多都很固执，对科技的态度也不太友好。”

小格雷卡的团队很快就达成共识，只举办课程或讲座无法接触到他们的目标受

the largest city of Paraná state, into thickly forested slopes of Atlantic Rainforest. The municipality is located in a subtropical climate, so the scourge of yellow fever was never on his radar. Yellow fever is a seasonal disease spread by mosquitoes and normally confined to the tropics. There had been no cases in Paraná for decades.

In the late 2010s, however, the regional health system issued an alert: Yellow fever outbreaks were moving southward in Brazil. After waves of transmission in 2016-2017 and 2017-2018 that infected and killed people in the states immediately north, Paraná was now in the crosshairs.

“Yellow fever was something I had studied but never seen personally,” Greco Junior said. “It’s clear that it was going to come one way or another, so what are we going to do?”

In January 2018, Greca Junior attended a training course on how to deal with monkeys, who frequently fall prey to yellow fever infections during outbreaks. Dead monkeys, in turn, occasionally pass the disease to humans. Some of the training was routine, like demonstrating how to safely handle a dead monkey using a mask and gloves. But one component stood out: Fiocruz, Brazil’s leading public health research institute, had recently developed a smartphone application, the SISS-Geo platform, that allows members of the public to easily report dead wildlife with a photograph and geotagged location.

“We are going to need this platform,” Greco Junior said. He works with a team of three biologists and one veterinarian who monitor for zoonoses, or disease that can pass from animals to humans, but they are responsible for covering a geographic area three times larger than Curitiba with two-thirds of the surface area located in the forest.

“I found it very interesting, but I kept asking myself how we were going to use this thing,” Greca Junior said. “The rural community is stubborn and not so technology-friendly.”

Greca Junior’s team quickly determined that hosting a course or lecture would not reach their target audience,

众，即该市的27 315名农村居民，其中还有许多生活在偏远的社区。于是从2018年4月开始，小格雷卡团队每天进行实地考察，进行相对耗时但更加有效的一对一宣传，告知居民即将暴发的黄热病，鼓励他们接种疫苗，并教他们如何使用SISS-Geo平台。

小格雷卡说：“你不能那么正式，要像朋友间的聊天。这就跟一砖一瓦地砌墙一样。”

2018年12月，圣若泽杜斯皮尼艾斯市出现了第一例猴传黄热病病例。“2019年对我们来说是艰难的一年，”小格雷卡说，“吼猴几乎全部死亡，这让人很难过。”

虽然市政疾病监测小组几乎每天都在森林中度过，但由于范围太大且地形崎岖，

the municipality's 27,315 rural residents, many of whom are farmers living in isolated communities. Instead, they started making daily field visits in April 2018 to conduct time-consuming but effective one-on-one outreach to inform residents of an impending yellow fever outbreak, encourage vaccinations, and teach them how to use SISS-Geo.

“You have to be informal and make it sound like a chat between friends,” Greca Junior said. “It’s like building a wall brick by brick.”

The municipality registered its first monkey-borne yellow fever case in December 2018. “2019 was a tough year for us,” Greco Junior said. “You encounter families of howler monkeys all dead. It’s very sad.”

While the municipal disease monitoring team spent nearly every day in the forest, the terrain was too vast



他们无法独立完成检测工作。监测小组建立的第一道防线，要依靠像罗桑德拉·斯科里佩·德·奥利维拉（Rosângela Scrippe de Oliveira）这样的居民，她在市中心从事行政工作，却和丈夫住在毗邻古老雨林、占地2公顷的土地上，与市中心相距约27千米。

“我下载了很多应用程序，所以一开始并没有太重视SISS-Geo平台，”她说，不过她确实是在官员的建议下开始接种黄热病疫苗。“农村居民之间建立了WhatsApp群组，他们会给死去的猴子拍照。”

在她家周围，能看到卡斯卡维尔响尾蛇、各种猴子、巨嘴鸟和鹦鹉，还能听到它们的声音。2019年，吼猴的声音在丛林合唱中消失，这引起了奥利维拉的注意。

“随着时间的推移，在黄热病褪去之后，我对这个应用程序变得感兴趣起来，”她说，“我现在意识到了它的重要性。”她估计，自己每周都会访问SISS-Geo平台1次，上传大约5张周末在家工作时拍摄到的野生动物照片。

and rugged to cover on their own. As the first line of defense, they relied on residents like Rosângela Scrippe de Oliveira, who lives with her husband on two hectares that abuts old-growth rainforest, some 27 kilometers from the urban center of São José dos Pinhais, where she works in administration.

“I have so many Apps so I didn’t give [SISS-Geo] much importance at first,” she said, although she did seek an inoculation against yellow fever on the officials’ advice. “We have WhatsApp groups among the rural neighbors who would take photos of dead monkeys.”

Around her property she sees and hears cascavel rattlesnakes, many species of monkeys, tucans, and parrots. When the sound of howler monkeys disappeared from the jungle chorus in 2019, Oliveira took notice.

“With time, after the yellow fever situation, I became more interested,” she said. “Today I see the importance.” She estimates that she accesses the App once per week and sends in roughly five wildlife photos from her weekends working on her property.

自3年前推出以来，SISS-Geo平台收到了约1万份上传的材料，每逢周五至周日，城市居民会回到他们的第二个住所或到生态旅游小屋过周末，这时上传数量会激增。新冠肺炎疫情也提高了公众对人畜共患疾病的认识，让更多普通人开始使用SISS-Geo平台。截至2020年10月，该应用程序帮助城市工作人员在圣若泽杜斯皮尼艾斯市中找到55只死去的灵长类动物。小格雷卡表示，圣若泽杜斯皮尼艾斯市对SISS-Geo平台的早期应用激励了库里蒂巴市大都市区的其他城市也开始使用该平台，该平台很快将成为整个巴拉那州的标准。

南里奥格兰德州健康监测中心的生物学家、流行病学家马可·安托尼奥·巴

The App has registered around 10,000 submissions since it was introduced three years ago, with spikes on Friday through Sunday when urban residents visit their second homes or spend weekends at eco-tourism lodges. The COVID-19 pandemic also enhanced public awareness of zoonotic diseases, which led to more users among the general public. Through October 2020, the App helped city staff locate 55 dead primates in São José dos Pinhais. Greco Junior said that São José dos Pinhais' early adoption has inspired the other municipalities in metro Curitiba to begin using the platform, which will soon become standard across Paraná.

Marco Antônio Barreto de Almeiuda, a biologist and epidemiologist with the Rio Grande do Sul State Center for Health Monitoring, applauds these outcomes. "In other

雷托·德·阿尔梅乌达（Marco Antônio Barreto de Almeiuda）对这些成果表示赞许。他说：“有些地区缺乏时间或资源对主要信息来源，即生活在灵长类动物附近的人进行直接培训。在这些地方，SISS-Geo平台的用户大多是卫生工作者。他们从事灵长类动物的死亡监测工作，在野外实地考察收集到的信息。这种情况下，他们无法即时获得信息通知，而这正是SISS-Geo能够提供帮助的地方。”

最后，在黄热病暴发期间，猴子数量大幅减少，但圣若泽杜斯皮尼艾斯市只出现了1例人类感染黄热病的病例。虽然很难从科学上证明SISS-Geo是重要的决定性因素，因为接种疫苗在预防人类感染也发挥着重要的作用，但这次经历为公众科学留下了具有可持续性的成果。

“我很自豪，因为我们为收集数据并及时通知市政团队做出了贡献，”奥利维拉说，“现在，吼猴的声音又回来了。”

places where they did not have the time or resources to directly train the primary source of information, which are the people living in proximity to primates, the majority of SISS-Geo users are health workers,” he said. “These people work in primate death monitoring and are already in the field investigating information that arrives from other sources, and in these situations they have lost the opportunity to be notified immediately, which is the great triumph of SISS-Geo.”

In the end, the city only recorded one human case of yellow fever during the outbreak that temporarily decimated monkey populations. While it is difficult to prove scientifically that SISS-Geo was a significant determining factor—vaccinations are a vital component for preventing human infection—the experience has left a lasting outcome for citizen science.

“I’m proud because we contributed to collecting the data and informing the municipal team,” Oliveira said. “And today, the howler monkey sounds are back.”





厄瓜多尔 基多： 都市区生态效益工具

Quito, Ecuador:

Eco-Efficiency Tool for the Metropolitan District of Quito



自第一轮融资获批以来，经过近10年的时间，厄瓜多尔首都基多即将开通地铁系统。基多市希望这条南北向

After nearly ten years since the first round of financing was approved, Quito is about to inaugurate an underground metro system. The Ecuadorian

22千米长的地铁线路能够改善城市交通情况，解决私家车日益拥堵的问题。

在地下发生巨大变化的同时，基多地上也经历着巨变，这要归功于基多市2019年采用的价值捕获概念和《基多大都市生态效益条例》（下称《条例》）。《条例》允许房地产开发商在靠近快速公交系统站台附近的建设项目增建原有高度的50%，在靠近地铁站附近的建设项目增建原有高度的100%，前提是建筑项目的各项生态指标需达到一定标准。

基多市政府土地使用规划和政策主任弗拉基米尔·塔皮亚（Vladimir Tapia）表示，在该《条例》指导下，基多都市区有望“改变辖区模式”。他将基多目前的发展模式描述为：一方面是城市扩张，另一方面是工作和服务集中在昂贵的城市中心区域。25年来15个新地铁站和3条快速公交线路的密集建设可能会给基多的发展模式带来改变。

塔皮亚说：“我们有一项重要的提议，就是把城市改造为多中心模式。以前只能建6层高，而现在在基多南部的部分地区可以建20层高的建筑。”

为了提高建设标准，房地产投资者要向公共财政缴纳资金。到目前为止，项目已为基多市政当局创造了10 669 816美元的收益。目前在建的建筑有60栋，预计缴纳土地增值税2 000万美元。

许多土地价值捕获方案旨在为能产生额外价值的基础设施建设提供资金，但基多的运作方式有所不同。美洲开发银行为基多地铁1号线的建设投资了2亿美元。而来自土地价值捕获的税收则用于改善公园和绿地、建设操场以及收购新地铁站附近的土地用于建设社会住房。厄瓜多尔法律允许公共部门在对地铁等基础设施投资进行估价之前，以上一年的价格购买社会住

capital hopes this 22 km line running from north to south will improve urban mobility in a city increasingly congested with private automobiles.

These big changes underground are also accompanied by big changes above ground thanks to the Quito Metropolitan District's 2019 value capture and ecoefficiency ordinance, which permits real estate developers to build 50% higher near BRT stations and 100% higher near metro stations provided they follow stricter energy efficient building standards.

With this ordinance, metropolitan Quito is hoping to “change the territorial model”, said Vladimir Tapia, Metropolitan Director of Land Use Planning and Policy for the regional government. He described the current model of growth in Quito as urban sprawl on the one hand and the concentration of jobs and services in just one expensive, central part of the city on the other hand. Those dynamics could change with opportunities for denser construction at the 15 new metro stations as well as near the 3 BRT lines that have been built over the 25 years.

“We have an important offer to transform the city and switch to a polycentric model,” Tapia said. “You can now build up to 20 stories in parts of the south of Quito when previously you could build only six stories.”

In exchange for this additional building capacity, real estate investors pay into the public coffers. Thus far, the Quito Metropolitan District has collected US\$10,669,816. There are 60 buildings in the construction pipeline worth an estimated land value tax of US\$20 million.

While many land value capture schemes are designed to pay for the infrastructure investment that generated the additional value, Quito operates differently. The Inter-American Development Bank financed the \$200 million investment to build the Quito Metro's Line 1. Instead, the funds from land value capture taxes are invested in improving parks and green areas, building playgrounds, and acquiring land parcels near the new metro stations for social housing. Ecuadorian law permits the public sector

房用地。该举措可以防止投机性投资抬高土地成本。据私人投资者预计，这些土地对公共部门具有很大吸引力。

“基多的建筑商和开发商很少，但最大的几家都在寻求建设新建筑的机会，”住房顾问和应用研究员罗莎·艾琳娜·多诺索（Rosa Elena Donoso）说，“《条例》还允许并鼓励将多个地皮地块合并在一起，因为这些地块一般面积都很小，如果不合并就不可能在上面建楼。”

William Elmir & Asociados房地产集团就是基多最大的开发商之一。这个跨越几代人的家族产业从事住宅行业已有30年之久。“基多是厄瓜多尔房地产业最复杂的城市之一，”项目经理丹尼尔·埃尔米尔（Daniel Elmir）说，“城市有一半土地都不允许开发，所以人们都向山谷移居。”

但由于新规定的出台，该公司正在市中心加大投资。在拉卡罗利纳的两个新项

to buy land for social housing at the previous year's price before the valuation from an infrastructure investment like the metro. This measure prevents speculative interest from driving up the cost of land that private investors anticipate will be attractive to the public sector.

“Quito has few builders and developers, but the biggest ones are pursuing new construction,” said Rosa Elena Donoso, a housing consultant and applied researcher. “The ordinance also permits and incentivizes joining together parcels because in many cases lots are small and it is impossible to build up without combining parcels.”

William Elmir & Asociados Real Estate Group is one of those companies. The multigenerational family company has specialized in residential housing for 30 years. “Quito is one of the most complex cities in Ecuador for real estate,” said Project Manager Daniel Elmir. “Half of the city does not permit development so people are migrating to the valleys.”

But the company is investing more in the center of the



目中，该公司分别投资增建了4个楼层和8个楼层。埃尔米尔说：“基多的土地非常昂贵，所以如果不增加楼层，这个项目也就不会开展了。”

然而，埃尔米尔认为市政府应该降低增加楼层的成本，以鼓励规模较小和资本较少的公司参与。“如果降低准入成本，市政府将得到原来2~3倍的回报，因为会有更多的公司想要参与建造，”他说，“在像拉卡罗利纳这样的市镇，购买增建楼层可能和购买隔壁的地块一样昂贵。在这种情况下，我宁愿买隔壁的地块，也不买增建楼层。”

city due to the new regulations with two new projects in La Carolina neighborhood where the firm paid for four more floors on one building and eight more floors on the other. “Land is very expensive in Quito so without the extra floors, the project would not have happened,” Elmir said.

However, he believes that the city should reduce the cost for additional floors in order to encourage smaller and less capitalized companies to participate. “If you drop the price, you’ll get two to three times more because many more companies will want to build,” he said. “In a neighborhood like La Carolina, buying additional floors can be as expensive as buying the lot next door. In that case, I’d prefer to buy on the lot next door rather than additional floors.”

塔皮亚认识到相对不成熟的厄瓜多尔房地产业所面临的挑战。他说：“即使在疫情之前，95%以上的房地产公司也没有足够的流动资金开发8层以上的建筑。中小企业只会在农村地区寻找便宜的地块来建造小型房屋或4层楼建筑，因此我们需要探寻房地产行业的新商业模式。”迄今为止，在基多的15个站点中只有5个进行了大型土地价值捕获活动。

新冠肺炎疫情对厄瓜多尔的经济也造成了毁灭性影响，阻碍了房地产业的发展。2020年，没有新项目缴纳土地价值捕获税，但塔皮亚希望房地产业能在2022年开始慢慢复苏。

然而，开展新建筑建设需要满足高能效率标准。基多是厄瓜多尔唯一一个在购买增建楼层时要求更高建筑效益的城市。埃尔米尔欣然接受这一要求，但同时希望基

Tapia recognizes these challenges for the relatively immature Ecuadorian real estate industry. “Even before the pandemic, upwards of 95% of real estate companies don’t have enough liquidity to develop more than eight floors,” he said. “We need new business models for the real estate sector because the small-to-medium companies just look for cheap lots in rural areas to build small houses or four-story buildings.” There has been significant land value capture activity around only five of the 15 stations thus far.

The COVID-19 pandemic was also devastating to Ecuador’s economy, which will slow down the real estate pipeline. There were no new projects contributing to the land value capture tax in 2020, but Tapia is hopeful that 2022 will begin a long recovery.

When new construction does take place, however, it will also meet high energy efficiency standards. Quito is the only city in Ecuador that requires stricter building efficiency as part of the purchase of additional floors for



多能采用像领先能源与环境设计（LEED）或整体煤气化联合循环（IGCC）这样的国际标准，而不是依赖于厄瓜多尔自己的建筑师协会所定的标准。

虽然土地价值捕获概念和《条例》生效仅两年时间，并且可能受新冠疫情和经济衰退的影响，但艾琳娜·多诺索认为，在2016年厄瓜多尔通过了具有里程碑意义的土地使用和规划法后，《条例》是该市向前迈出的重要一步。“这在巩固城市规划进程中是非常重要的一个进展，”她说，“《条例》证实了一个想法：通过增加高度所创造的空间首先必须符合城市逻辑，例如这一空间必须在地铁站附近或基础设施完善的位置，还要节能。”

construction. Elmir welcomes this requirement but wishes that Quito would adopt an international standard like LEED or IGCC rather than rely on the national Colegio de Arquitectos.

Even as the land value capture and ecoefficiency ordinance is just two years young and may have suffered a setback due to the pandemic recession, Elena Donoso believes the ordinance is a major step forward for local implementation after Ecuador adopted a landmark national land use and planning law in 2016. “It is an important advance that has been achieved to consolidate better urban planning processes,” she said. “The ordinance confirms the idea that the space created through additional height first must have an urban logic, such as around metro stations or in locations with sufficient infrastructure, and then also be energy efficient.”



南非 开普敦： “绿色开普” 西开普工业共生计划

Cape Town, South Africa:

Western Cape Industrial Symbiosis Programme (WISP)
Delivered by GreenCape



开普敦北部的亚特兰蒂斯工业园的企业家们都习惯独来独往。在充满机器和卡车轰鸣声的亚特兰蒂斯，相邻的企业并没有互相了解的习惯。经营

The industrial area north of Cape Town known as Atlantis is the kind of place where business owners keep to themselves. Between the roar of machinery and the rumble of trucks, commercial neighbors in Atlantis

西海岸塑料公司的路易·鲁克斯（Louis Roux）就是如此。西海岸塑料公司（West Coast Plastics）从废品收集者那里接收聚丙烯、高密度聚乙烯和低密度聚乙烯塑料，将这些材料粒化成小块、进行清洗并烘干，最后制成新的再造粒卖回给塑料行业。

2018年，鲁克斯接待了“绿色开普”（GreenCape）的来访。“绿色开普”是一个支持绿色经济发展的慈善组织。组织代表向他介绍了“西开普工业共生计划”（WISP），该计划将兼容的工业用户进行配对，以免可利用的材料被当成废物扔进填埋场。

“几个月后，他们邀请我与亚特兰蒂斯的其他企业家和同事一起聚会，”鲁克斯说，“那天我收获颇丰，因为可以在自己的领域与其他企业进行互动，相互协作。”

鲁克斯后来与一家名为“优质板条箱制造商”（Quality Crate Manufacturers）的挤压制品公司达成了合作。“‘绿色开普’的代表奥利弗（Oliver）说市场上有个新人，你可以给他打个电话，”鲁克斯说，“从那之后，我们就一直在一起合作。”

如今，优质板条箱制造商每月从鲁克斯的公司购买30~50吨塑料。鲁克斯说：“他是我现阶段最大的客户。但我本来是不会结识他的。”通过另一次介绍，鲁克斯还了解了一家负责收集大公司和工厂废料的公司，并将其发展为新的原材料供应商。

这些成功的案例就是WISP的基本内容。该计划始于2013年，得到了西开普省政府的支持，从2016年开始在开普敦市的财政支持下继续运营。

2013年，开普敦市得知其废物填埋

don't have a custom of getting to know each other. Such was the case for Louis Roux, who runs West Coast Plastics. His company takes in polypropylene, high-density polyethylene, and low-density polyethylene plastics from waste-pickers, granulates the material into smaller pieces, washes and dries it, and finally makes new pellets which it sells back to the plastic industry.

In 2018, Roux received a visit from GreenCape, a charitable organization supporting green economic development. The representative described something called the Western Cape Industrial Symbiosis Programme, or WISP, which pairs compatible industrial users in an effort to divert materials from landfills.

“Within a couple months they invited me to a get-together with the other business owners and associates in Atlantis,” said Roux. “It was a nice fruitful day where you can interact with other businesses in your own area and look at some synergies.”

Roux eventually hit it off with an extrusion company called Quality Crate Manufacturers. “Oliver from GreenCape said there's a new guy on the market and you should give him a call,” Roux said. “We've been working together ever since.”

Today, Quality Crate buys 30-50 tons per month from Roux. “He's my biggest client at this stage,” he said. “I would never have known about him.” In another introduction, Roux also found new suppliers of raw material from a company that collects scraps from big corporations and factories.

These kinds of success stories are the bread and butter of WISP, which began in 2013 with support from the Western Cape provincial government and continues to operate since 2016 with financial support from the City of Cape Town.

The need for WISP arose when the city learned in 2013 that its landfills had only three years of capacity left. “There was a lot of pressure on landfills from companies disposing of waste,” said WISP program manager

场容量只够再使用3年，就产生了对WISP的需求。WISP项目经理艾曼纽·卡塞塞（Emmanuele Kasese）说：“扔垃圾的公司给废物填埋场带来了巨大压力。城市也面临着要减少废物数量的巨大压力。”在过去的8年里，WISP把废物填埋场里的8.8万吨废弃物进行了重新分配，这让压力重重的城市废物填埋场如获新生。

虽然有许多方法都可以减少废物填埋场的废弃物，但WISP的主要效益与西开普省的绿色经济战略不谋而合。这是一种低成本政府干预，还能创造就业机会。卡塞塞说：“市政府为这一计划提供资金，工业帮助城市减少废弃物。”

对丹麦、芬兰、匈牙利等地来说，工业共生计划并不是什么新鲜的事物。英国

Emmanuele Kasese. “There is a lot of pressure on the municipality to reduce the amount of waste.” Over the last eight years, WISP takes credit for diverting 88,000 tons of material from landfills, which has given additional life to the stressed municipal landfills.

While there are many ways to divert waste from landfills, WISP’s major benefit coincides with the province’s green economy strategy. It is a low-cost intervention and it creates jobs. “You fund it and industry does the work on your behalf,” Kasese said.

Industrial symbiosis programs are not new. They already exist in Denmark, Finland, and Hungary, among other places. The UK’s National Industrial Symbiosis Programme was the direct inspiration for WISP, whose backers embarked on a study tour to see the UK model firsthand.



的国家工业共生计划是WISP的直接灵感来源。为此，该计划的支持者在英国进行了实地考察，目睹了英国的模式。

“WISP的框架是基于英国模式构建的，但具体的实施背景至关重要，”卡塞塞说，“该促进计划需要由实地工作人员进行推动，而非产业合作的自然推进。只要派人去实地参观公司、识别材料、确定材料的估值方法，就能加快项目进程。”

WISP由一支跨学科团队负责执行，其中5名团队成员是来自环境和工程背景的全职协调员。该团队帮助缺乏相互沟通的行业进行匹配和联系。例如，甘油或称丙三醇（一种从食用油中提取的生物柴油的副产品）可用作建筑业的抑尘剂。

WISP的一个典型案例是，将一家产生大量填埋废物的石膏板制造商与一家每月回收350吨石膏用作农场肥料的企业进

“The skeleton is based on the UK model, but context always matters,” said Kasese. “This is a facilitated program with people on the ground driving the work as opposed to industrial symbiosis work that is organic. Once you put people on the ground to visit companies, identify materials, and determine how material can be valued, then you expedite the whole process.”

WISP has a cross-disciplinary team of five full-time facilitators who come from both environmental and engineering backgrounds. The team has helped match industries that do not normally communicate with one another. For example, biodiesel from cooking oil has a byproduct—glycerine or glycerol—which can be used as a dust suppressant in the construction industry.

In one notable success, WISP paired a manufacturer of gypsum board, who was a heavy landfill user, with an entrepreneur who recycles 350 tons of gypsum per month into fertilizer for farms.



行了配对。

但也并不是每次都能配对成功。有时候，将废物转化为可用材料比购买新材料的成本更高。而有时，两家公司之间距离太远导致物流效率低下，因此在填埋场倾倒废物成本会更低。有时还可能会遇到立法方面的阻碍，比如有些情况下法律会要求企业办理昂贵的废物管理许可证。如果WISP想把生产发动机缸体的铸造厂与制砖厂配对，许可证的要求就成了障碍。制砖厂可以使用铸造厂每年产生的30吨湿型砂副产品。然而，湿型砂中有时会掺入重金属，这使得湿型砂成了需要特殊许可证的危险物质。

在这些情况下，开普敦市不仅仅提供了资金，还发挥着更积极的作用。卡塞塞说：“开普敦市试图说服国家环境事务部重新审视相关立法内容。”但总的来说，“绿色开普”只代表了WISP的公众形象，

But not every pairing works out. Sometimes it costs more to upgrade the waste to usable material than to buy new material. Other times the distance between two companies makes for inefficient logistics, whereby it's cheaper to dump at the landfill. Or the hurdle can be legislative, such as the requirement for expensive waste management licenses. That requirement was an obstacle when WISP hoped to connect foundries that make engine blocks with a brick maker, who could use the 30 tons of green sand byproduct generated annually. However, heavy metals sometimes leech into the green sand, which makes it hazardous material that requires a special license.

In these cases, Cape Town takes a more active role than just providing funds. “The city tries to lobby the national Department of Environmental Affairs to relook at some of those legislative components,” Kasese said. In general, however, GreenCape is the public face of WISP rather than a government entity.

而非政府机构。

艾伦·麦克阿瑟基金会政策研究官员海伦娜·奥鲁克-波托基（Helena O'Rourke-Potocki）说：“让一个独立机构来实施WISP，意味着该计划在一定程度上独立于西开普省政府。由于参与该计划的企业不直接与公共部门进行互动，他们更容易建立起对‘绿色开普’的信任。选择让政府运行工业共生计划还是由一个独立机构单独运营，取决于当地的环境以及哪种模式最适合计划的需要。”

对鲁克斯来说，在一个缺乏企业互动的行业里，这种见面会是一种非常受欢迎的交流方式。他说：“过去，我们彼此间相隔三四千米，相互不认识。”这种活动给企业家们留下了良好的印象。鲁克斯说：“开普敦市正在扶持企业，但南非其他地区好像就没有那么勤奋了。我对这一点的印象相当深刻。”

“Having WISP implemented by a separate entity meant that the program had a degree of independence from the Western Cape government,” said Ellen MacArthur Foundation Policy Research Officer Helena O'Rourke-Potocki. “As the businesses involved in the program were not interacting directly with the public authorities, it was easier to build a trusting relationship with GreenCape. The choice of having an industrial symbiosis program run in-house or by a separate entity depends on the local context and which model will best suit the needs of the program.”

For Roux, the meet-and-greet was a welcome personal touch in an impersonal industry. “We were working three to four kilometers away and we didn't know each other,” he said. The experience left a favorable impression. “The City of Cape Town supports and backs business whereas I don't think the rest of the country is so diligent,” he said. “I'm quite impressed.”



美国 洛杉矶： 可持续发展目标行动开源工具

Los Angeles, USA: Open-Source Tools for Action on the SDGs

2017年10月，洛杉矶市长埃里克·加希提（Eric Garcetti）承诺，美国第二大城市洛杉矶将致力于实现可持续发展目标（SDGs）。联合国大会于2015年一致通过了可持续发展目标（又称全球目标）。洛杉矶此举正值各国纷纷对可持续发展目标做出承诺之时。

In October 2017, Los Angeles (LA) Mayor Eric Garcetti made a pledge: The second largest U.S. city would strive to meet the ambitions of the Sustainable Development Goals (SDGs). LA's move came amid a wave of commitments to the SDGs, also known as the Global Goals, since they were adopted unanimously by the United Nations General Assembly in 2015.

只有一个问题，那就是这17个可持续发展目标及其169项具体目标是由国家为国家设计的。全球目标欢迎各城市做出承诺、给予支持，但无论是在精心编制的2030年可持续发展议程中，还是联合国统计委员会的后续工作中（如其通过的指标框架），城市都不是工作的主体和重心。

洛杉矶奥运会和残奥会发展部主任艾琳·布罗姆马金（Erin Bromaghim）马上意识到了这个问题。她说：“城市虽然在表面上做出了承诺，但并没有做出彰显其意义的实际行动。这个项目的想法挺新颖的，并且和非营利组织或国家政府的支持没有直接联系。但我们也因此没有现成的样板可以参考，不知道从何开始。”

在加希提市长做出这一承诺后的近四年时间里，洛杉矶开发了一个开源平台，用于收集和分析地方层面的可持续发展指标。这个开源工具为洛杉矶创造了项目初期所缺乏的样板，意在帮助其他城市更好地追踪他们在可持续发展目标方面的进展。

为了启动该项目，洛杉矶得到了慈善机构的大力支持。康拉德·N·希尔顿基金会（Conrad N. Hilton Foundation）同意支持地方政府的工作，因为市政府开创了将这一国家可持续发展框架在地方层面落地的先河，这成为洛杉矶对可持续发展目标做出的公开承诺的重要部分。

洛杉矶的第一步是向拥有相关知识和专业技能的外部机构寻求帮助。2018年2月，该市与洛杉矶西方学院政治经济研究所以及城市数据世界委员会（World Council on City Data）达成了合作协议。这些伙伴关系让洛杉矶成为全球同意共享数据的八个核心城市之一，这些数据都是在制定当地可持续发展目标时收集到的。洛杉矶还试图通过对与可持续发展目标各个方面相关的现有城市规划进行盘点，来制定基线标准。

There was only one problem: The 17 SDGs and their 169 targets were designed by countries, for countries. Cities were welcome to pledge their support, but they were not front and center in the carefully crafted and negotiated document known as the 2030 Agenda for Sustainable Development and in subsequent efforts like the adoption of an indicator framework by the United Nations Statistical Commission.

That conundrum immediately 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."

Over the nearly four years since the mayor made that pledge, LA has developed an open-source platform for collecting and analyzing SDG indicators at the local level. As an open-source tool, LA created the template that it lacked when first pursuing this exercise in the hopes of paving the way for other cities to more easily track their progress on the SDGs.

To kickstart the effort, the city had vital support from the philanthropic sector. As part and parcel of the city's public pledge to the SDGs, the Conrad N. Hilton Foundation agreed to backstop the local government as it pioneered just how a municipal government could adapt this national framework for sustainable development to the local level.

LA's first move was to enlist the help of outside entities that had relevant knowledge and expertise. In February 2018, the city entered into partnership agreements with a political economy institute at LA Occidental College and with the World Council on City Data. These partnerships made LA one of eight hub cities around the world that agree to share data collected in the development of local SDG indicators. The city also



布罗姆马金说：“马上你就可以看到各城市在其职责范围内拥有什么，又缺少什么。”例如，在公共卫生管理方面，是由比洛杉矶市更大的地方政府单位洛杉矶县负责。同样，在教育方面，洛杉矶联合学区所涵盖的地理范围也比洛杉矶市要大。

因此，洛杉矶分析了哪些目标与其市政管辖范围更相关。

例如，就关于健康的可持续发展目标3而言，布罗姆马金表示：“虽然我们非常关心所有的目标和指标，但我们对孕产妇死亡率【具体目标3.1】没有管辖权，而是对交通事故造成的死伤人数【具体目标3.6】有管辖权。”就关于文化遗产的具体目标11.4而言，洛杉矶认为可以通过整合市文化局正在绘制的洛杉矶文化资源地图，

sought to develop baseline measurements by conducting an inventory of existing city plans that touch on the various aspects of the SDGs.

“Right away you can see what cities may or may not have within their responsibilities,” Bromaghim said. For example, Los Angeles County, a unit of local government larger than the City of Los Angeles, is responsible for public health. Likewise for education, the Los Angeles Unified School District encompasses a geography larger than the City of Los Angeles.

As a result, LA parsed which targets were more relevant to its municipal jurisdiction.

With regards to SDG3 on health, for example, “While we care a lot about all of the targets and indicators, we don’t have jurisdiction over maternal mortality [Target 3.1] but we do have jurisdiction over traffic fatalities [Target 3.6],” she said. In the case of SDG11.4 on cultural heritage,



在规定国家在文化资源上的支出金额目标上更加深入。

洛杉矶市政府惊讶地发现，城市在实现其他具体目标上发挥着非常大的影响力。在对陆地生物的可持续发展目标15的考察中，布罗姆马金最初并不指望自己的城市有多大的权威。“我以为洛杉矶并不是生物多样性的中心。但事实上，我们有庞大的团队在洛杉矶负责生物多样性研究，比如研究野生动物廊道和入侵物种，”她说，“在整个城市结构中，有许多令人惊叹的专业领域，而所有领域都与实际的城市服务有关。”例如，生物多样性指标帮助通知该市卫生局避开野生动物廊道，并争取公众的支持以在现有道路上建设野生动物廊道。这一指标还通过整合来自公众科学应用iNaturalist的数据，创造公众参与的机会。

2019年7月，洛杉矶开发的可持续发展

LA felt that it could go deeper than the national target of dollar amount spent on cultural resources by incorporating a map of citywide cultural resources that was already underway at the city’s Department of Cultural Affairs.

With other targets, the city was surprised to discover just how much influence it had. When reviewing SDG15 about life on land, Bromaghim initially did not expect the city to have much authority. “I didn’t think of LA as a hub of biodiversity but in fact we have huge teams looking at biodiversity in LA, such as understanding wildlife corridors and invasive species,” she said. “There are amazing pockets of expertise throughout the city structure, all of which relate back to practical city services.” For example, biodiversity indicators helped inform the city’s Bureau of Sanitation to avoid wildlife corridors and build public support for the construction of wildlife corridors over existing roadways. This indicator also created opportunities to engage the public by incorporating data from the citizen science application iNaturalist.

目标数据报告平台正式上线，目前收集了159个指标，比美国政府的门户网站SDG.gov还要多60个。2019年，洛杉矶向联合国可持续发展高级别政治论坛提交了自愿地方审查报告。最后，该市推出了可持续发展目标活动索引。作为公共百科全书，可持续发展目标活动索引收录了在洛杉矶推进可持续发展目标的各大组织，包括公共部门、私营部门、慈善组织、基层等地方实体。

The LA Open SDG data platform went live in July 2019. It currently collects 159 indicators, which is 60 more than the U.S. government's portal SDG.gov. In 2019, the city also submitted a Voluntary Local Review to the UN High-Level Political Forum. Finally, the city launched an SDG Activity Index as a public encyclopedia of local entities across the public, private, philanthropic, grassroots, and charitable sectors that are pursuing efforts to improve SDG-related outcomes in the city.

这些丰富的资源为其他城市提供了一盏明灯，他们也希望学习洛杉矶的做法，但不知道从何开始。联合国基金会的克里斯塔·拉斯穆森（Krista Rasmussen）说：“要改造和落实推进可持续发展目标所需的条件是一项艰巨的任务。但洛杉矶已经开辟了一条清晰的道路，并制定了整个过程，以加速生成可持续发展目标框架，使其适用于他们的城市。这些详细的记载非常宝贵。”洛杉矶采取了可持续发展目标框架规定之外的措施，拉斯穆森对此表示特别赞赏。

This wealth of material has been a beacon for cities looking to do the same but unsure where to start. “Translating and implementing the question of what it takes to move the SDGs forward can be daunting,” said the UN Foundation's Krista Rasmussen. “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.” Rasmussen applauded LA in particular for taking measures beyond those prescribed in the SDG framework.



拉斯穆森认为，像洛杉矶这样的大城市能够争取到基金会、大学等各方的支持，这是非常值得肯定的。除了西方学院之外，南加州大学、亚利桑那州立大学和波莫纳学院等高等院校也加入了可持续发展目标项目，为学生提供了方便收集可持续发展目标数据的渠道。她说：“这些高校拥有其他城市所没有的资源 and 能力。”

作为希望在当地推广可持续发展目标的项目召集人之一，拉斯穆森说，联合国基金会已经在指导弗吉尼亚州阿灵顿和亚利桑那州凤凰城等城市学习洛杉矶的经验了。2021年1月至2月，地方自愿审查研讨会召开，来自140个地方和地区政府的代表参加了本次研讨会。会上，洛杉矶也是其中一个特色研究案例。

“开放数据观察”组织（Open Data Watch）的伊莱特拉·巴尔迪（Elettra Baldi）说：“洛杉矶是全球第一个使用开源平台报告可持续发展目标数据的城市，报告的精细程度很高。这很重要，因为它为其他希望在当地采用可持续发展目标的城市提供了蓝图。他们使用免费软件GitHub创建了门户网站，其他城市可以免费重复使用其代码搭建可持续发展目标平台。这也是洛杉矶为确保其他城市能够复制其门户网站所做出的关键一步。”

一开始，这似乎是一项艰巨的任务。但随着洛杉矶大批数据科学家和志愿者对大量公开可用的数据集进行筛选，将可持续发展目标投射到城市的足迹上，这项任务肯定会逐渐容易起来。

布罗姆马金说：“表面上来看，这些目标太大了，比如减少不平等之类的目标。但当我深入研究这些目标与洛杉矶之间存在的关系，发现这只不过是一款配对游戏。”

Rasmussen credited the resources that a big city like LA was able to marshal, from foundation to university support. In addition to Occidental College, other institutes of higher learning like the University of Southern California, Arizona State University, and Pomona College joined the SDG effort and provided a pipeline for students to work on the SDG data collection effort. “They have resources and additional capacity that other cities don’t have,” she said.

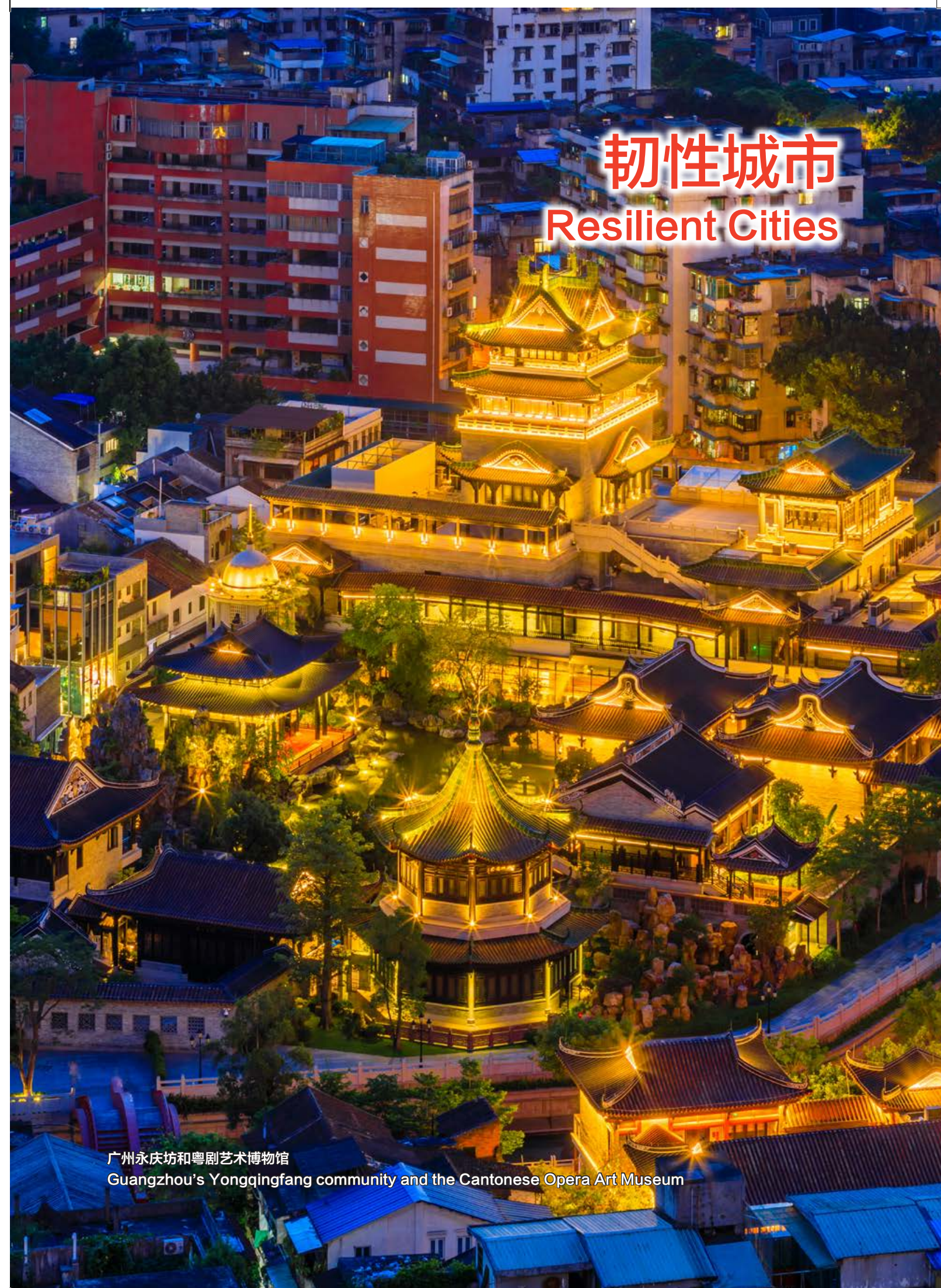
As one convener hoping to spread local adoption of the SDGs, Rasmussen said the UN Foundation has directed cities like Arlington, Virginia and Phoenix, Arizona to learn from the LA experience. LA was also one of the featured case studies in a January-February 2021 workshop on Voluntary Local Reviews attended by representatives from 140 local and regional governments.

“Los Angeles is the first city in the world to report SDG data at such a granular level using an open-source platform,” said Elettra Baldi of Open Data Watch. “This is important because it serves as a blueprint for other cities that want to adopt the SDGs locally. They created the portal using GitHub, a free software, and other cities can reuse the code used to build the SDG platform for free. This is a crucial step that LA has taken to ensure that other cities can replicate their portal.”

What at first seemed like a monumental task slowly but surely became more manageable as LA’s army of data scientists and volunteers sifted through the reams of publicly available datasets to map the SDGs onto the city’s footprint.

“From the outside the goals are so big—think about something like reducing inequalities,” Bromaghim said. “But when I started digging in on how it relates back to LA, it was just a matching game.”

韧性城市 Resilient Cities



广州永庆坊和粤剧艺术博物馆
Guangzhou's Yongqingfang community and the Cantonese Opera Art Museum



中国 重庆： 处理疫情城市医疗废弃物的应急解决方案

Chongqing, China:

Innovative Emergency Solutions to the Pandemic Challenge for Urban Medical Wastes Disposal



2020年初，中国武汉暴发新冠肺炎疫情。中国在短短10天内建成了一所方舱医院以接收不断增加的患者，令全世界为之瞩目。但是，在新冠肺炎疫情早期，中国的城市除了要为患者提供医疗设施，还有其他的卫生需求。

When the COVID-19 outbreak emerged in Wuhan, China, the world was captivated by an emergency field hospital constructed in just 10 days in January and February 2020 to accommodate a surge of patients infected with the novel coronavirus. But the health needs in Chinese cities during the early days of



医疗废物处理是抗击疫情所需的基础设施的重要组成部分。因此，当生态环境部发现武汉缺乏足够的医疗废物处理设施时，中央政府向总部位于重庆的医疗废物处理系统领先供应商智得热工（Gient）寻求帮助。与建设方舱医院一样，智得热工公司的时间非常紧迫，要在15天内建造一个新的医疗废物处理设施，且能满足每天处理30吨医疗废物的需求。智得热工在建造此类设施方面有着非常丰富的经验，它号召相关的私营和公共部门合作伙伴一起行动起来，在紧急情况下重新安排了设备、供应和库存。

the COVID-19 pandemic did not end with facilities for patients.

Medical waste disposal was another component of essential infrastructure to battle the pandemic. So when the Ministry of Ecology and Environment determined that Wuhan lacked sufficient medical waste treatment facilities, the national government turned to Chongqing-based Gient, a leading provider of medical waste treatment systems. Like with the field hospital, Gient was handed an extremely tight timeline: 15 days to build a new medical waste treatment facility with a capacity for 30 tons of medical waste per day. While experienced with building such facilities, Gient called on private and public sector partners with which it had existing relationships in order to reroute equipment, supplies, and inventory on an emergency basis.



智得热工董事长龚伟说：“在这种困难的情况下，重庆市政府帮助我们与多个省市部门进行协调，让所有供应商迅速复工，并在几天内调来了数千种前线急需的材料和零件。”

重庆市面积广袤，人口约3 000万，是中国四个直辖市之一。因此，重庆拥有成熟、先进的市政管理，包括强大的公共卫生系统记忆。新冠肺炎疫情出现后，重庆市启动了“三级应急机制”来处理医疗废物。这一机制完善了对该市医疗废物处理能力的日常报告、调度、分析和研究系统，包括对处置设施运行负荷进行预警，运行负荷超过80%时将启动其他形式的临时应急处置设施（如移动处置设施、焚烧厂等）。

重庆市生态环境局固体废物与化学品处副处长胡刚表示：“在疫情暴发之初，根据应对2013年非典疫情和2009年H1N1流感的经验，我们决定启动这一应急机制，防止废物的二次传播。”

“In this difficult situation, Chongqing municipal government helped us coordinate with many provincial and municipal departments, completed the resumption of all suppliers, and organized thousands of varieties of materials and parts urgently needed at the front line in a few days,” said Gient Chairman Gong Wei.

Chongqing’s municipal government encompasses a vast territory and 30 million people. It is one of only four Chinese cities that reports directly to the central government. As such, Chongqing has mature and sophisticated municipal governance, including strong public health institutional memory. When COVID-19 emerged on the scene, Chongqing activated its “3-Level Emergency Mechanism” for medical waste. This decision triggered daily reporting, dispatch, analysis, and research about the municipality’s medical waste capacity, including a warning if any disposal facility reached 80% capacity that would automatically trigger back-up systems like mobile disposal and incineration plants.

“At the very beginning of the epidemic and based on our experience in response to the SARS outbreak

重庆市现有的15家医疗废物处理厂中许多配备了本土公司智得热工的系统。事实证明，这15家处理厂足以应对医疗废物激增的问题，日处理量最高可达106吨。在武汉，平日里日均仅45吨的医疗废物在疫情期期间高达247吨。

对于医院来说，处理医疗废物是又一项需要迅速创新的任务。重庆两江新区第一人民医院的吴雪莉说：“在疫情暴发之初，我们对新冠疫情医疗废物的收集、临时储存和转移的了解有限。但很快，我们就在政府生态环境局和医院感染科的指导下，建立了收集、临时储存和转移医疗废物的监管程序。”

世界卫生组织（WHO，以下简称世卫组织）不建议在疫情暴发期间建造新的医疗废物处理设施。环境健康顾问和医疗废物专家尤特·皮珀（Ute Pieper）说：“扩大危险废物基础设施的规模通常非常耗时。因此，世卫组织并不主张在第一线修建新工厂，而是最大程度利用现有的资源

in 2013 and the H1N1 pandemic in 2009, we made the decision that we should make this emergency response mechanism so as to prevent secondary transmission due to the waste,” said Hu Gang with the Solid Waste Division of the Chongqing Municipal Bureau of Ecology and Environment.

The municipality’s existing 15 medical waste disposal plants, many equipped with systems from homegrown company Gient, ultimately proved adequate to manage the surge in medical waste, which eventually peaked at 106 tons per day. In Wuhan, a daily average of 45 tons of medical waste peaked at 247 tons per day.

For hospitals, handling medical waste was yet another task for which they had to innovate quickly. “At the beginning of the outbreak, we had limited understanding of the collection, temporary storage, and transfer of medical waste from the COVID-19,” said Wu Xueli of the First People’s Hospital of Liangjiang New District in Chongqing. “But very shortly, we established regulation procedures for collection, temporary storage and transfer for medical wastes under the guidance of the government’s Bureau of Ecology and Environment and the infections division of the hospital.”

The World Health Organization (WHO) does not recommend building new medical waste disposal facilities during infectious disease outbreaks. “Scaling up of hazardous waste infrastructure is normally very time consuming,” said environmental health consultant and healthcare waste expert Ute Pieper. “Therefore, the WHO does not call for building new plants in the first line but rather using the existing capacities to a higher extent, such as treating waste during the night and over weekends, as well as establishing a clear classification system for COVID-19 waste.”

Nevertheless, she applauded the ability of Chongqing and Wuhan municipal governments, working with private industry leader Gient and state-run enterprise China Energy Conservation and Environmental Protection

和能力，例如在夜间和周末处理废物，为新冠疫情废物建立明确的分类系统等。”

不过，皮珀对重庆和武汉市政府的能力表示赞赏。两市市政府与私营行业领军企业智得热工和国有企业中国节能环保集团合作，简化了程序上的繁文缛节，在两周内建成了一个应急设施。“这个过程真是太快了，”她说，“只有政府层面批准，才能够像这样破例地完成审批、采购和建设过程。这在其他国家这是不可能的，或者需要更长的时间来讨论。”

然而，皮珀提到，世卫组织在2020年7月29日出台的针对新型冠状病毒（SARS-CoV-2）的供水、环境卫生、个人卫生和废物管理的临时指导文件中，淡化了医疗废物二次感染的风险。文件指出：“没有

Group, for cutting through bureaucratic red tape to build an emergency facility in two weeks. “That’s incredibly fast,” she said. “The approval, purchasing and construction process could only be done with exemptions on the government level. In other countries, this would not be possible or at least would take longer time for discussion.”

However, Pieper pointed to the WHO’s 29 July 2020 interim guidance on water, sanitation, hygiene, and waste management for SARS-CoV-2, which downplays the risk of secondary infection from medical waste: “There is no evidence that direct, unprotected human contact during the handling of health-care waste has resulted in the transmission of the COVID-19 virus. Health-care waste generated from facilities treating COVID-19 patients is no different than waste coming from facilities without COVID-19 patients.”

证据表明处理医疗废物过程中，人体无防护直接接触会导致新冠病毒传播。接收新冠患者的卫生保健机构所产生的医疗废物与未接收新冠病毒患者的卫生保健机构产生的废物没有区别。”

然而，重庆市政府认为，从疫情之下不断改进的抗疫举措中吸取的教训，具有历久弥新的价值。胡刚说：“我们学会了将过剩产能留作应急之用，学会了加强政府部门和其他相关机构之间的协调与合作，还学会了及时改进应急响应系统，以便监测城市的整体状况，并在发现紧急情况时及时实施响应机制。”

皮珀对武汉工厂的长期可行性表示怀疑。她说：“当一切恢复正常，日均废物量回到45吨时，要如何支持这些工厂的运营呢？”智得热工则在这次疫情考验中看到了长期利益。龚伟说：“通过武汉应急处置中心的建设，我们了解到这样一个项目的建设周期可以快至14天，并且我们获得了一套基于快速安装模块化设备的快速可复制的建设模型。公司在永久处理厂中采用了各种新技术，可以完全防止工人感染病毒，在建设环境友好型、全智能工作场所方面处于世界领先地位。”

The Chongqing municipal government nevertheless sees lasting value in the lessons learned from procedures that it refined in real-time during crisis mode. “We learned to leave overcapacity for emergencies, strengthen coordination and cooperation between government departments and other relevant institutions, and improve our emergency response system in a timely manner so that we have monitoring of the whole status of our city and can implement a response mechanism when we spot emergencies,” said Hu.

With regards to the Wuhan facility, Pieper expressed some skepticism about long-term viability. “How will they operate and finance the plants when everything is back to normal, and the waste amounts are back to 45 tons per day?” she said. Gient, however, also sees long-term benefits from its trial by fire. “Through the construction of the Wuhan emergency disposal center, we learned that the construction period of such a project can be as fast as 14 days and we gained a set of rapid reproducible construction models based on fast-installed modular equipment,” said Gong. “In the permanent disposal plant, the company adopted all kinds of new technologies and led the world in building an environment-friendly and fully intelligent workplace, which completely prevents workers from infection.”





印度 奥里萨邦：

城市工资就业倡议

Odisha, India:

The Urban Wage Employment Initiative

2020年3月24日，印度宣布全国封锁，引发了这个世界第二人口大国的大规模移民。大城市里的非正式劳工失去了工作，回到了家乡。奥里萨邦是印度最贫穷的邦之一，人口约4 200万，其中700万人居住在城市，近100万的流动人口返回

The nationwide lockdown in India announced on March 24, 2020 triggered a mass migration in the world's second most populous country. Informal workers in large cities returned to their home states and villages without the prospect of work. In Odisha, one of India's poorer states with a population of 42 million, of

了各自的村庄。封锁导致全国经济活动停滞，奥里萨邦的另外200万城市贫困人口失去了生计。

对于印度的国家和地方官员来说，在这个有着大量非正规部门的国家中，突然的人口流动加上经济活动的暂停，预示着一场大规模的危机。封锁初期，奥里萨邦住房和城市发展部首席秘书玛蒂·瓦塔南（Mathi Vathanan）与国家政府和其他邦政府领导人共同出席了一场视频会议。每个邦都就国家如何应对这场危机提出了想法。其中一个建议是，国家政府应该为刚刚失业的工人制定就业计划。但国家层面并不打算开展如此大规模的项目，所以瓦塔南决定在奥里萨邦内创建类似项目。

他说：“如果联邦政府打算袖手旁观，那么州政府就应该拿出方案。”不到一个月的时间，奥里萨邦政府和114个城市本地机构发布“城市工资就业倡议”（UWEI），为所有想要工作的城市工人提供就业机会。“这就是我们的行动速度。”

奥里萨邦的灵感来自于印度2005年启动的全国农村就业保障计划，该计划为公共工程项目提供长达100天的非技术性有偿劳动，从而帮助消除农村贫困。瓦塔南看到了一系列有助于改善奥里萨邦城市的公共工程项目：通过艺术和壁画来美化城市、改善暴雨排水系统、提高公共空间的绿化覆盖率、安装雨水收集系统以及建设儿童游乐区。奥里萨邦还试图建造更多建筑，为全州沙克蒂项目（Mission Shakti）妇女赋权计划提供住房，并建立更多贫民窟社区中心（在当地被称作“Pahchaya”）。

为了快速推出UWEI，奥里萨邦没有选择为政府工程分配公共资金的传统方式。瓦塔南说：“政府采购会花太长时间。”

whom 7 million live in cities, some 1 million migrants returned to their respective villages. Another 2 million urban poor in Odisha lost their livelihoods when economic activities halted due to the lockdown.

For state and local officials in India, the sudden migration coupled with the shuttering of economic activity in a country with a significant informal sector heralded a massive crisis. Early in the lockdown, Mathi Vathanan, Odisha's Principal Secretary of Housing and Urban Development, attended a video conference with the national government and leaders of the other state governments. Each state contributed ideas on how the country could respond to this crisis. One suggestion: The national government should come up with an employment scheme for the newly unemployed workers. But it quickly became clear that New Delhi was not going to create a program of this scale, so Vathanan resolved that Odisha should take it on.

“If the federal government is not going to come up with a scheme, then state governments should,” he said. Less than one month later, the Odisha state government and the state's 114 urban local bodies announced that any urban worker who wanted a job could get a job through the Urban Wage Employment Initiative (UWEI). “That is the kind of rapidness with which we acted.”

Odisha was inspired by the national rural employment guarantee that India launched in 2005, which provides up to 100 days of unskilled paid labor on public works projects as a measure to combat rural poverty. Vathanan saw a litany of public works projects that could improve Odisha's cities: urban beautification through art and murals, storm water drainage improvement, enhancing green cover in public spaces, installing systems for rainwater harvesting, and building children's play areas. Odisha also sought to construct more buildings to house programs for the statewide Mission Shakti women's empowerment scheme and more slum-based community centers known as parichaya.

In order to roll out UWEI quickly, Odisha bypassed traditional means of distributing public funds for



国家和城市地方机构不找传统的投标公司（这种公司被瓦塔南称之为“承包商和官员之间的不正当关系的纽带”），而是转向了民间团体。奥里萨邦社区组织网络蓬勃发展，成立了如女性自助团体、节俭和信用合作社、贫民窟发展协会等组织。当地政府已经习惯于通过贫民窟改造项目 JAGA 计划与这些团体进行合作。自2017年以来，该项目已向奥里萨邦近100万贫民窟居民发放了土地所有权证。

第一批10亿卢比（约合1.43亿美元）的资金从奥里萨邦的财政预算内支出。社区组织收取项目执行费用的7.5%作为监管费。项目通过银行转账向工人支付最低工资，而不使用现金（通常用于支付按日计酬的临时工）。城市地方机构委派市政工程工程师支持项目发展。随着时间的推移，社

区组织学会了处理更复杂项目的技能。到目前为止，已经建成601个社区中心，还有324个正在建设中；另有6,525项公共工程已经完成或正在建设，项目的最终目标是建设18,000项公共工程。

布巴内什瓦尔大众部僧团自助组织（Mahasanga Self-Help Group）的主席瑞哈·普拉丹（Rekha Pradhan）说：“这是一次非常及时的干预，因为很多大家庭中的人无法获得优质的食物，特别是那些来自城市贫困家庭的人。UWEI向他们提供了以前没有的工作岗位，为这些家庭提供了援助。”普拉丹的丈夫就曾有45天没有工资收入。

大众部僧团自助组织的400名成员绘制壁画，种植树木，建立了一个社区中心。普拉丹说：“这项倡议实施后，许多妇女第一次走出家门开始工作，提高了家庭收入，这让她们感到非常自豪、自信。在家庭主要成员努力找工作的时候，她们很高兴自己也能对家庭收入做出贡献。”

阿肖克·库马尔·罗特（Ashok Kumar Rout）是登卡纳尔贫民窟发展协会的秘书。他所在的贫民窟最近进行了改造。协会从贫民窟内部招聘工人，将他们分配到能发挥所长的岗位上。拥有了这样的改造经验，该协会优势凸显，既可以作为执行机构，也可以充当政府合作伙伴管理和运营公共工程，如建造社区中心、建设雨水收集基础设施和改善道路条件。该协会将其建成的社区中心命名为“个性之家”，这是贫民窟的第一座公共建筑，用来庆祝节日，举办生日会和婚礼等活动。

罗特的汽车修理店已经90天没有收入了，他说：“这笔钱真的帮助我们度过了危机。在这个关键的时期，项目提供的监督费对我的家庭来说真的很有用。”

尽管是受到了印度农村就业保障计划

urban local bodies provide municipal engineers to support the projects and over time the community-based organizations gain skills to tackle more complex projects. So far, 601 community centers have been completed with an additional 324 under construction, while 6,525 other public works have been completed or are ongoing with a target of 18,000.

“It was a very timely intervention because many of us with large families did not have access to good food, especially those of us from urban poor households,” said Rekha Pradhan, President of the Mahasanga Self-Help Group in Bhubaneswar. “It provided a kind of succor to families by providing work which was not available at that time.” Pradhan’s own husband did not receive wages for 45 days.

The Mahasanga Self-Help Group’s 400 members painted murals, planted trees, and built a community center. “Through this initiative, many women came out of the house for the first time to enhance their household income, which was a source of great pride and confidence,” said Pradhan. “They felt very happy to contribute to the family income at a time when the main members of families were struggling to get work.”

Ashok Kumar Rout is the secretary of a slum development association in Dhenkanal. His slum had recently been upgraded, a process which was built on the association’s capacity to recruit workers from within the slum and assign them to tasks appropriate to their skillset. That experience left the association in a good position to serve as both implementing agency and partner to manage and execute public works like the construction of a community center, rainwater harvesting infrastructure, and road improvements. The association named its completed center “Identity House.” It is the slum’s first public building to celebrate festivals and host functions like birthdays and marriages.

“This amount really helped tide us over during the crisis,” said Rout, whose car mechanic shop had no revenue for 90 days. “It was a very crucial time during which the supervision charges from the program were really useful for my own family.”



的启发，奥里萨邦的UWEI并不是其复制品。印度人居研究所高级学术和研究领导高塔姆·班（Gautam Bhan）说，“这是一件好事，城市就业项目不能简单地从农村照搬过来，UWEI的设计具有一些优秀的特点，比如与贫民窟居民协会签约来决定和实施非常地方性的公共工程。”

随着奥里萨邦的临时倡议逐渐成为永久倡议，越来越多人呼吁建立类似于印度农村就业保障计划的全国城市计划。班认为奥里萨邦的创新对此产生了巨大的推动力。他说：“现在正是时候推出此类的项目，这也是新冠疫情后城市复苏的关键所在，因为该类项目具有更大的包容性和公平性，而不仅仅是关注股票交易或正规经济收益。对于奥里萨邦来说，要想将临时倡议转变为永久性倡议，就必须考虑扩展计划的范围，包括提供基本服务、改善劳动力净流出国的国家流动人口结构，并将技能提升和企业发展整合起来。该倡议的潜力非常大，我希望政府能抓住这个机会。”



Despite taking inspiration from India's rural employment guarantee scheme, Odisha's Urban Wage Employment Initiative is not a carbon copy. "That's a good thing," said Gautam Bhan, Senior Lead for Academics and Research at the Indian Institute for Human Settlements. "Urban employment programs cannot simply be transplanted from the rural and UWEI makes some good distinctions in its design, starting with the ability to contract slum dweller associations, for example, to decide and carry out very local public works."

With Odisha's temporary scheme set to become permanent and a growing chorus for a national urban equivalent to India's rural employment guarantee scheme, Bhan sees Odisha's innovation as generating significant momentum. "Now is certainly the time to do it as a key part of post-COVID recovery which is inclusive and more equitable and which doesn't just focus on the return of the stock exchange or the formal economy," Bhan said. "For Odisha to transition the program into something more permanent, they have to think about how to expand to include basic services, address the state's migration structure as a net-out-migration state for labor, and integrate skills and enterprise development. There is a lot of potential here and I hope they take it up."

韧性城市

► Resilient Cities



黎巴嫩 丹尼区： 市民参与抗击疫情的应急响应计划

Union of Dannieh Municipalities, Lebanon:

Engaging the Citizen to be Part of the Emergency
Response Plan to Fight Against COVID-19



丹尼区城镇联盟的办公室异常安静。该联盟是为黎巴嫩北部丹尼区14个城市服务的地方政府联合会。近四年来，为了应对全国性的经济危机，全国公共服务部门的招聘都出现了停滞。这也导致了市政劳动力的萎缩，而新冠肺炎疫

The offices of the Union of Dannieh Municipalities, a local government federation serving 14 municipalities in the Dannieh region of northern Lebanon, is unusually quiet. For nearly four years, there has been a nationwide freeze on public sector hiring in response to a nationwide economic crisis. That moratorium



情需要地方政府加大工作力度以应对多方面的危机。在这种情况下，国家政府将黎巴嫩的新冠肺炎疫情应急响应计划下放至地方。

联合国人居署黎巴嫩国家项目负责人泰娜·克里斯蒂安森（Taina Christiansen）表示：“这项法律使得地方政府越来越难以确保有足够的人力资源来管理自己的业务和活动。”

由于当地政府需要向市民提供从医疗保健到经济援助等一切服务，丹尼区城镇联盟需要在短时间内找到新的工人，加强其骨干队伍。因此，他们把目光转向了该地区的青年，该群体受过高等教育，也遭受着高失业率的困扰。黎巴嫩85.6%的人都生活在贫困线以下。

迪尔恩布市市长兼丹尼区城镇联盟主席穆罕默德·萨阿迪（Mohammed Saadie）说：“我们的目标是让市民参与治理，这是填补人员不足和资金短缺的唯一途

has led to a withering of the municipal workforce precisely as the COVID-19 pandemic required more intensive efforts from local governments to address this multifaceted crisis when the national government decentralized Lebanon’s COVID-19 response plan.

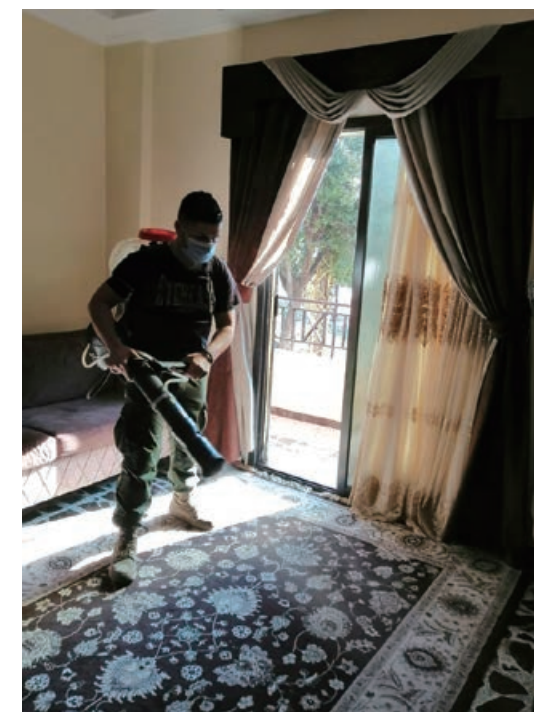
“This law has made it increasingly difficult for local governments to ensure that they have enough human resources to manage their operations and activities,” said Taina Christiansen, Head of UN-Habitat’s Lebanon Country Programme.

With citizens turning to local government for everything from medical care to economic assistance, the Union of Dannieh Municipalities needed to find new workers on short notice to bolster its skeleton crew. So they turned to the region’s youth population, who are highly educated but also suffering from high rates of unemployment in a country where 85.6% of people live below the poverty line.

“The goal was to involve the citizen in governance as the only way to fill this shortage in staff and funding,” said

径。”最后丹尼区城市联盟与青年志愿者委员会共同成立了丹尼区应急响应计划，这些青年志愿者教育程度高，有专业知识。青年志愿者委员会分别负责12项工作：紧急救援服务、志愿医生、志愿护士、志愿送货服务、呼叫中心、联盟警察支持、健康委员会（杀菌）、媒体与传播、指导和定位、数据统计、后勤支持以及后续追踪和监测。

在新冠肺炎疫情期间，这1 570名志愿者有效地履行了当地政府员工的职责。委员会自我组织，自我管理，制定了呼叫中心等新系统以接收药品和食品需求，或建立了新冠病毒检测区，并最终设置了5 000顶核酸检测帐篷。这些青年委员会除了为丹尼区城镇联盟总部大楼（现更名为丹尼区可持续发展中心）注入了新活力，还依靠共享数字文件夹和WhatsApp群组等技术，更迅速地进行工作协调。



Deirnbouh Mayor Mohammed Saadie, President of the Union of Dannieh Municipalities. The end result was the Dannieh Emergency Response Plan, which stood up committees staffed on a volunteer basis by educated youth with special skill sets. These committees cover 12 areas: Emergency and Relief Service, Volunteer Doctors, Nurses, Volunteers for Delivery Services, Call Center, Union Police Support, Health Committee (Sterilization), Media and Communication, Guidance and Orientation, Data and Statistics, Logistical Support, and Follow-up and Monitoring.

These 1,570 volunteers have effectively played the role of local government employees during the COVID-19 pandemic as self-organized and self-managed committees figuring out new systems like a call center to receive requests for medicine and food or how to set up a COVID testing unit that eventually administered 5,000 PCR tents. In addition to bringing new life to the Union of Dannieh Municipalities headquarters building, now renamed the Dannieh Centre for Sustainable Development, the youth committees relied on technology such as shared digital folders and WhatsApp groups to coordinate their work more rapidly.



萨阿迪说：“如果没有应急计划，我们的地区可能会出现灾难性的情况。志愿精神是这个项目最重要的工具，每个公民都认为自己是有责任的。”

这是资源紧缺的丹尼区地方政府首次招募志愿者职员，对于那些经常出国寻找更好机会的黎巴嫩青年来说是一个福音。只有300万黎巴嫩人生活在国内，而有1700万则生活在海外。31岁的桑德拉·奥恩（Sandra Aoun）拥有管理学博士学位，因为这次应急响应计划，她放弃了加入海外黎巴嫩人行列的机会。

她说：“最近大家都打算搬走，但我更想留在黎巴嫩，留在自己的家乡。我要扮演好我的角色。我们要更有韧性，要满怀希望地留下来，相信一切都会变得更好。”

奥恩是媒体委员会的成员，该委员会负责起草并宣传联盟应对新冠肺炎疫情的措施，传播必要的公共卫生防护意识。媒体委员会大约有22名成员，分别来自联盟所属的14个城市。

“Without the emergency plan we would have had a catastrophic situation in our region,” said Saadie. “Volunteerism is the most important tool of the project. Every citizen is considered responsible.”

This first-of-its-kind volunteer staffing of a resource-strapped local government has proved a boon for young Lebanese who frequently migrate abroad in search of better opportunities. There are only 3 million Lebanese living in their home country with 17 million Lebanese living overseas. The opportunities presented by the Emergency Response Programme kept Sandra Aoun, 31, who has a PhD in administrative sciences, from joining the ranks of overseas Lebanese.

“Recently we are all thinking about moving away, but I prefer to stay in Lebanon and in my region,” said Aoun. “I have a role to play. We need to be more resilient. We need to stay and hope that everything will be better.”

Aoun serves on the media committee that drafts and disseminates content describing the union’s COVID-19 response and spreading awareness about necessary public health precautions. The committee’s 22 or so members are

奥恩说：“这是一个非常重要的机会，我可以借此机会丰富我的简历。”她在志愿者工作中表现出色，成为了城镇联盟少有的带薪工作者之一，现在在联盟担任行政助理。“我以前并没有完全意识到我在这个地区发挥了怎样的作用，但随着新形势的出现，我更加确信我们应该团结起来，齐心协力帮助市政府。我认识到，利用自己的力量为社区服务是非常重要的。”

这些就业准备技能对青年志愿者来说是一大优势。克里斯蒂安森说：“通过在地方政府志愿者委员会中工作，有教育背景和专业知识的黎巴嫩青年可以将技能应用到实际工作中。这反过来又给了青年们重要的工作经验，让他们在就业市场上能够脱颖而出。因为志愿者委员会持续参与应急响应工作，特别是与新冠肺炎疫情相关的工作，为他们积累了实际知识，帮助他们了解了如何协调应急和灾害风险管理解决方案，使之包容、高效、影响深远。”

对于当地政府来说，志愿者的配备是一种思维模式的转变。“这是一个很大的变化，”萨阿迪说，“有了这个志愿者项目，我们就能顺利度过这段时期。现在我们的人口结构已经趋于健康了。”

但是长期依赖志愿者的可持续性有待考证。“这种方法在一定程度上是可持续的，因为志愿者委员会可以成为一个标准机制，如在丹尼区城镇联盟成立的志愿者委员会。通过这个机制，青年可以学会一些重要技能，就像通过实习获得技能一样，这样他们在劳动力市场上也会更具竞争力，”克里斯蒂安森说，“黎巴嫩目前的局势在很多方面都岌岌可危，在持续的政治僵局和改革悬而未决的情况下，项目是否具有可持续性，正是包括利益攸关方和捐助者在内的潜在投资者所关心的。”

drawn from all 14 municipalities that make up the union.

“It was a very important opportunity for my CV,” said Aoun, who excelled at her volunteer role and was offered one of the rare paid jobs at the union, where she now works as an executive assistant. “Before, I was not totally aware of my role in my region, but with the new circumstances I became more convinced that we should be united and act in solidarity to help the municipality. I realized the importance of harnessing my energy to serve my community.”

These job readiness skills are a major benefit for the youth volunteers. “By working within these local government voluntary committees, young Lebanese who have the educational background and knowledge can apply their skills to tangible work,” said Christiansen. “This in turn gives them crucial professional experience that can set them apart in the job market. Given that the voluntary committees have been involved in emergency response efforts especially that related to COVID-19, they have garnered practical know-how about what it takes to coordinate inclusive, far-reaching, and efficient solutions to emergency and disaster risk management.”

For the local government, volunteer staffing is a paradigm shift. “This is a big change,” Saadie said. “With this volunteer project, this is how we will get past this period and now we are on the shore of a healthy population.”

But the long-term sustainability of relying on volunteer staffing is questionable. “This approach is sustainable to a certain extent as members of voluntary committees such as the one established in the Union of Dannieh Municipalities can become a standard mechanism through which youth can obtain critical skill sets, like those obtained through an internship, to then become more competitive on the labor market,” said Christiansen. “The current situation in Lebanon is precarious on multiple fronts, and the sustainability of any initiative, with the continued political deadlock, and pending reforms, is a concern of all stakeholders and donors investing in the future of the country.”





马达加斯加 塔那那利佛： 城市粮食系统

Antananarivo, Madagascar:
Building Resilience in the City Food System



在马达加斯加首都塔那那利佛市郊区的安博希德罗阿第一小学（一所公立学校），七八年级的学生不再是一直坐在教室里上课。他们的一天中有部分

When seventh and eighth form students arrive at the École Primaire Publique Ambohidroa #1, a primary school located in a peri-urban district of Antananarivo, the capital of Madagascar, no longer do they

时间会在学校的菜园里度过，在那里种植紫菜、大白菜、生菜、西葫芦、大豆和芹菜。学生们在菜园里除了可以学习农业技能外，还能学习科学和数学知识。

校长亨德里索亚·丹尼尔（Hendrisoa Danielle）说：“学生们非常喜欢这个菜园，他们一直在练习耕种。”

学校食堂用学生种的菜为443名学生（包括一些有智力障碍的学生）烹制菜肴，准备了像绿叶大米粥这样的营养菜肴。丹尼尔说：“在建菜园之前，学生们都营养不良。现在他们吃得很好，也吃得很饱。”

2021年1月初，塔那那利佛市政府下令建造学校菜园，将其作为十年城市农业政策的一部分。自2015年以来，该市已为全市94所学校中的30所修建了菜园，共惠及1.5万名学生。

塔那那利佛市经济发展主任伊冯·卡梅纳（Yvon Kamena）说：“我们有一个绿色城市愿景。我们想种更多的树，要鼓励城市农业发展。”

在这个拥有300万人口的大都市地区，包括一些农村地区，都已经开始进行传统农业生产，农民为城市市场种植水稻和西洋菜。塔那那利佛市希望每天能收集15吨以上的有机废物制作堆肥。现在，政府希望看到更多的城市居民在所谓的“低空间和无空间”环境中利用小型家庭菜园，甚至在塑料罐中种植可食用植物。

为了帮助居民，塔那那利佛市正在开发一款名为“我的农场”（Mamboly Aho）的移动应用程序。这款应用程序可以为那些想要更多绿色空间的中产阶级城市居民提供指导、提示和当地苗圃的相关信息。卡梅纳说：“大多数房子都有空间种植一些作物，而且廉价的原材料也很容易买到。”“我的农场”推出后最多可以容纳

spend their entire school day inside the classroom. Instead, part of their day is spent working on the school garden, where they grow pears, bok choy, lettuce, courgettes, soy, and celery. In addition to learning agricultural skills, the students use the garden as a classroom for science and mathematics instruction.

“The students like the garden very much,” said head teacher Hendrisoa Danielle. “They practice all the time.”

The school canteen cooks up the harvest, making dishes like vary amin’ny anana, or rice porridge with leafy greens, for the 443 students including some who have intellectual handicaps. “Before the garden, the students were malnourished,” she said. “Now they eat well — and a lot.”

The school’s garden was built in early January 2021 at the behest of the Antananarivo city government as part of its decade-old urban agriculture policy. Since 2015, the city has provided gardens at 30 of the city’s 94 schools, benefitting 15,000 pupils.

“We have a vision of a green city,” said Yvon Kamena, the city’s director of economic development. “We want to plant more trees and encourage urban agriculture.”

The metropolitan area of 3 million includes some rural districts where traditional agriculture already takes place, with farmers growing rice and watercress for the city’s markets. The city hopes to collect upwards of 15 tons daily in organic waste for compost. Now Antananarivo wants to see more urban residents take up small household garden plots or even grow edible plants in plastic jerry cans in so-called “low space and no space” settings.

To help them along, Antananarivo is developing a mobile application called Mamboly Aho (“I Farm”) that will provide instruction, tips, and information about local plant nurseries for middle-class urban dwellers who would like more green space. “The majority of houses have room to grow something and inexpensive raw materials are available,” said Kamena. When the App is launched, it will be able to accommodate up to 150,000 users and offer



15万名用户，并为用户提供平台，与邻居分享菜园空间和种植成果。

粮农组织城市可持续粮食系统和治理首席顾问卡门·祖莱塔·法拉利（Carmen Zuleta Ferrari）说：“‘我的农场’应用程序肯定会发挥巨大作用，不仅能为人们提供学习渠道，还有助于促进生产者和消费者之间的交易。我并不认为这是塔那那利佛市的弱项，还觉得是一个促进交流的好机会，在鼓励负责任的消费行为、倡导改善营养和实现粮食安全方面极具潜力。以前，城市中缺乏此类沟通渠道，而这种渠道实际上可以促进粮食生产和优质消费之间的联系。”

市政府官员认为，人们越来越需要民用技术。卡梅纳说：“马达加斯加越来越重视新技术的运用。我们选择了‘我的农

a platform for users to share their garden space or their harvest with neighbors.

“The Mamboly Aho App will definitely introduce a super tool not only for people to learn but especially to encourage trade between producers and consumers,” said Carmen Zuleta Ferrari, lead consultant on urban sustainable food systems and governance for the Food and Agriculture Organization. “I wouldn’t call it the missing link for Antananarivo, but it is for sure a good idea for exchange and has a strong potential to encourage responsible consumption, advocacy on nutrition, and food security. It might be the missing channel for communication actually allowing the link between food production and better consumption.”

City officials believe there is an appetite for more civic technology. “The use of new technology in Madagascar is growing,” said Kamena. “We chose this one

场’项目，因为它很快就能开始实施。”

祖莱塔·法拉利对此表示赞同：“非洲城市是测试这类应用的不二之选，马达加斯加的信息技术创新能力非常惊人，这里每天发生的交易都是通过Facebook Messenger、Instagram、移动银行和WhatsApp等应用程序远程实现的。”

塔那那利佛市“我的农场”的灵感来自于参与实施《米兰城市粮食政策公约》，对其中44项指标进行监测，以促进城市农业的发展。因受到多种自然灾害和气候变化的影响，马达加斯加贫困率居高不下，是世界上最贫穷的国家之一。在这种背景下，国家对城市食品政策做出的承

because it will be implemented quickly.”

Zuleta Ferrari concurs. “African cities are a very interesting arena for testing these kinds of apps,” she said. “IT innovation in Madagascar is outrageous—it’s incredible—the daily trade which is done by Facebook Messenger, Instagram, mobile banking, and distance learning through WhatsApp.”

Antananarivo has been inspired to promote urban agriculture through its participation in the Milan Urban Food Policy Pact, where it monitors 44 indicators. For a city with a high poverty rate in one of the world’s poorest countries and vulnerable to several natural disasters and climate change, this commitment to urban food policy is impressive. “In this context, any policymaking process is



诺令人印象深刻。祖莱塔·法拉利说：“在马达加斯加这种情况下，任何决策都是不自量力。成功的秘诀在于，在同一战略指导下，市政当局设法与各利益攸关方合作伙伴委员会合作，整合市政范围内的粮食政策。这样一来，项目在未来才是可持续的。”

punching above one's weight,” said Zuleta Ferrari. Going forward, she said, “The success measure would be if the city manages to consolidate the food policy within the municipality's walls together with a multi-stakeholder board of partners under the same strategic guidance. If so, then the process will be sustainable for the future.”



第五届广州国际城市创新奖的举办恰逢新冠肺炎疫情暴发，疫情下，果断领导、广泛合作以及灵活决策的重要性在城市发展中具有了新的意义。面临全球性健康危机，入围城市的工作人员不能亲临现场实时地向评审委员会展示案例，虽然广州奖转变了评奖方式，但广州奖的宗旨始终如一。若说变化，那就是疫情之下，不论是城市直接应对公共健康需求方面，还是地方政府应对临时限制而调整现行政策和方案的能力方面，城市创新的重要性更加凸显。

新冠疫情作为一场健康危机，全球应对过程中既暴露出公共健康系统的薄弱，也暴露出城市长久以来的不公平和不平等问题。封控措施的严重程度取决于被封控者是在正规行业工作，有失业救济方案，还是在非正规行业工作，不得不出门谋取生计。同样，脑力工作者可以远程工作，但社会基础服务提供者要身处前线承担责任。对于那些住房不足或居住环境拥挤的人，尤其是对有孩子又无法上学的家庭来说，居家隔离成为一项额外的负担。两次担任广州奖技术委员会成员的阿萨·斯莉^①指出：“疫

① 阿萨·斯莉（Azza Sirry），埃及国家住房和建筑研究中心研究员、城市规划教授、世界大都市协会国际培训中心非洲和中东区域主任。

Decisive leadership, broad-based cooperation and nimble decision-making all took on new importance in cities during the COVID-19 pandemic, which overlapped with the 5th cycle of the Guangzhou Award for Urban Innovation. While the global health crisis changed the award process—for example, shortlisted cities did not present live and in-person to the jury—it did not change the award's raison d'être. If anything, the pandemic underscored the importance of urban innovation, both in direct response to public health needs and in the ability of local governments to adapt existing policies and programmes under temporary restrictions.

The pandemic began as a health crisis, but the global response revealed fragilities not just in our public health systems, but also in terms of fundamental injustices and inequalities that our cities have allowed to develop over time. The severity of the lockdown experience was determined by factors such as whether one worked in the formal sector, with access to unemployment relief schemes, or in the informal sector, where basic survival required leaving one's home to earn daily wages. Likewise, knowledge workers could work remotely at home while essential workers had frontline responsibilities. And for those with inadequate or overcrowded shelter, staying at home was extra burdensome, especially for families with young children cut off from in-person schooling. As two-time Technical Committee member Azza Sirry^① noted, “It rapidly became a social and

① Azza Sirry, Professor of Urban Planning, Housing and BUiding National Research Centre, Cairo, Egypt; Director of Regional Branch for Africa and Middle East, Metropolis International Training Institute (MITI), Cairo.

情迅速成为一个社会和经济问题，对城市的改变超出我们的认知，暴露出城市规划和管理的弱点。”

毫无疑问，反复进行疫情封控造成经济衰退，而我们社会中最脆弱的人群受其影响最为严重。尽管新冠疫情肆虐，世界各地的城市和地区还是坚持解决对居民和生态系统具有重要意义的问题。第五届广州奖按计划进行，突出强调了这项工作的重要意义。

正如第五届广州奖技术委员会成员艾历·切希^①所说：“看到创新在不同的环境和不同的时间，体现不同的内涵，这着实令人着迷。不论是政策还是实践的指导意义，或是世界各地优秀案例的经验和启示，都让我们能够认识到创新在当代城市甚至非城市地区社会中的重要性。从试验性的政策和规模化的方案，到极具影响力的项目，都带来了切实的转变，使我们的城市和社区变得更加宜居包容。”

新冠疫情及其影响在很大程度上被视为实现2030年可持续发展目标途中的一个挫折。正如第五届广州奖获奖城市所展示的那样，城市将引领全球复苏，通过各个层面的创新使世界重回可持续发展的正轨。

第五届广州奖技术委员会成员叶嘉安^②表示：“城市创新的目标是改善公共服务质量。可以通过使用先进的智能技术来改善信息收集方式并提高公共服务提供的效率，也同样可以通过更好的

economic issue that transformed our cities beyond recognition and revealed weaknesses in urban planning and management.”

Undoubtedly, the most vulnerable segments of our societies were the worst affected by the economic consequences of repeated lockdowns. But despite the COVID-19 pandemic, cities and regions from around the world continued to tackle what they perceived as issues of importance to their inhabitants and ecosystems. The 5th cycle of the Guangzhou Award stayed on track in order to highlight this vital and important work.

As Ali Cheshmehzangi^②, a member of the 2020 Technical Committee, noted, “It is truly fascinating to see how innovation could imply a different thing in different contexts and at different times. Directions from policy to practice and lessons learned from excellent initiatives worldwide enable us to realize the importance of innovation in contemporary urban – and even non-urban – society. There are experimental policies, scaling-up programmes and impactful projects with tangible transitions to make our cities and communities better places for all.”

The COVID-19 pandemic and its aftermath are largely viewed as a setback in the global quest to achieve the Sustainable Development Goals by 2030. Cities will lead the way in the global recovery to get the world’s sustainable development trajectory back on track with innovation at all scales, as this year’s Guangzhou Award winners demonstrate.

“The objective of urban innovation is to improve the provision of public services to the people. Although it can be done by the use of advanced smart technologies in improving the collection of information and efficiency in delivering public services, it can also be achieved through better public participation and institutional organization,” said Technical

公众参与方式和组织机构来实现这一目标。其他城市可以向广州国际城市创新奖的获奖城市学习，改善自身公共服务，助力实现可持续发展目标。”

Committee member Anthony Yeh^①. “Other cities can learn from the winning cities of the Guangzhou International Award for Urban Innovation in order to improve their public services toward achieving the SDGs.”

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② 叶嘉安（Anthony Yeh），中国科学院院士、英国社会科学院院士、香港大学城市规划及设计系讲座教授及陈道涵基金教授、地理信息系统研究中心主任。

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② Anthony Yeh, Chan To-Hann Professor in Urban Planning and Design, Chair Professor of Department of Urban Planning and Design, Director of GIS Research Centre, University of Hong Kong; Academician, Chinese Academy of Sciences; Academician, Academy of Social Sciences, UK.



广州华南国家植物园
South China National Botanical Garden in Guangzhou