

# 汇智广州·智惠全球

Global Wisdom for Local Solutions



## 第三届广州国际城市创新奖参评案例分析与经验借鉴

Learning from Cities  
The 3<sup>rd</sup> Guangzhou International Award for Urban Innovation

广州国际城市创新研究会 编  
Guangzhou Institute for Urban Innovation



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metropolis



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It gives me great pleasure to present this unique collection of case studies—*Global Wisdom for Local Solutions: Learning from Cities for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation*. The Guangzhou International Award for Urban Innovation (hereinafter referred to as Guangzhou Award) is co-sponsored by the city of Guangzhou, United Cities and Local

the Sustainable Development Goals and the New Urban Agenda. The uniqueness of these case studies is due to the methodology used by the Guangzhou Institute for Urban Innovation.

First, all the 2016 shortlisted cities were selected by an independent Technical Committee from the 301 submissions from 171 cities to the 2016 Guangzhou Award.

Secondly, all of the shortlisted cities were then invited to present their initiatives at the 2016 International Seminar on Learning from Urban Innovation, held in Guangzhou, 6 December 2016. An international Jury, members of which were embedded in the audience of the seminar,

<sup>rd</sup> Guangzhou Award.

This methodology demonstrates the commitment of the City of Guangzhou, the co-sponsors of the Guangzhou Award and its local and international stakeholders to support sustainable urban development worldwide and to highlight the importance of the local implementation of development.

Nicholas You

## / 亚的斯亚贝巴（埃塞俄比亚） / 可持续交通设施发展

□ Geoffrey Bickford / 南非城市网络

亚的斯亚贝巴是2016第三届广州国际城市创新奖入围城市。本次调研开展于2017年8月11日至12日。

### ➔ 项目背景

亚的斯亚贝巴市需要革新交通运输系统，以提升现有交通运输服务水平。该市交通拥堵情况极为严重，虽然有许多针对城市交通的投资和发展项目，但依然不足以解决问题。为了满足城市的需求，亚的斯亚贝巴需要构建一个社会包容、经济实惠、环境友好和技术先进的可持续交通系统。此外，只有提供安全可靠、方便舒适的交通系统服务，城市才能实现可持续发展和社会经济的持续增长。

目前，亚的斯亚贝巴市的公共交通系统由三家巴士运营公司（两家公营及一家私营）、中巴车及小巴的士组成。轻轨系统则由国家铁路局负责实施、管理和运行。在亚的斯亚贝巴，70%的人选择步行作为出行方式，26%选择公交，只有4%选择私家车。交通运项目管理部门的数据显示，亚的斯亚贝巴每天有220万名乘客和360万出行人次。

该项目将使市民更关注并信赖公共交通系统。城市应具备更强的连通性，行人应有更好的步行体验，要管控车流量，提高交通安全水平，加强交通管理部门的监控能力。亚的斯亚贝巴还有一项政策，即适当考虑行人，提倡拓展公共交通系统和非机动车交通系统，





## / Addis Ababa(Ethiopia) / Development of Sustainable Transport System

□ Geoffrey Bickford / South African Cities Network

Addis Ababa was shortlisted for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during August 11<sup>th</sup> and 12<sup>th</sup>, 2017.

### ➔ Background of the Initiative

Addis Ababa City is demanding transformed transport system that changes the existing service. The transport challenge in the city is rampant. Despite the heavy investments and developments being undertaken in the city, the supply could not much meet the demand. To address the demand of the city, socially inclusive, economically affordable, environmentally friendly, and technologically advanced sustainable transport system is required. In addition, the rationale behind the initiative is that sustainable and enduring socio-economic development in the city is possible if—and only if—the transport system provides reliable, safe, comfortable and accessible service.

Currently the road-based public transport environment consists of 3 bus-operating companies (2 public and 1 private) as well as midi-bus and minibus taxis. There is a light rail system, which is implemented, managed and operated by the National Rail Agency. There is a large share of pedestrian-based transport, claimed to be responsible for as much as 70% of all trips in the City of Addis Ababa. 26% of trips are made through public transport and 4% private vehicle. According to the TPMO, there are 2.2 million passengers and 3.6 million trips daily in the city across this modal split.

The initiative will increase the accessibility and reliability of the public transport system



to all users. Pedestrians shall have better walking experience and connectivity. It shall create regulated traffic flow and improved traffic safety. Monitoring and controlling capacity of the traffic management agency shall be enhanced. The city has an urban transport policy that promotes the expansion of mass transport systems and non-motorized transport systems with due regard to pedestrians. It further elaborates the improvement of the traffic management practices through the introduction of intelligent transportation systems.

The initiative focuses on transforming the provision of reliable and sustainable public transport systems and creating smoother and safer traffic systems. The city is developing high-standard mass-transport projects such as 7 BRT lines (of which the B2 corridor is under detailed design phase), 3 public transport terminals, 3 bus depots, 2 “share the bike” (non-motorized transport) pilot projects. Furthermore, an additional bus operator is established, running 300 buses, and will increase by 410 more buses in the next five years. The efficiency of the public transport is planned to be improved with the introduction of dedicated bus lanes.

## ➔ Implementation of the Initiative

The Transport Project Management Office (The TPMO) was established 4 years ago under the auspices of the Roads and Transport Bureau of Addis Ababa. The intention was to provide the relevant authority to support and act on all areas of public transport and traffic management that previously did not exist in the transport structures of the City of Addis Ababa.

The TPMO reports to the Roads and Transport Bureau of the City of Addis Ababa and has authority to act on matters of public transport and traffic management, specifically in relation to building capacity, modernising public transport (increasing supply), integrating all aspects of public transport, and enhancing international relations.

Internal to the city, the Roads and Transport Bureau and the City Road Authority are critical stakeholders with which the TPMO are required to align and communicate plans and activities. Externally, and in line with the mandate to improve international relations, The TPMO has partnered with an impressive array of international organizations working in transport. These include World Bank, Bloomberg Foundation, Japanese International Co-Operation Agency, Institute for Transportation and Development Policy (ITDP), Lyon Town Planning Agency and French Development Agency.

公共交通和交通管理事项采取行动，尤其是提升交通运输能力、推动公交现代化（增加城市公交服务内容）、整合公共交通各方面资源以及加强国际关系等方面。

对内，道路运输局和城市道路管理局是主要利益相关方，交通运输项目管理办公室须与之保持一致，并积极与其沟通项目计划和相关活动。对外，为了改善国际关系，交通运输项目管理办公室与一批交通运输领域的知名国际机构进行合作，其中包括世界银行、布隆伯格基金会、日本国际合作署、交通和发展政策研究所、里昂城市规划局和法国发展局。

表面上看，交通运输项目管理办公室利用伙伴关系为项目招贤纳士，提供资金保障，在一环接一环的长期安排中，众多伙伴关系的具体作用尚不明晰。然而，通过这种方法，交通运输项目管理办公室可同时开展多项工作，以便处理与公共交通和交通管理相关的各种问题。

## ➔ 成效与挑战

### 1. 项目成效

为了改善交通安全、控制车流量，亚的斯亚贝巴着手开发智能交通系统（ITS），将停车场设施（露天停车场系统）与公共空间结合起来。项目目前正在对现有的道路网和交叉口进行设计审查，制定了道路安全战略及相关行动计划。

为提高道路运输局的运作能力，当局制定了新架构，并已投入运作。这些新机构（公共和货物运输管理局、交通管理署、司机和车辆管制局）应分散业务，以提高工作效率。

### 2. 项目挑战

（1）经常为人所道的一个挑战：很难建立和执行改善公共交通和交通管理所需的全部工作条目。为解决能力不足的问题，交通运输项目管理办公室引入国际伙伴提供关键领域的能力建设支持。法国里昂市为快速公交提供的规划支持就是一个很好的例子。

（2）资金不足也是经常提到的一个问题，它限制了跨领域项目的有效执行。为了解决资金不足的难题，交通运输项目管理办公室也寻求国际合作伙伴的支持。道路安全战略工作便是由布隆伯格基金会资助的。

（3）与国家铁路局（负责本市轻轨系统）的协调合作不足。这似乎是一个很难解决







The TPMO has seemingly taken an opportunistic approach to leveraging partnerships to are structured into a coherent long-term arrangement is unclear. However, through the approach the TPMO has been able to develop an impressive amount of parallel work streams that address

## ➔ Effect and Challenge

Transportation Systems (ITS), building parking facilities (structural and open-lot systems) networks and intersections. Road Safety Strategy has been developed, and action plans are being prepared.

To enhance the operational capacity of the Road and Transport Bureau, a new structure has been enacted and has commenced operations. These new institutions (Public and Freight shall decentralize operations for effective results.



## 2. Challenge of the Initiative

(1) Capacity constraints were often raised as a challenge to being able to establish and implement the full range of work streams required for public transport and traffic management improvement. To address capacity issues, The TPMO has drawn on international partners to supplement capacity in critical areas. A good example is the planning support for the BRT provided by the City of Lyon in France.

(2) Funding constraints were also a point that was stressed frequently limiting the ability for projects across the spectrum to be implemented. To address funding constraints, the TPMO has also relied on international partners. For instance, the Road Safety Strategy work is funded by the Bloomberg Foundation.

(3) Integration and co-operation with the National Rail Agency (responsible for the light rail system in the city) has been limited. This is seemingly a difficult issue to address, as there seem to be no intergovernmental planning structures supporting and recognising the multiple transport authorities that exist in the city.

## ➔ Innovation of the Initiative

The institutional approach seems to be the real innovation in this project nomination. The TPMO is established as a support to the existing transport institutions at the city and has the mandate to research, plan, experiment, implement and monitor across a range of transport areas, i.e. pedestrian safety, public transport, traffic improvements such as parking—this seems to be the innovation for this candidate. The BRT plan and the other strategies and plans are not necessarily innovative in their own right as they are recognisable in many other cities and contexts. The infrastructure is not being planned for in a significantly unique or innovative manner.

However, the establishment of a bus operator working prior to infrastructure delivery is a novel approach—as the operations is the area that customers experience and can make or break the success of a project. The city has established a new bus operator, the Shegar Public Transport Enterprise that will migrate to operate BRT services once the infrastructure is delivered. Currently the city has 3 bus operating companies (2 public operators and 1 private operator) all currently operating in a mixed traffic environment. The view is that the new operator will create necessary additional capacity, as demand will increase due to the dedicated lanes provided by BRT.





An impressive aspect of the the TPMO is their ability to partner with multiple international urban and transport support organisations as a way to address capacity and funding shortfalls. This demonstrates innovation in how to get an ambitious set of plans and projects achieved in a constrained capacity and resource environment. The long-term sustainability of these partnerships is not clear as they are largely project-based and in different areas of transport. It is also not clear what these partnerships and the funding and capacity support associated with them means for the priorities of the TPMO. From the tour it was difficult to assess how the projects showcased indicated a coherent approach to improving public transport service and pedestrian environment and safety, as these projects were largely in planning phase with limited implementation. Whereas projects relating to traffic improvement seemed to be receiving significant attention and innovative practices were displayed in the approach to these projects.

The experimentation that is taking place around the improvement of intersections was found to be exceptionally innovative. Whereby temporary signals would be put in place to test the impact such signals would have on the flow and safety of the intersection was an innovative methodology around planning. Using small experiments to build an evidence base for outcomes related to interventions that could then inform large investment programmes is an exceptionally innovative approach to transport planning. If the TPMO could consider this same experimentation methodology around all aspects of their work, especially in areas of public transport and NMT, it could strengthen their approach and contribute to a demonstrated prioritisation towards sustainable transport in a highly innovative manner.

The major gap is the poor co-operation and co-ordination with the National Rail Authority as there are potentially important lessons to be learnt and important operating integration aspects to be considered in the implementation of the BRT and other infrastructural upgrades to pedestrian network that would perhaps benefit from a more co-ordinated approach.

## → Highlight of the Initiative

The TPMO has been nominated for their institutional approach to planning for public transport and traffic management in an African city context. Over the course of the tour, the delegation was exposed specifically to their Road Safety Strategy supported by the Bloomberg Foundation, yet to begin implementation, the building of new bus depots, traffic management experiments, the planning for the Cities BRT system supported by the City of Lyon Town Planning Agency through a city-to-city partnership and the ITDP, and the development of parking solutions for traffic management. It is clear from these activities that the TPMO has the

## ➔ 项目亮点

这一项目获得第三届广州国际城市创新奖提名的亮点在于它是一个非洲背景下体制化的交通运输管理规划系统。在此次调研中，代表团了解了交通运输项目管理办公室的各个项目，如停车场建设，由布隆伯格基金会赞助的道路安全战略（未实施），由里昂城市规划局与交通和发展政策研究所共同支持的公交车库建设、交通管理实验、城市快速公交系统规划等。从中可以看出，交通运输项目管理办公室在亚的斯亚贝巴市规划、承包及执行交通运输项目有一定的权威性。

## ➔ 经验与启示

### 1. 项目经验

（1）体制架构是城市交通规划中需要考虑的重要问题。交通运输项目管理办公室一方面是亚的斯亚贝巴市政府的部门，但另一方面又能脱离这一官僚环境，灵活运作，积极适应城市需求。

（2）在有了缔结伙伴合作关系的授权之后，亚的斯亚贝巴可借助外部力量开展项目，否则该市无法实现其目标。

### 2. 项目启示

（1）对其他城市有启发的是，仔细考虑体制层面所面临的挑战，考虑如何在城市交通系统中恰当设定机构的职能与权力。各城市并非要在自己的城市里设立一个交通运输项目管理办公室，而是要考虑什么样的机构设置最有利于自身城市发展。

（2）与相关组织合作完成项目也是一大启示，各城市可向亚的斯亚贝巴学习，以环相扣的方式将合作伙伴提供的支持对接到最重要的领域。

（3）通过交通运输实验得出具体可行的方案，这一做法尤其值得借鉴。交通运输项目管理办公室在交通规划各领域中的管理方式及投资方式都值得其他城市学习借鉴。





authority to plan, contract, and implement projects within the City of Addis Ababa.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

(1) Institutional architecture is important to consider in city transport planning and delivery. The TPMO is the outcome of a city-based response to be better positioned outside of the bureaucratic environment to be able to work in an agile and responsive manner in the context of Addis Ababa while still being accountable to the city government.

(2) By having a partnering mandate, the city has been able to capacitate and develop programmes through support that it otherwise would not have been able to achieve.

### 2. Inspiration of the Initiative

(1) The opportunity to think through the institutional challenges and how best to position institutional mandates and authority in the context of transport is a major lesson for other cities. The inspiration is not to replicate what the TPMO is but to think what institutional arrangement might be best for a specific city.

(2) Partnering with aligned organisations to get the work done is inspirational. The important lesson from Addis Ababa is to ensure that the partners' support is channelled into priority areas in a coherent manner.

(3) Experimentation in transport to build context-specific insights is exceptionally inspirational, and many cities could learn from the traffic management approach across all aspects of transport planning and investment approaches.

## / 米兰（意大利） / 共享交通

□ 吕连恩 / 广州市城市规划勘测设计研究院

米兰是2016年第三届广州国际城市创新奖专家推荐城市。本次调研开展于2017年9月5日至6日。

米兰市位于意大利北部，有世界时尚之都的美誉。米兰市面积180平方千米，现有居民130万，米兰大都会区面积1570平方千米，人口320万。

随着经济水平提升、人口数量增长以及城市发展，全球各个城市普遍遇到了交通问题。米兰市发展也面临着诸多挑战：空气污染、交通拥堵以及城市空间饱和等，最严峻的是交通问题。米兰市日均交通出行298万人次（2013年），尽管大多数人搭乘公共交通（在米兰，57%为公共交通工具，30%为汽车，7%为摩托车，6%为自行车），但是米兰仍然是欧洲汽车拥有率最高的城市之一（每100位居民拥有51辆车；相比之下，伦敦为31辆，柏林为29辆，巴黎为25辆），交通拥堵比较严重。同时，米兰也是欧洲大气颗粒物浓度最高的城市之一。

### ➔ 项目背景

为解决空气污染、交通拥堵等一系列问题，米兰市提出了创新、一体化的交通解决方案，以实现提升经济竞争力、社会凝聚力和完成可持续发展的目标。

2013年6月，米兰市政府出台了一个新型汽车共享方案，为任何人在任何地点、任何

## / Milan(Italy) /

# Sharing Mobility in Milan

□ Lianen LYU / Guangzhou Urban Planning and Design Survey Research Institute

Milan was a deserving city of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during September 5<sup>th</sup> and 6<sup>th</sup>, 2017.

Located in the north of Italy, Milan has a reputation as the fashion city of the world. Milan has an area of 180 square kilometers with 1.3 million inhabitants while its metropolitan area covers 1570 square kilometers, with a population of 3.2 million.

With the growth of economy, population as well as urban areas, cities all over the world, have encountered traffic problems. Milan is of no exception. The city faces many challenges such as air pollution, traffic congestion and urban space saturation. The most noticeable problem is traffic congestion. The average passenger traffic per day was 2.98 million times in 2013. Although most people take public transportation (57% of them choose public transportation, 30% auto, 7% motorcycle, and 6% bicycle), Milan is still one of the cities in Europe with highest car ownership (every 100 residents have 51 cars on average. By contrast, the numbers are 31 in London, 29 in Berlin and 25 in Paris). So serious is the traffic congestion of Milan, that it is also known for one of the highest concentrations of particulate matter in Europe.

### ➔ Background of the Initiative

In the face of problems such as air pollution and traffic congestion, Milan put forward innovative and integrated solutions for transportation in order to enhance economic competitiveness, improve social cohesion and realize the goals of sustainable development.





In June 2013, Milan municipal government introduced a new type of car sharing scheme, which provided an efficient, reliable and cost-effective transportation system named “sharing with everyone” for anybody at any place and any time. In June 2015, the government of Milan launched a similar motorcycle sharing service program. With the increasing number of citizens choosing sharing mobility year by year, 2,942 cars, 1,500 motorcycles and 4,650 bikes (of which 1000 bikes are fully automatic) are put into use at present. As a result, Milan acquired a leading position in Europe in the “sharing with everyone” transport system.

## ➔ Implementation of the Initiative

### 1. Congestion charge in central areas

In January 2012, the congestion charging plan was implemented in district C. In order to control the number of cars entering the central area, each car was charged 5 euros. Traffic in the city centre has fallen by nearly 30 per cent since the plan took effect, reducing the daily flow of vehicles by 40,000, which has made space for walking and shared transportation. In the meantime, part of the congestion charges was invested into the development of shared transportation. For instance, congestion charges in 2015 totalled 26.3 million euros, of which about 17% was spent on the sustainable development of transportation projects such as “sharing with everyone” program, especially in expanding bike sharing.

### 2. Developing sharing transportation

It is necessary to continue prioritizing the development of shared transportation, which is featured as an environment-friendly substitute to other transportation methods. Milan became the first city to launch a car-sharing service in Italy as early as September 2001. There were 3 cars and 20 members involved in this activity, which was run by Legambiente, an NGO of environmental alliance. Ten years later, the number of Milan’s traditional shared cars remained at 190, with 7,000 subscribers. In 2012, the municipal government and the Organization of Environment and Territories (AMAT) carried out a study to explore the potential for expanding car-sharing schemes. Its results suggested that Milan qualified as a candidate.

In overall, Milan performed better at the beginning phase than other European cities including London, Paris and Berlin. In August 2016, the municipal government of Milan issued the Sustainable Urban Mobility Plan (SUMP). In this plan, Milan referred to further developments of public transport in the next 10 years to add values to urban space, and to

## 2. 大力发展共享交通

坚持把共享交通作为优先发展的绿色和替代交通方式。早在2001年9月，米兰成为首个在意大利推出汽车共享服务的城市，共有3辆汽车和20名成员参与，由非政府组织环保联盟Legambiente运营。10年后，米兰的传统共享汽车数量稳定在190辆，共7000名用户。2012年，市政府委托交通、环境和领土机构（AMAT）进行一项研究，探讨扩大汽车共享计划的潜力。该研究表明，米兰已经有条件扩大汽车共享计划。

总的来看，米兰在启动阶段比其他欧洲城市包括伦敦、巴黎和柏林表现得更好。2016年8月，米兰市政府发布了《可持续城市交通计划》（SUMP），提出未来10年米兰市要进一步发展公共交通，赋予城市空间价值，将城市交通的焦点从拥有私家车转移到整个大都市区域中基于共享交通服务如汽车、单车和摩托车的模式。

## → 成效与挑战

### 1. 项目成效

经过多年的市场竞争与检验，米兰目前主要有六大共享汽车运营商，分别是Enjoy、Car2Go、DriveNow、Share'ngo、GuidaMi/Ubeeqo和E-Vai公司。最新数据表明，共享汽车运营商提供约2942辆汽车（其中电动汽车占27%），用户约64万。另外，米兰于2008年开始由BikeMi公司提供单车共享服务。目前，米兰拥有4650辆单车（其中1000辆为全电动单车）、280个单车站、4.5万用户，日均使用超过2万车次，且这些数字正在不断增长。2017年，两家中国共享单车企业摩拜和ofo刚刚中标成为米兰的共享单车运营商。两家中国的共享单车企业都制订了雄心勃勃的发展计划，如ofo计划未来在米兰投放4000辆单车，雇用40个专职员工进行服务。

根据米兰2017年1—5月共享汽车运营数据，现有共享汽车每次的平均出行距离为6.2千米，每次租用时间平均为28分钟，每天的共享汽车租金总额为15,340欧元，每辆车平均每天租金为5.6欧元，用户每年人均租金为27.5欧元。共享汽车用户中，女性用户占32.91%，男性用户占67.09%。用户的年龄结构为：18—25岁用户占17%，26—40岁用户占48%，41—65岁用户占33%，65岁以上用户占2%。关于米兰共享单车的运营，BikeMi从2008年12月份开始米兰投放运营共享单车，2017年6月的数据显示，公司有280个共享单车



change the focus from owning private cars to choosing sharing transport such as cars, bikes and motorcycles.

## ➔ Effect and Challenge

data, car-sharing operators offer about 2,942 cars (27 per cent of which are electric cars) with about 640,000 users. In addition, Milan began to offer bike sharing services by BikeMi in 2008. Currently, Milan has 4,650 bicycles (of which 1,000 are all-electric), 280 bike stations

increasing now. In 2017, two Chinese bike-sharing companies, Mobike and OFO, won the bid to become Milan bike-sharing operators. Two bike-sharing enterprises in China have developed



投放点，投放了4650辆单车，其中1000辆是电动单车，买年卡的有6万个用户，年卡36欧元，近三年平均增长25%；买周卡或日卡的有4.5万个用户，周卡9欧元，日卡4.5欧元。

## 2. 项目挑战

（1）单车骑行环境有待提升。虽然米兰正在大力发展共享单车，但由于城市中心区道路普遍偏窄，且路边停车占用大量的空间。

（2）共享交通有待不断完善。在目前的米兰共享汽车领域中，电动汽车占总量的27%，这一比例不算高。总体上看，米兰共享交通还是处在不断发展完善的阶段，具体表现为：目前缺乏全市层面的共享交通总体规划；各家共享交通运营商各自为政，全市没有建立起统一的共享交通大数据平台；一些新的技术手段，如“电子栅栏”技术尚未应用；各共享交通运营商基本处在前期投入、市场培育或是抢占市场阶段，还处于亏损状态。而且，对于新引入的随借随还的共享单车，米兰市目前还没有出台规范措施。可见，米兰的共享交通还有待不断完善，从而实现可持续健康发展。

## ➔ 项目创新

### 1. 渐进式推进共享交通发展

米兰市发展共享交通是循序渐进的。引入该创新实践前，米兰市政府主管部门多次召开会议，听取运营商、市民等的意见，广泛吸收各方面的建议，出台发展共享汽车、共享摩托车、共享单车的行动方案。

### 2. 积极应用新技术发展共享交通

米兰市积极应用新技术，使共享汽车系统的查询、预订流程变得越来越全面、越来越快，且更加直观、更加个性化。由于引进不同的运营商，共享交通既可以固定到站借还，也可以在服务区内的任何地方随借随还。随借随还的服务被称为“自由浮动”服务，它依托可下载的智能手机应用程序运行，用户可以根据需要借用，还车时将车停在任何公共停车位即可。这种创新的共享系统更好地满足了年轻一代的需求，便于他们采用费用合理的交通方式在城市自由出行。

throw 4,000 bikes in Milan in the future, and employ 40 full-time staff for service.

According to the statistics of car-sharing operations in the first five months of 2017 in Milan, the average mileage of each trip of the shared cars is 6.2 kilometers and the average rental time is 28 minutes. Besides, the total rental cost per day totals 15,340 euro, the rental fee is 5.6 euros per day for each car and the annual rental average is 27.5 euros for each person. For the shared car users, 32.91% of these are female and 67.09% are male. Regarding age distribution, 17% of the users are between 18 and 25 years old, 48% are between 26 and 40 years old, 33% are between 41 and 65 years old and only 2% are above 65 years old. As for the operation of shared bikes in Milan, BikeMi started to operate shared bikes in December 2008. The statistics in June 2017 showed that 280 distribution stations of shared bikes were created in this company and 4,650 bikes were prepared, of which 1,000 were electric. Besides, there were 60,000 subscribers buying annual cards (36 euros per card) with an average growth of 25% in recent 3 years. In addition, 45,000 users subscribed for a weekly membership (9 euros per card) or a daily membership (4.5 euros per card).

## 2. Challenge of the Initiative

(1) Cycling environment needs to be improved. Although Milan is making great efforts to develop bike-sharing. Roads in the centre of the city are generally narrow and roadside parking takes up a lot of road space.

(2) Sharing mobility needs to be improved continuously. Electric cars make up 27 per cent of Milan's Shared cars, which is a modest proportion. In general, Milan's sharing mobility is still under development and improvement, which is embodied in the following aspects: Currently, there is no overall planning of the city's sharing mobility; each sharing traffic operator is in charge of its own affairs, and the city has not established a big data platform for unified sharing traffic; and some new technologies, such as electronic fences, have not been used yet. In addition, the sharing traffic operators are basically in the early stage of investment or the cultivation and grabbing of market, so the business is still in the red. Lastly, the city of Milan has not yet put in place regulations on the introduction of borrow-and-return sharing bicycles.

## ➔ Innovation of the Initiative

### 1. Developing Sharing Mobility in a Progressive Way

Milan develops sharing mobility step by step. Before the practice of this program, administrative departments of Milan municipal government have held many meetings to listen

## ➔ 项目亮点

### 1. 坚持政府主导

互联网的快速发展，给城市治理带来了新的挑战，往往是新生事物出现后，政府才被动进行规范管理。但米兰市牢牢把握共享交通的主导权，提前进行研究规划，吸引各方参与，广泛听取意见，先规范再发展。对政府而言，最重要的任务是开发一个为任何人在任何地点、任何时间提供高效、可靠、性价比高、价格透明，由绿色环保车辆组成的新型共享交通系统。米兰市政府设定门槛条件，通过招标的方式来确定。在招标文件中，对运营商的共享汽车/单车的投放规模、资金筹措、运营方案、各参与方的分工等方面进行详细规定。比如对共享汽车提出以下要求：自由浮动系统；无须预定，按需服务；汽车由电动、混合动力、天然气、液化石油气、汽油等驱动，且满足欧五及以后标准的车辆；至少1/100的车辆是为行动不便的人准备的。米兰市政府还强制要求运营商至少每年进行客户满意度调查，向米兰市政府报告，并要求运营商向米兰市政府分享其数据。我们看到，BikeMi单车采用固定桩位进行停放，刷卡取车，放入桩位自动还车，避免出现乱停乱放现象。Share'ngo运营商也告诉我们，由于采用纯电动汽车，米兰市对该公司共享汽车实施免收中心区停车费和拥堵费的优惠。

### 2. 发挥市场作用

充分发挥市场作用，积极发展共享交通。米兰市公共行政部门、企业、社会组织和市民不仅仅是简单的利益相关方，同时也是解决方案的共同制定者，他们共同设计、开发、制定共享交通的产品、服务、实践和政策。其中，地方政府是战略和实践的组织者，赞助商在经济和通信支持方面发挥重要作用，共享交通运营商迅速开展公众活动来改善服务质量。据了解，米兰市政府对共享交通运营商没有制定所谓的考核标准或出台退出机制等方面的规定或要求，对运营商就是通过市场来考核，如果企业因自身问题管理不善，难以盈利，自然就会被市场淘汰。

### 3. 倡导多模式的共享交通

米兰的共享交通由多种模式构成，包括共享汽车（分为电动和传统燃油型）、共享



to the opinions of operators and citizens, and absorbed suggestions from all aspects. Then, it introduced action plans for sharing cars, motorcycles and bicycles.

## 2. Applying New Technologies in Developing Sharing Mobility

Milan applies new technologies to make the inquiry and booking process of the shared car system more comprehensive, faster and more intuitive and personalized. Due to the introduction of different operators, the shared traffic can be either fixed at the station for loan or lent at any place in the service area. The service of free borrowing and returning is also called “mobile” service, which depends on the application downloaded in smart phone. The users can borrow sharing mobility at will and park it at any public parking station. This innovative sharing system better meets the needs of younger generations, making it easier for them to travel freely in the city by means of affordable transportation.

### ➔ Highlight of the Initiative

#### 1. Government-sponsored Initiative

With the rapid development of Internet, new challenges have been brought to urban governance. It is usually after the emergence of new things that the government passively conducts normative management. However, Milan firmly grasps the leading opportunity of sharing traffic, and conducts research and planning in advance. Besides, it encourages the engagement of all parties, listens to opinions from all sides and standardizes before developing programs. For the government, the most important task is to develop an efficient, reliable, cost-effective, price-transparent sharing mobility system for anyone in any place and at any time. The system is composed of environmentally friendly vehicles. Milan has set a threshold for entering Milan's shared-traffic operators through a bidding process. In the bidding document, detailed provisions are made on the scale of the investment, financing, operation plan and division of labor among the participants of the operator's shared cars/bicycles. For example, the following requirements are put forward for sharing cars: free floating system; no reservation required and on-demand service; Cars are fueled by electricity, hybrid power, natural gas, liquefied petroleum gas, gasoline and so forth; the vehicles shall meet the standards of Europe Five Emission Limits and beyond. At least 1/100 of the vehicles are for people with mobility problems. The city has also strictly required operators to conduct at least one survey a year on customer satisfaction. And then report and share their data to the government. For example, to avoid parking in a mess, BikeMi bike users can find fixed piles to park, swipe their cards to pick up the car and park it





单车、共享电动单车以及共享摩托车。米兰中心区的道路特点是普遍偏窄，单行线多，但路网密度较高。为适应这一路网特点，普遍采用了小型/微型车。与很多城市限制甚至禁止电动单车、摩托车不同，共享电动单车、摩托车也是米兰共享交通的组成部分。米兰市并不认为推广共享电动单车、摩托车会增加交通组织管理的难度，以及引发交通事故率上升。可见，米兰的交通秩序管理以及市民良好的交通法规意识值得学习。

## ➔ 经验与启示

### 1. 项目经验

优先发展公共交通。米兰正在逐步控制和减少一部分私家车的数量，引导市民优先选择公共交通、共享交通等方式出行。从全球各个城市来看，优先发展公共交通，实现城市交通绿色低碳、集约化发展，是一个发展趋势。共享汽车的出现，一定程度上可以抑制私家小汽车的快速增长，是对公共交通的有益补充。米兰市有关研究表明，一辆共享汽车可

in the pile. Since pure electric vehicles are used, Share' ngo operators will enjoy discounts and other preferential treatments for parking fees and congestion charges in central areas of the city.

## 2. Giving play to the Role of Market

Giving full play to the role of market is essential to develop sharing mobility. The public administrative departments, enterprises, social organizations and citizens of Milan are not only stakeholders, but also co-workers for solutions. They make joint effort to design and develop products, and enact policies for the products, services and practices of sharing mobility. The local government is the organizer of strategy and practice while sponsors are responsible for financial and communication support and sharing mobility operators carry out public activities to improve the quality of service. The government of Milan has not set any regulations or requirements to those operators, such as the so-called appraisal standards and a withdrawal mechanism. On the contrary, the operators are assessed by the market. If the enterprise fails to earn profit because of poor management, it will be knocked out of the market.

## 3. Advocating Multi-mode Sharing Mobility

Milan's sharing mobility is made up of a variety of modes, including sharing cars (including electric and traditional fuel models), sharing bikes, sharing electric bikes and sharing motorcycles. The roads in central Milan are generally narrow, filled with many single lines, but the road network density is relatively high. In order to adapt to the characteristics of this network, small/micro cars are widely used. Unlike many cities that restrict or even ban e-bikes and motorcycles, sharing e-bikes and motorcycles is part of Milan's shared traffic. Milan does not believe that the promotion of shared electric bikes and motorcycles will increase the difficulty of traffic management and lead to increased traffic accidents. It can be seen that Milan's traffic management and good public awareness of traffic laws and regulations are worth learning.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

Priority should be given to the development of public transport. Milan is controlling and reducing the number of private cars, and guiding citizens to choose public transportation, sharing transportation and other ways to travel. The role of governments is to improve the institutional mechanism of the industry of sharing mobility, and clearly define the role and function of sharing mobility in their own urban traffic system. Moreover, governments should balance

以替代8—15辆私家车。预计到米兰市共享交通计划的中期，共享汽车的发展可增加米兰市道路总长度的7.5%。在自行车共享方面，2015年减少了1129吨二氧化碳排放，对环境改善发挥了积极作用。但是，共享汽车、共享单车的投放规模也要合理控制，防止过度发展对公共交通造成影响。

## 2. 项目启示

（1）明确共享交通发展定位。广州应鼓励发展共享交通，为市民群众提供多样化出行选择。市相关部门要在城市总体规划、城市交通规划的远景或蓝图、目标指导下，做好共享交通发展的顶层设计，明确共享交通在城市综合交通体系中的地位与作用，处理好共享交通与私家小汽车、常规公交、地铁等其他交通方式的关系。

（2）促进行业有序发展。广州在已叫停运营商投放新车的基础上，要加快推进共享单车管理政策文件的出台，加强共享单车规范管理，促进共享单车有序发展。对共享汽车来说，政府应发挥主导作用，制定共享交通发展规划，明确总体布局、发展规模、准入门槛、车辆安全、技术标准以及配套措施等。这一过程中，政府主管部门要充分征求运营商、相关行业组织、专家、市民等意见。借鉴米兰经验，采取招投标方式引进若干数量运营商，鼓励使用纯电动汽车。对共享汽车停放、充电等给予配套支持。充分发挥市场作用，促进运营商公平竞争，实现优胜劣汰。

（3）加强行业规范监管。目前，国内的共享交通行业发展的短板在于管理细则不完善。应针对行业运营管理中的细节问题，尽快出台实施细则。同时，要落实运营商安全生产主体责任，建立健全车辆档案，建立车辆GPS监控平台，对承租人超速、疲劳驾驶等行为履行检查职责等。





the relationship between shared vehicles, private cars, and public transport. The emergence of shared cars, to some extent, can inhibit the rapid growth of private cars and it is also a beneficial supplement to public transportation. A research on Milan has shown that a shared car can replace 8-15 private cars. By the mid-term of the sharing mobility plan, the development of shared cars is expected to increase the total length of Milan's roads by 7.5 percent. In terms of bicycle sharing, 1,129 tons of carbon dioxide emissions were reduced in 2015, which played a positive role in improving the environment. However, the scale of sharing cars and bicycles should also be properly controlled to prevent the adverse impacts on public transportation.

## 2. Inspiration of the Initiative

(1) Defining the trend of developing sharing mobility. Governments should encourage the development of sharing mobility and provide citizens with diverse travel options. Under the guidance of the urban master planning, the role of governments is to improve the institutional mechanism of the industry of sharing mobility, and clearly define the role and function of sharing mobility in their own urban traffic system. Moreover, governments should balance the relationship between shared vehicles, private cars, and public transport.

(2) Promoting the orderly development of the industry. In terms of sharing bicycles, relevant management policies should be issued to strengthen standard management and promote orderly development. For sharing cars, governments should play a leading role in making plans for sharing traffic development, and fully understand overall layout, development scale, barriers to entry, vehicle safety, technical standards, and supporting measures, etc. In this process, the major departments of the government should solicit the opinions of operators, relevant industry organizations, experts and citizens. The case of Milan shows that governments should introduce several operators through bidding and encourage the use of pure electric vehicles. Additionally, governments, by leveraging the role of market, should create incentives for market players and encourage market competition to promote the sustainable development of sharing mobility.

(3) Strengthening the regulation and supervision of the industry. At present, the shortcoming of the development of the domestic sharing transportation industry lies in the imperfect management rules. The detailed rules should be issued as soon as possible, based on the specific problems of operating and managing the industry. At the same time, it is necessary to enact laws to clearly define the duties of operators on safety production, establish a platform that can trace the records of shared vehicles' information and adopt GPS technology to monitor their operation. The regulation mechanism should also regulate the illegal driving behaviors of the people who hire the shared vehicles, such as speeding and fatigue driving.

## / 柏林（德国） / 移动多元的交通导航系统

□ 邓院昌 / 中山大学

柏林是2016年第三届广州国际城市创新奖专家推荐城市。本次调研开展于2017年9月2日至4日。

移动的多元交通导航系统项目研发从2012年12月开始，到2016年5月结束。作为“门对门——未来本地公共交通网络的流动性”研究项目的一部分，联邦经济事务部给该项目拨款400万欧元，项目参与公司以技术或产品的形式投入了160万欧元。

### ➔ 项目背景

移动的多元交通导航系统项目旨在研发一个面向所有人群，在柏林-米特地区提供“门对门”连续的出行信息和交通导航服务的系统，使得人们在公共街区（包括使用本地交通网络ÖPNV）和建筑物内都可以获得无缝导航和路径指引服务。

该项目是在德国参议院城市发展与环境部的主导下，由德国盲人及弱视者协会、苏斯特区、若干科研机构 and IT公司（Fraunhofer FOKUS, BLIC, IVU, HaCon）、交通运输企业（RLG, BVG），以及柏林-勃兰登堡交通协会（VBB）共同参与完成的。

本项目重点关注盲人和弱视群体的特殊出行需求，在项目开发过程中，德国盲人及弱视者协会和柏林菲希滕贝格中学（盲人学校）在需求分析、用户使用习惯、项目成果测试等方面深度参与了项目的研发。

## / Berlin(Germany) /

# M4guide-an Integrated Communication and Navigation System

□ Yuanchang Deng / Sun Yat-Sen University

Berlin was a deserving city of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during September 2<sup>nd</sup> and 4<sup>th</sup>, 2017.

The development of the Mobile Multi-Modal Mobility Guide (m4guide) started in December 2012 and completed in May 2016. As part of the “Von Tür zu Tür ” (“From Door to Door”) research project, a mobility initiative for the local public transport network of the future, the Federal Ministry for Economic Affairs allocated four million euros to the project. The companies involved contributed an additional 1.6 million euros in the forms of products and technologies.

### ➔ Background of the Initiative

The m4guide aims to develop a system that can provide “door-to-door” continuous travel information and traffic navigation services to all people in the Berlin-Mitte region, enabling people to use seamless navigation and route guidance services in both public street place (including the use of local traffic network ÖPNV) and in buildings.

The project is led by the Berlin Senate Department for Urban Development and the Environment, and participated by German Federation of Blind and Partially Sighted, the Soest District, several research institutions and IT companies (Fraunhofer FOKUS, BLIC, IVU, HaCon), transportation companies (RLG, BVG) and the Verkehrsverbund Berlin-Brandenburg (VBB).



The project focuses on the special travel needs of the blind and partially sighted groups. During the research and development process, German Federation of Blind and Partially Sighted and Berlin Fichtenberg Secondary School (for blind and visually impaired people) actively participated in the analysis of user's demand and habits and project results testing, etc.

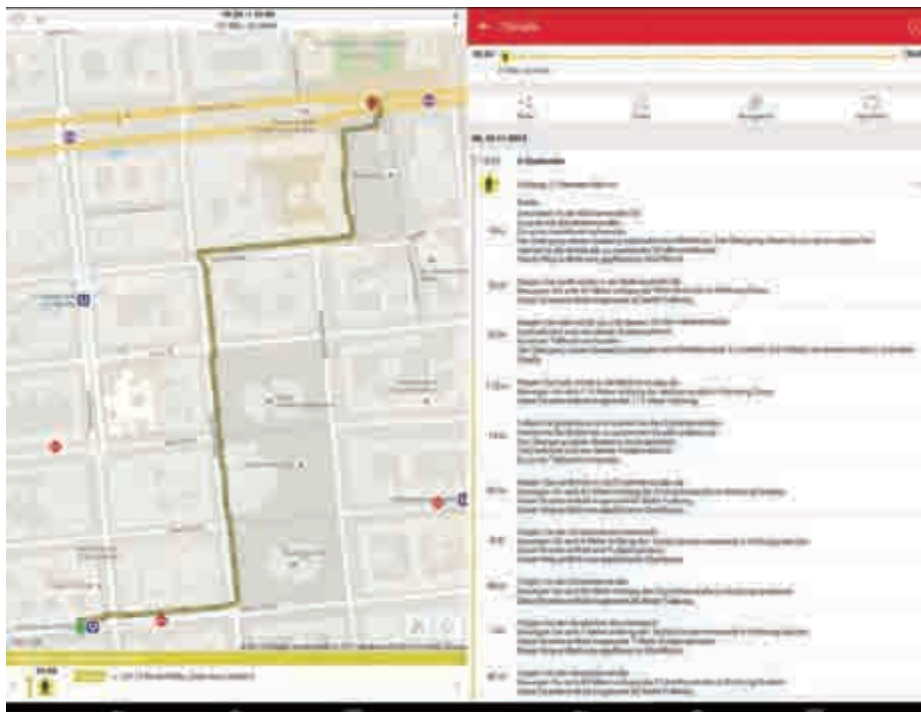
## ➔ Implementation of the Initiative

The successful implementation of the project comes from its sound foundation at earlier stage, as well as good project development mechanism. First of all, the project has a sound

GALILEO-based comprehensive transportation tracking and navigation system for blind and highly visually impaired people in Berlin (3MGuide) was implemented by the Berlin Senate Department for Urban Development and the Environment. The m4guide project followed this investigation of outdoor and indoor tracking and route guidance as well as the research project Guide4Blind conducted by the administrative district Soest, in which a blind-friendly guidance system for local public transport was developed.

Second, the project made good use of the public-private partnership (PPP) mechanism that had many advantages in organizational structure and resources. In terms of organizational structure, the project involved both government regulatory agencies, companies (including IT companies, transportation companies, etc.) and industry associations (including industry







associations in the transportation sector and associations of the blind and visually impaired). In terms of resources and funds, apart from the capital investment from the government, the project also attracted various resources investments (including technology, products and labor). By participating in this project, companies not only tested their technologies but also effectively promoted its image and products.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

The project contributes to the implementation of *the UN Convention on the Rights of Persons with Disabilities*, which has been ratified by Germany in 2009, and is of great significance for improving the mobility, and the ability to participate in all spheres of social activities of people, especially the blind and the visually impaired people.

### 2. Challenge of the Initiative

Implementation of the project has also encountered many challenges, mainly technical challenges, including:

(1) Based on the needs of outdoor pedestrian navigation, the project had to collect information of various street objects and set up corresponding data models to build a street view map. It is a heavy workload and also unprecedented in Germany. Relevant information catalogues and collection rules must be established.

(2) Based on the existing smart phone technology, there is no good solution for pedestrian positioning and tracking in crowded urban centers and buildings. The project must explore a large number of innovative methods to achieve this goal.

(3) The design, deployment and interconnection of related service components are also difficult to build between outdoor walking navigation, public transportation route navigation and indoor route navigation.

A lot of exploration had been made to overcome the above presented technical difficulties with significant progress. For example, the project basically set up information collection catalogue and rules of street objects, on which a street view map covering a road network of about 500 kilometers were established. In the absence of satellite navigation systems in indoor spaces, a tracking solution was developed by Fraunhofer FOKUS (Fraunhofer Institute for Open Communication Systems), including Wifi field density, inertial sensors as well as Bluetooth and optical technologies. Of course, some technical issues are not yet resolved, but

与跟踪还没有好的解决方案，项目必须探索大量的创新方法来实现这一目标。

（3）在室外步行导引、公共交通线路导航和室内路径导航之间，相关服务组件的架构设计、部署和相互衔接也是一个较难解决的问题。

为了克服以上技术难点，项目组进行了大量的探索，并取得了积极的进展。比如，项目基本建立了街面物体信息采集目录和规则，并基于此建立了覆盖约500千米道路网络的街景地图；在室内没有卫星导航的情况下，由弗劳恩霍夫研究机构探讨了利用多种信息融合技术（包括WiFi密度、惯性传感、蓝牙和光学技术等）进行定位跟踪的解决方案。当然，有些技术问题现在还未能得到很好地解决，项目开发者正积极关注最新的技术进展，包括他们已经为利用即将上马的欧洲伽利略卫星导航系统来提高定位的精度做好了准备。

此外，项目还遇到了其他的一些非技术性的挑战。比如，项目为在柏林举办的国际园林展开发了一个为盲人和弱视者提供导引服务的应用，以此来推动项目成果的实施并对项目成果进行实地测试。然而，这一应用却并不被使用者看好：园林展开展几个月来，应用下载用户也不过1000来人，并且大部分用过的人觉得不好用，也表示不愿意再次使用。德国盲人和弱视者协会秘书长认为，其原因除了与系统还不完善有关外，更主要是人们还不习惯智能手机的使用（尤其是65岁以上的老年人），且项目宣传和对用户的培训工作还远未跟上。为此，秘书长坦言，将加强项目的宣传和应用系统培训工作，并且认为智能手机的使用是发展趋势，应该通过宣传和培训逐步在老年人中推广使用智能手机。







project developers are actively looking for the latest technological advances, such as improving the accuracy of positioning with upcoming European Galileo satellite navigation system.

In addition, the project also encountered other non-technical challenges. For example, the project developed an application for guiding blind and visually impaired people at the International Garden Show in Berlin to promote implementation and test of the project results. However, this application was not popular among users, with less than 1,000 downloads in the past few months. Most users felt it wasn't easy to use, and expressed their reluctance to use it again. Secretary of German Federation of Blind and Partially Sighted believed that apart from the imperfect system, reasons behind the application's unpopularity also lied in the fact that users, especially those above 65 years old, were not used to smart phones. Besides, the project promotion and users education still need to be improved. The secretary believed that project's promotion and training of using the system should be strengthened, and that the smart phone is a trend need to be properly introduced to elderly people.

## ➔ Innovation of the Initiative

The project used mobile stereo measurement technology to obtain a wide range of vector geographic data, effectively promoted the city's digitization, and completed a prototype development of smart phone-based APP navigation system. Moreover, in order to ensure the continuous and wider application of project results in Berlin, this navigation system that meets the needs of visually impaired population will be integrated into the existing public transportation navigation system Fahrinfo.

## ➔ 项目创新

项目利用移动立体测量技术，获得了广泛的矢量地理数据，有效推动了城市数字化工作，并完成了一个基于智能手机的导航系统的原型开发。此外，为了保证项目成果在柏林得到持续和更广泛的应用，这个能满足盲人和弱视人群需求的导航系统将集成到现有公共交通导航系统Fahrinfo中。

## ➔ 项目亮点

### 1. 坚持以人为本的发展理念，并将弱势群体的需求放在突出位置

该项目从立项开始就将项目目标定位在为所有人提供连续的出行信息和导航服务，而这个所有人就包括生活在德国的约14.5万盲人和120万弱视人群。为此，德国盲人及弱视者协会和柏林菲希滕贝格中学（盲人学校）被邀请作为项目重要的利益相关方全程参与项目：召开会议倾听他们对功能的需求，详细了解他们对导航系统的使用习惯，邀请他们进行系统测试并认真听取反馈意见。

本项目在导航软件开发过程中，针对不同的使用人群，在系统界面、功能设计、软件易用性和鲁棒性、语音导航等方面都有细致的考虑，充分体现了以人为本的发展理念。

在调研过程中，柏林市对弱势群体其他方面需求的重视也让人印象深刻。该城市朝着无障碍城市目标发展，在基础设施建设，尤其是公共设施建设上将相关工作做到了细处和实处。如，在公共图书馆和博物馆你可以看到为残障人士划出的专用停车位、为坐轮椅者设计的降低了高度的问讯台以及楼梯扶手、为视障人士专门增设的高对比度台阶色条等。

### 2. 重视资源的高效利用，并将可持续发展作为资源投入的重要导向

作为项目的一项重要基础工作，本项目采集并处理完成了约500千米路网的矢量地理数据，这部分数据不仅仅为项目使用，还将纳入城市基础数据平台，开放给社会使用，可对后续有关自动驾驶和导航等方面的研究提供数据支撑。同时，这些数据还将催生基于地理位置信息的创业公司，对于提升城市信息和服务产业的发展具有重要意义。



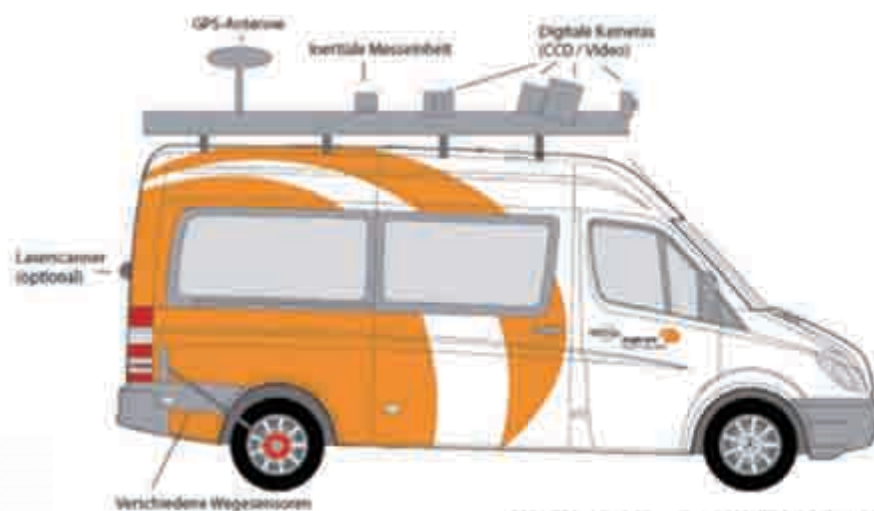
## ➔ Highlight of the Initiative

From the very beginning, the project aimed to provide continuous travel information and navigation services for all, including about 145,000 blind and 1.2 million visually impaired people in Germany. To this end, German Federation of Blind and Partially Sighted, and Berlin Fichtenberg Secondary School (for blind and visually impaired people) were invited to participate in the project as important stakeholders. Meetings were held to listen to their needs of functions, and to learn more about users' habits of the navigation system. They were also invited to test the system and give feedback.

In developing the navigation software, this project had carefully considered system interface, function design, software usability and robustness, and voice navigation for different

During research phase, the city of Berlin also attached great importance to the needs of other disadvantaged groups. The city is marching towards the goal of becoming a barrier-free city, and making detailed arrangements in infrastructure construction, especially in the

with disabilities in public libraries and museums, lowered the height of information desks and stair railings for wheelchair users, and made high-contrast step bars for the visually impaired.



Source: eagle eye technologies GmbH

同样，政府在对项目进行资源投入的同时，十分重视引入外部资源。如本项目充分利用参与企业及协会的各种资源来共同推进项目。出于可持续发展的考虑，柏林市政府每年还将提供20万欧元的资金用于城市基础数据的采集和维护。同时，为了充分利用项目成果，柏林-勃兰登堡地区政府还将对项目团队提供滚动支持，包括2017—2018财政年每年提供20万欧元的资金支持，用于改进相关技术并完善应用系统开发工作。

## → 经验与启示

### 1. 项目经验

#### （1）城市发展既要重视顶层规划，更应重视基础性工作

各个城市发展阶段不同，发展基础不同，必须因地制宜、脚踏实地开展相关基础性工作才能使城市的发展立于坚实的基础之上。

柏林的项目中，城市基础数据的收集和处理是一项基础性的工作，城市管理部门以此项目为契机，敢于应用创新技术来推进城市数据库建设这一基础性工作。同时，政府管理部门还从一开始就规划了数据共享，采集处理的数据不仅开放给市政相关部门，还开放给公众使用。

就智能交通领域而言，当前许多城市制定了宏伟的智能交通发展规划，却缺乏对智能交通底层数据准备工作的规划，连基本的路网数据都没有数字化。就城市路网及街景数据而言，很多城市管理部门手中拥有的数据还没有一些IT或互联网企业拥有的数据丰富。同时，许多城市都面临着政府部门之间数据开放与共享的难题，必须做好底层的规划工作，出台相关的创新管理办法，才能有效推进城市的基础数据库建设。

#### （2）城市治理既要重视技术创新，更要将以人为本理念落到实处

技术创新能为城市治理带来新的手段和方法，然而，城市治理是一个复杂的系统工程，技术手段必须服务于城市治理的根本目标，即更好地服务于市民。因此，城市治理必须坚持以人为本理念，并将该理念落到实处。

移动的多元交通导航系统项目的一个特点就是其真正践行了以人为本理念。项目的初衷就是创造条件让人们能更好地出行，满足人们自身需要及参与各种社会活动的需求。更可贵的是柏林市能平等对待所有市民，专门开发应用系统来满足盲人及弱视人群的特殊需



## 2. Pay attention to efficient use of resources and regard sustainable development as an important guide for resource input

As an important primary work of the project, the project team collected and processed vector geographic data of 500 kilometers of road network. These data were not only used by the project, but also would be included in the city's basic data platform and opened to the public, providing data support to further research on autonomous driving and navigation. At the same time, these data would also generate a group of start-up companies based on geographic information, which is of great significance for improving the development of the city's information and service industry.

Similarly, the government attached great importance to the introduction of external resources while investing in the project. The project made full use of various resources of participating companies and associations. For sustainable development, the city of Berlin will also provide 200,000 euros a year for the collection and maintenance of city's basic data. At the same time, to make full use of the project results, the Berlin-Brandenburg Regional Government will also provide continuing support to the project team, including annual funding of 200,000 Euros in the 2017-2018 financial year for improving related technologies and application's development.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

(1) Urban development should combine top-level planning and basic work together

Different cities have different stages and foundations of development. Relevant works must be carried out according to local conditions to create a solid foundation for the city's future development.

In this project, the collection and processing of city's general data is a basic task. City's management authorities seized this opportunity to promote municipal database construction through applying innovative technologies. Meanwhile, government management department also started data sharing from the very beginning. The collected and processed data were opened to relevant municipal departments and the public.

As far as the smart transportation is concerned, many cities have developed ambitious smart transportation development plans, but ignore preparing for basic traffic data, and even the basic road network data is not digitized yet. The possession of urban road network and street view data by many cities' management departments are far less than that of some IT or Internet companies.









At the same time, many cities are faced with the problem of opening and sharing data between different government departments. It is necessary to do ground planning works first, and introduce relevant innovative management methods to effectively promote the construction of the city's basic database.

(2) City governance must emphasize technological innovation, but also implement the people-oriented concept

Technological innovation can bring new methods to city governance, which on the other hand is a complicated systematic work. Technical means must serve the fundamental goal of city governance—to better serve the citizens. Therefore, city governance must adhere to and implement the people-oriented concept.

The m4guide has a feature that truly represents the people-oriented concept. Originally, the project aims to create conditions for people to travel more easily, meet people's needs and enable them to better participate in various social activities. What worth noticing is that the city of Berlin treats all citizens equally and develops application systems to meet the special needs of the blind and the visually impaired. Stakeholders are involved in the whole process of system development, and user's evaluation are regarded as an important criteria of system assessment.

Every corner in Berlin will make you feel the city's special consideration for its people: the unique design and facilities in the construction of a barrier-free city, and the pedestrian protection facilities on the street in temporary construction site. While bicycle lanes were occupied by temporary construction site, the city also created a zone of bicycle lanes with yellow curve to ensure the safety of city riders.

## 2. Inspiration of the Initiative

(1) Adhering to the people-oriented principle and render continuous support to the disabled Assistance and support to the disabled is a criteria to evaluate a city's civilization. The m4guide in Berlin emphasizes the application of new technologies to solve the travel problem

### （2）坚持久久为功，持续办好民生实事

民生实事是市民群众感受最深的城市治理工作之一，是市民群众幸福感依赖的重要载体之一。柏林项目在这方面体现出的坚韧性和持续性值得借鉴。在移动的多元交通导航系统项目研发中，政府部门对于推进无障碍城市建设有清晰的认识，知道这是一项长期艰巨的任务，但难能可贵的是他们那种只要认定了发展方向就坚持不懈的精神。政府在项目前期就开展了相关的可行性研究。项目结束之后，政府又对项目成果的完善及应用给予了极大的关注，给予滚动资金支持。尽管现在有些工作还不完善，有些技术还未能突破，但从政府到企业、市民，对此发展方向坚定不移，并坚信随着技术的进步，相关的功能一定能实现。

城市在推进民生实事工作中会遇到很多技术、社会方面的问题，需要政府的持续关注和投入。要坚持久久为功，发扬钉钉子精神，持之以恒、扎扎实实推动这些民生实事取得持续的进展和突破，不断增进民生福祉。

### （3）坚持规划先行，稳步推进城市建设

城市在发展过程中，需要考虑市民的工作和生活。首先，政府要做好规划，加强宣传，让市民对城市的变化有所预期；其次是结合规划稳步推进建设工作。就柏林项目而言，现有的规划也不可能考虑到全部工作，如以前也没有针对有视力障碍的出行者进行城市的无障碍设施建设规划。为此，柏林市政府不是对所有的街道和公共设施都立即采取改建措施，增加无障碍设施和通道，而是将这些新的要求在接下来的规划中体现，同时，结合城市现有的规划建设工程来同步完善无障碍设施和街道，使得城市既能看到其不断发展的步伐，又不会出现重复建设，给市民带来不便。



of blind and visually impaired group, which is worth learning by other cities. Cities need to pay close attention to the development of cutting-edge technologies such as the Internet, Internet of Things and cloud services, widely listen to the opinions and suggestions of disabled people, understand their usage habits, and constantly improve the smart guiding system for the blind in public transportation. Promote the works to support the disabled to a new height by providing better services for them to travel more easily.

### (2) Working constantly to improve people's livelihood

Livelihood improvement is an area of city governance that the people feel most strongly about, and is also an important origin of people's happiness. The tenacity and sustainability of the Berlin project in this regard is worth learning. In developing the m4guide, the relevant government departments had a clear understanding that promoting barrier-free city construction is a long-term and arduous task. It is commendable that the city has always been committed to its goal and carried out relevant feasibility studies in the early stages of the project. After the project was completed, government paid great attention to the improvement and application of the project results and gave further funding support. Although some work still needs further improvement, some technologies have not yet been broken through, but the government, enterprises as well as the general public all firmly believe that with the advancement of technology relevant functions will be realized one day.

Many technical and social problems may arrive in promoting people's livelihood which needs continuous investment of the government. Government should dedicated to the long-term work of improving people's livelihood, and bring more tangible benefits to its people.

### (3) Adhering to the planning first principle and advancing city construction steadily

City development should take the needs of people's work and life into consideration. First of all, the government must have a sound plan and strengthen publicity so that the public can have a correct anticipation of the changes that will happen to the city. Secondly, the construction work should be carried out steadily based on the plan. Some work of the Berlin project couldn't be fully considered beforehand in the existing planning, such as the construction of barrier-free facilities in the city may not have been well planned in advance. The municipality of Berlin didn't require all streets and public facilities to have barrier-free equipment and access immediately, but instead included these new requirements in the future plan. Building barrier-free facilities in line with the city overall development plan will avoid overlapping projects while pacing up the city's development.

## / 雅加达（印度尼西亚）/ 参与性规划与良好治理

□ Teguh Kuirawan / 印度尼西亚大学

雅加达是2016年第三届广州国际城市创新奖入围地区。本次调研开展于2017年9月4日至5日。

雅加达（省级特区）是印度尼西亚共和国的首都。作为国家首都，雅加达实行区域自治，而自治只设在省级，下面的市和县只是行政区域，不具自治权。这与印尼其他自治省份有很大不同，在其他自治省，市与县也具有自治权。

由于其地位特殊，雅加达省长和副省长由人民直接选举产生，而市长和县长则由省长任命。此外，地区人民立法大会（地方议会）只存在于省级，议会成员也由人民选举产生。

雅加达的独特之处将为各种政府项目的实施添光加彩，“全民参与发展规划与治理”项目也不例外。

### ➔ 项目背景

该项目与联合国可持续发展目标第11条密切相关，即“让城市 and 人类住区具有包容性、安全、弹性和可持续性”。

在生态（环境）方面，该项目与水 and 空气、居所、身体健康和粮食问题紧密相连。

水和空气：改善居住地区的水径流（排水）基础设施，减少堵塞。



## / Jakarta(Indonesia) / Jakarta Participatory Planning and Good Governance

□ Teguh Kuirawan / University of Indonesia

Jakarta was shortlisted for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during September 4<sup>th</sup> and 5<sup>th</sup>, 2017.

The Special Capital City of Jakarta Province is the capital city of the Unitary State of the Republic of Indonesia. Because of its status as the Capital City of the Republic of Indonesia, Jakarta has a number of specificities such as exercising regional autonomy. In Jakarta, autonomy is only granted to the provincial level while municipalities and regencies under it are only administrative areas and have no autonomy over themselves. This is of course very different from other provinces where regencies and municipalities are also autonomous.

Because of its specificity, the Governor and Vice Governors of Jakarta are directly elected by the people while the Mayors and Regents are appointed by the Governor. In addition, the Regional People's Legislative Assembly (DPRD) —local parliament—only exists at the provincial level. DPRD members are also elected by the people.

The specificity of Jakarta will of course give color to the implementation of various government programs and initiatives including the initiative of the Jakarta Participatory Planning and Good Governance.

### ➔ Background of the Initiative

This initiative of the Jakarta is closely linked to Goal 11 of the Sustainable Development Goals: “Make cities and human settlements inclusive, safe, resilient and sustainable”.







In terms of ecology (environment), the initiative has links to the issues of Water and Air, Habitat and Settlements, and Physical Health and Food. The focuses of each issue are as follows.

Water and Air: alleviating and exterminating of clogging of water runoff (drainage) infrastructure in residential areas.

Habitat and Settlements: improving the environmental conditions of the settlements.

Physical Health and Food: increasing the physical conditions and safety of residential environments and thus ensuring a healthier and safer life for the population.

The Government of the Jakarta also considers the initiative related to Materials and Energy as well as Emission and Waste.

Materials and Energy: procuring or maintaining city lighting to decrease the usage of electricity power.

Emission and Waste: procuring compost bin to decrease amount of waste especially organic waste.

As regards economics, the initiative is associated with Labor and Welfare as well as Wealth and Distribution.

Labor and Welfare: building competence of the workforce and improving their career prospects.

Wealth and Distribution: increasing business opportunities and reducing unemployment.

By the Government of Jakarta, the initiative is also relevant to Production and Resourcing, and Technology and Infrastructure.

Production and Resourcing: training of food processing, like fish and spices, for citizens and enhancing income-generation possibilities in the urban agriculture development.

Technology and Infrastructure: maintaining the road conditions and increasing economic activities.

Regarding governance (politics), the initiative is linked to Organization and Governance, Communication and Critique, and Ethics and Accountability.

Organization and Governance: building a more open government and fostering public participation in the implementation of development.

Communication and Critique: incorporating people's aspirations and thus enhancing public trust in the government.

Ethics and Accountability: increasing transparency of development planning and improving community supervision on development.

In terms of culture and social engagement, the initiative has connections to Identity and Engagement, and Emotional Wellbeing and Health.

沟通和批判：集思广益，听取民声，增加公众对政府的信任感。

政治伦理和问责：提高发展规划的透明度，加强社区对规划的监督。

在文化和社会参与方面，该项目与市民认同感和参与度、身心健康密切相关。

市民认同感和参与度：根据社区的特性开发项目，以便更好地满足社区的需求。

身心健康：增强公众对政府的“主人翁”意识。

## → 项目实施

简而言之，“全民参与发展规划与治理”项目即通过网络应用程序起草政府的年度工作计划。该网上应用程序名为“电子商议”（e-Musrenbang，Musrenbang意味对发展规划进行商议）。

根据《印度尼西亚国家发展规划制度》2004年第25号法律规定，Musrenbang是针对地区发展规划制定的讨论平台，在发展规划阶段要最大程度地鼓励社区参与。

在地方一级，为进行区域发展规划，雅加达也制定了区域性法规——《综合发展规划和预算制度》2011年第14号区域条例。根据该规定，在制订地方政府工作计划时，社区参与通过社区论坛实现，社区论坛是分区政府制订其工作计划的意见来源之一。接着，由分区政府编制的工作计划将分阶段提交到区一级，然后到市/县一级，最后到雅加达政府。

在社区论坛召开之前，社区领导需要收集社区居民关于年度发展项目的各种提案。电子商议由雅加达开发，旨在为公众提供建言献策的渠道。通过电子商议进行社区参与调查的结果将在社区论坛进行公开讨论，并同时讨论制定地方政府工作计划下一阶段的筹备工作。

“电子商议”开发于2015年，自那以后持续更新。起初，该应用没有直接用于鼓励公众参与社区发展，只是为了方便社区论坛领导进行工作。在2017年，该应用允许公众直接对发展项目进行提案。





Identity and Engagement: developing programs that better suit the needs of the community.  
 Emotional Wellbeing and Health: enhancing public ownership of the government.

## ➔ Implementation of the Initiative

This initiative is the use of online applications in the process of drafting a local government work plan, which is an annual routine planning activity. This application is referred to as e-Musrenbang or Electronic Musrenbang. Musrenbang itself is a term for development planning deliberation.

Based on the provisions of Act Number 25 Year 2004 on “National Development Planning System”, Musrenbang is a forum held among key actors in order to draw up a regional development plan. The Act also mandates the optimization of community participation in the development planning process.

To carry out the regional development planning process, Jakarta also drew up a regional regulation, namely “Local Regulation Number 14 Year 2011 on Integrated Planning and Budgeting System”, at the local level. Based on this local regulation, sub-district governments

## → 成效与挑战

### 1. 项目成效

雅加达作为一个大城市，“电子商议”应用程序的运用有助于促进广大市民参与社区发展规划活动。2016年数据显示，雅加达拥有10,277,628人，占地7,639.83平方千米。雅加达下辖5个市和1个县、44个区、267个分区。在社区层面，有2726个社区（RW）和3万多个社区单元（RT）。

雅加达的居民大都十分繁忙，没有时间直接参加社区单元和社区两级的社区会议，但社区年度发展项目的提案又常在社区会议上进行讨论。因此，使用“电子商议”应用程序有助于公众直接参与社区会议讨论。

雅加达有较强的发展项目拨款能力。2016年，印尼人均国内生产总值为2.07990亿卢比（约98,000元），雅加达人均地区生产总值为1.4706亿卢比（约70,000元）。与印尼其他地区相比，这个数字非常大。因此，要确保大额的发展项目资金用在社区真正需要的地方。“电子商议”为社区提供了良好的平台，使社区更好地参与发展规划过程。

### 2. 项目挑战

项目在实施过程中遇到了许多困难，包括互联网的连接和访问、社区领导使用网络应用程序的能力、项目在社区和其他利益相关方之间的推广。为了更好地推广电子商议应用程序，增加社区对发展规划的参与度，必须解决这些问题。

在雅加达，仍有一些地区尚未接通互联网，如千岛区。因此，这些地区的居民要使用电子商议应用程序则很困难。

此外，许多社区领导在使用计算机和互联网方面仍然存在知识缺陷和技能不足的问题。雅加达目前针对社区领导也只做了一次培训。未来仍须加大系统培训社区领导的力度，省去他们向分区官员求助的麻烦。

另一个困难是电子商议应用程序的推广。项目的推广分级进行，即雅加达政府向下属市政府/县政府进行宣传推广，然后市政府/县政府向区和分区政府进行宣传推广，最后由区和分区政府向社区进行宣传。这样的宣传方式效果并不好，许多雅加达市民仍不了解电子商议应用程序的存在。



involve the local community with community neighborhood (RW) forums for input in its own work plan, which is then incorporated into the work plan of the districts, municipalities/regencies, and finally to Jakarta.

Prior to the community neighborhood (RW) forum, community leaders (RW Chairs) are expected to capture the aspirations of their citizens on various proposals of annual development activities. E-Musrenbang is developed by Jakarta in order to provide space for public participation in the process of collecting the aspirations of the community. The results of community participation through e-Musrenbang will then be discussed during the community neighborhood (RW) forum, along with the next stage of preparation process for a work plan of the local government.

E-Musrenbang was developed by Jakarta in 2015 and continues getting updates. The initial e-Musrenbang application in 2015 was not opened up to direct community participation. The purpose was to facilitate community leaders (RW Chairs). In 2017, the application allows the general public to enter proposals for development activities.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

Given the condition of Jakarta as a mega city, the application of e-Musrenbang is promising for the active involvement of the community in development planning. Jakarta is currently inhabited by 10,277,628 residents (2016) in an area of 7,639.83 square kilometers. Jakarta has 5 administrative municipalities and 1 administrative regency, 44 districts and 267 sub-districts. In community level, there are 2726 communities' neighborhood (RW) and more than 30,000 neighborhood units (RT).

Most of Jakarta's residents are busy and hence are not likely to directly attend community meetings in both neighborhood units (RT) and community neighborhoods (RW), where discussion of proposed annual development activities of the community usually take place. Therefore, the use of e-Musrenbang application to provide direct access to participation turns out very helpful.

Jakarta also have a large funding capacity for development activities. In 2016, per capita GDRP of Jakarta registered IDR 147.06 million (or USD 10,959.90) while per capita GDP of Indonesia stood at IDR 207.99 million (or USD 15,500.82). This figure is very large compared with other Indonesian regions. Therefore, it is important for large amounts of development funds





to be spent in accordance with community needs; the application of e-Musrenbang provides opportunities for community participation in the development planning process.

## 2. Challenge of the Initiative

The implementation of this initiative has been met with a number of issues in Internet, usage and publicity. In order for e-Musrenbang to have more adequate community participation, these obstacles must be dealt with.

In Jakarta, there are still areas that do not have adequate internet connection, for instance, Thousand Islands Regency. Thus, the residents there will find it difficult to access the application.

Besides, many community leaders (RW Chairs) still lack the necessary knowledge and skills in using computers and the Internet. Jakarta has conducted only one training session to these RW Chairs. There is still need for systematic efforts to improve the digital-capacity of RW Chairs so that they do not need to request the assistance of sub-district officers.

Another obstacle lies in publicity: many people in Jakarta do not know about the existence of this e-Musrenbang application. Publicity of the application is on a stratified basis. That is to say, Jakarta spreads the word to its municipalities/regency, and the municipalities/regency to the districts and sub-districts. Finally, the communities get to know about the application through the governments of the districts and sub-districts. However, this process does not work well. Many Jakarta residents do not know about e-Musrenbang.

## ➔ Innovation of the Initiative

There are two points in particular that make this initiative innovative: (1) allowing people to provide inputs to development planning online using e-Musrenbang application directly; and (2) enabling and mandating community participation in development planning. Although e-Musrenbang is also applied in a few other regions in Indonesia, Jakarta stands out by allowing the general public to raise proposals for the directly development plan, instead of through community leaders who usually make the proposals after deliberations at neighborhood community meetings.

Other innovations of the initiative include use of templates, submitting proposals throughout the year, simple submitting process, use of Identity Number (NIK) and location tagging.

The general public can make their proposals throughout the year. If the proposals are submitted after the deadline of the Musrenbang activity, then they will be included in next year's

证提案，对症下药。

居民提交提案后，将在社区论坛上对提案进行讨论。在论坛上通过的提案将提交给分区政府，分区政府讨论后提交给区域政府，然后是市政府/县政府层面，最后到达雅加达政府。

在决定是否采纳社区提案时，各级政府会运用以下指标进行评判：

- （1）提案是否符合技术要求；
- （2）提案是否重复；
- （3）提案是否须立即处理（如是，将由负责公共基础设施的工作人员进行处理）；
- （4）提案是否可通过企业社会责任实施；
- （5）提案是否需要通过中央政府机构才能实施。

此外，还会考虑通过QLUE应用程序提交的社区投诉的分析结果，决定是否采纳提案。该分析结果也会用来确定发展项目的优先级。

许多地区的区域发展规划机构反映，收到的提案大多是提倡物质层面的发展，而很少提及非物质发展，如社会发展与文化发展。雅加达也不例外。目前，雅加达将人类发展置于第一位。为了提升民众对社会发展的意识，电子商议应用程序中设有一个“社会发展”菜单。例如，在社区技能培训表格的“提议的发展”菜单下，便有多种技能可以选择，包括驾驶、英语等。此外，在社区论坛讨论提案时，分区政府也会提供指导，提升公众关于社会发展的意识。

雅加达认识到，社区领导的参与和网上应用程序的运用是项目成功的关键。其他支持项目成功运作的因素包括：

使用应用程序对社区居民的所有意见进行提案这一理念得到了社区领导的理解；政府官员在宣传推广应用程序时能向民众准确说明提案的提交机制和提交程序；每个地区互联网的可用性；能储存成千上万条提案的服务器；

在这一过程中，非政府组织、专家和学者也对提案提出建议，作为城市规划文件的材料。



Musrenbang. To access the application, only the NIK is needed, which guarantees the proposals are made by the residents of Jakarta. While submitting the proposal, the user has to conform to a template. This ensures that the proposals conform to certain technical standard and simplifies the verification process, thus reducing costs. In addition to the template, it is also required to specify, with geotagging, the location where programs will be carried out. Geotagging also helps the government verify and validate the proposals and relate it to the conditions of the surrounding environment.

After residents submit their proposals, the community neighborhood forum will discuss the proposals. Those approved by the forum will then be submitted to the sub-district government. After deliberations at each level, some proposals will find their way up to the district government, the municipal/regency government, and finally the Government of Jakarta.

In determining whether a community proposal can be implemented, governments from sub-district to provincial level uses a series of indicators, such as

- (1) whether the proposal meets technical requirements;
- (2) whether the proposal is duplicated;
- (3) whether the proposal requires immediate attention (will be implemented through officers handling infrastructure and public facilities if it does);
- (4) whether the proposal can be implemented through Corporate Social Responsibility; and
- (5) whether the proposal concerns the Central Government Authority.

Implementation on community proposals is also determined considering the analysis of community complaints submitted through the QLU application. The analysis is also used to determine the priority of development programs.

Feedback from many regional development planning entities suggests that most of the proposals submitted by the community concern physical development instead of non-physical, such as social and cultural, development. Jakarta is no exception to this. Currently, Jakarta has priorities for human-first development. To accommodate these development priorities and raise people's awareness of social development, there is a "social development" menu that can be selected in the e-Musrenbang application. For example, the "proposed development" menu in the community training form includes various skill options, driving, English, etc. Furthermore, the sub-district government is also assigned to advise and raise people's awareness about social development when discussing proposals in the community neighborhood forums.

Jakarta recognizes that the involvement of community leaders and the use of web-based applications is the key to successful implementation of this initiative. Other supporting factors include:



understanding of community leaders to use the application to input all proposals from the community in their respective territories; ability of government officials to inform residents of the mechanisms and procedures of submitting proposals during publicity events; availability of the Internet in each region, and capacity of a server to store thousands of proposals.

During the process, NGOs, experts and academics also provide input to improve the proposals, as material to the city's planning documents.

## → Highlight of the Initiative

A few improvements have been made to e-Musrenbang since 2015. In 2015, there was a quota system, where each community neighborhood was given a maximum number of the proposals it can submit. In 2016, a menu system for submitting proposals was added while the quota system was removed. This change was much welcomed, and the number of proposals submitted jumped. The year 2016 received 50,213 proposals, of which 48,458 proposals are from community neighborhoods. In 2017, a couple of new features were introduced, including templates, direct participation throughout the year, identification of NIK and geotagging. The proposing procedure gets more standardized, and thus a bit more demanding. As a result of such changes, The number of proposals in 2017 decreased to 29,480.

The Implementation of e-Musrenbang is also supported by other applications like QLUE, an application to file complaints and do e-budgeting. QLUE is part of Jakarta's effort toward a smart city. The results of the QLUE application are also used in determining planning priorities. Complaints of the residents will be analyzed and become inputs for the governments' development planning. Starting in 2017, the results of e-Musrenbang are also synchronized with e-budgeting. With this synchronization, people can see how their proposals are translated in e-budgeting, which is only accessible to the government but viewable to the public.

## → Experience and Inspiration

### 1. Experience of the Initiative

E-Musrenbang is an application in the development planning process and is used by many regions in Indonesia as well as at the national level. What distinguishes the implementation of e-Musrenbang in Jakarta with other regions is the direct access for the general public to submit

## → 经验与启示

### 1. 项目经验

印尼许多地区都在使用电子商议应用程序进行发展规划，甚至国家层面也在使用这一应用程序。雅加达脱颖而出的一点在于允许公众直接对发展进行提议。而泗水市等其他地区仍没有做到这一点。因此，雅加达自2017年以来运用“电子商议”应用程序的方法是一种创新。

### 2. 项目启示

雅加达使用电子商议应用程序的方式可以为许多其他城市提供参考。要实现这一目标，关键在于政府愿意让社区参与到发展规划进程之中。有了这种政治意愿，政府会建立实现社区参与的渠道。如果选择电子渠道，则需要构建一个电子政务应用程序架构，为社区参与提供途径。为了扩大参与度，需要对应用程序进行充分推广。此外，还需要确保互联网的有效连通，并培养公众使用互联网和应用程序的能力。若有可能，还可以在移动设备上访问应用程序，以便公众随时随地访问。同时，还应该考虑与其他应用程序或其他系统的协同使用，因为这类应用程序很可能与预算及公众投诉等领域的应用程序相结合。





proposals of development. Other regions such as Municipality of Surabaya has not yet provided this access in their e-Musrenbang application. Therefore, what Jakarta has done through their e-Musrenbang since 2017 can be regarded as an innovation.

## 2. Inspiration of the Initiative

Jakarta's employment of the e-Musrenbang application is highly replicable in various other cities. The most important thing of implementing such a project is the political will the government has to involve the active participation of the community in the development planning process. With the political will, the government will find the means to achieve this goal. If it is decided that electronic means should be employed, then there needs to be an e-government application architecture that enables direct participation for the community. In order to encourage wider community participation, adequate publicity and promotion of the application is required. Additionally, connectivity issues and public access to the internet also need to be ensured. Moreover, digital literacy is a key element to be taken into consideration. It is also suggested that mobile applications be developed alongside so that the public can access it wherever and whenever. Last but not least, interoperability with other applications or systems should be considered as well, since e-Musrenbang applications are very likely to be related to other applications such as budgets and public complaints.

## / 拉巴斯（玻利维亚）/ 拉巴斯斑马—市民文化项目

□ Augusto Mathias / 巴西全国城市联盟

拉巴斯是2016年第三届广州国际城市创新奖获奖城市。本次调研开展于2017年8月17日至18日。

2001年，拉巴斯市政府开始深思，为道路规划的交通限制部分设计一个工具，而这一工具反过来为道路安全教育的投资创造了机会。由于城市车辆交通混乱、人们对人行横道视而不见，人行横道条纹成为了“斑马人”项目的创意来源。在各大城市特别是像拉巴斯这样街道狭窄的城市，他们把自己打扮成斑马以鼓励行人或司机改进出行的行为习惯。通过青年人扮演成斑马的样子来保证道路安全，斑马人赢得了人们的认可，并成为了一个改变这座城市的象征。

### ➔ 项目背景

虽然最初有人怀疑将危险性高的交通习惯变成既安全又不伤和气的交通行为是不可能的，并且认为外部因素很难改变一个人的行为习惯。然而，斑马人项目有力地证明了社会行为和习惯确实可以发生转变，而且权力的行使不一定基于“自上而下”或“控制态度”，而可能是互动和开放沟通的结果。斑马人参与了城市的建设和改造过程，他们将市政府与居民之间的关系紧密相连，体现了市政府对提高公民生活质量的决心。斑马人的影

## / La Paz(Bolivia) /

# The La Paz Zebras: A Citizen Culture Project

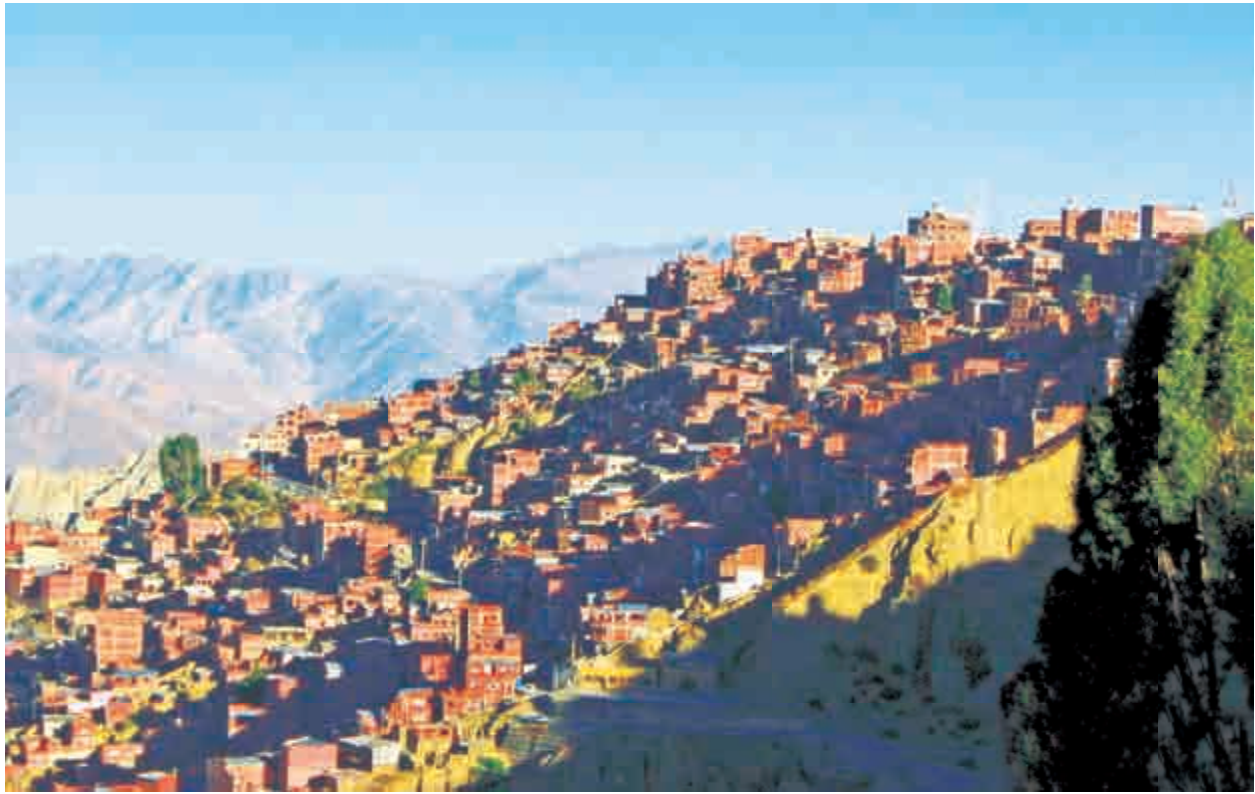
□ Augusto Mathias / National Confederation of Municipalities of Brazil

La Paz was a winner of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during August 17<sup>th</sup> and 18<sup>th</sup>, 2017.

In 2001, the Municipal Government of La Paz began a process of reflection to design a tool for the transit restriction part of the road plan, and that in turn created an opportunity to invest in road education. The review of the chaotic situation of vehicular traffic and the lack of respect for pedestrian crosswalks in the city resulted in a creative idea to develop a “zebra” character based on the crosswalk stripes. They dressed as zebras to motivate citizens to improve their behavior on streets, particularly in a city like La Paz, where streets are narrow. By using youth dressed as zebras as a tool for road safety, the zebras gained the acceptance of citizens and became a kind presence that transformed the city.

### ➔ Background of the Initiative

Despite the initial scepticism about the possibility of changing dangerous traffic habits into harmonious and safe coexistence, and the possibility that an external element could generate behavior change. The Zebra experience provides compelling evidence and lessons that social behaviors and habits can indeed be transformed and, that the exercise of authority is not necessarily based on a “top-down” or “control attitude” but can be the result of interaction and open communication. The Zebras participated in the processes of construction and transformation of the city and their position became the articulating element between the



Municipality and the population, showing the Municipality's commitment to improving the quality of life of its citizens. The role the articulator of the Zebras is not only due to their daily presence in the streets but also due to the fact that their image and language generate attitudes of affection; it is above all due to the capacity of the Zebras to educate by example, and in its potential to motivate and mobilize people.

## ➔ Implementation of the Initiative

The birth of the Zebras program is a result of the convergence of three situations:

Implementation of the Traffic Plan, Transportation and Roads;

Interest of working on a program that replicates the experience of Bogota to teach people to cross the street with alternative artistic resources; and

Possibility of counting on resources of the National Electoral Court (CNE) for public education.

In April 2001, The Technical Office, through its Road Systems Department, in coordination with the Operational Transit, Citizen Traffic and Transportation Council, developed the “Traffic, Transport and Road Plan for La Paz”. The objective of this initiative was to reduce the issues of traffic and transportation in the city, the reduction of pollution of the environment and improve quality of life in the city. The first phase was the intervention of the Central Urban Center, for the improvement of the signalization vertical and horizontal, rehabilitation of the stop lights system, rationalization of public transportation and public parking, traffic restriction and regulation of informal commerce in the roadways.

Inspired by Bogota's experience of teaching people to cross the street with pampering and clowns and artists on the streets, the Mayor's Office, the Communication Directorate, and the Youth Unit looked for the opportunity to replicate this initiative. At that time, the Court National Electoral Commission (CNE) informed the municipality that it had resources to allocate to civic education. However, to replicate the Colombian experience, the Youth Unit did not have the necessary budget, so it proposed to create partnerships to work with street youth and students, a strategy that previously had positive results.

As an initiative of citizen education and as a vehicle restriction tool of the Road Plan, the so-called Road Education Campaign began its work in the main streets of the center of the city of La Paz. On November 19, 2001, a group of young people dressed in costumes representing a four-legged zebra, began their activities in the streets. At this early stage, the team responsible for

提高城市生活质量。第一阶段是对市中心采取干预，以改善垂直和水平信号灯的功能、修复停车灯系统，实现公共交通和公共停车位的合理化，完善交通限制以及加强对道路上非法营业的管理。

市长办公室、通信理事会和青年部门在汲取波哥大做法（通过富二代、小丑以及艺术家和人们一起过马路来教育人们）的教训后，他们据此另辟蹊径。当时，全国选举委员会（CNE）通知市政府它有资源可以分配用于公民教育。然而，鉴于哥伦比亚的经验，青年部门没有足够的预算，所以青年部门建议与街头青年和学生建立伙伴关系，这是一项以前取得积极成果的战略。

作为一个公民教育的倡议和道路规划中限制车辆的工具，所谓的“道路教育运动”在拉巴斯市中心的主要街道开始进行。2001年11月19日，一群穿着代表四足斑马的服装的年轻人开始在街上活动。起初，负责该活动的团队需要从街头招募想穿斑马衣服的年轻人。第一批被招募的是旧金山广场的擦鞋工人协会的一些年轻人以及被指派在市中心发传单的人。

他们组建了一个由24名年轻人组成的小组，每次两小时两班：早上8点到10点，下午2点到4点。起先，年轻的斑马人主要负责在市中心街道上的特定区域阻止人群横穿马路。第一阶段衣服代表着四条腿的斑马，由两名年轻男子穿着，一名站立在前，另一名则蹲伏在后。这件衣服的材料是一种粗布羊毛型，其中黑色条纹被画成斑马的样子。

由于该套服装的特点，以及当地居民对斑马人所做的工作缺乏了解，他们遭受了人们的攻击。一开始，斑马们与司机交流中遭到了司机们的拒绝、反驳甚至是侮辱。斑马们不仅遇到了蛮不讲理的司机，还被年轻人推搡和虐待。尽管司机和行人有时会做出挑衅的反应，但和父母一起穿越马路的孩子们，会和斑马一起支持和提倡走人行道。一些青年团体也参与了一些斑马人的活动，如基督复临会和青年扶轮商业协会等。

在开展“公路教育运动”的前几个月，斑马人展现了通过重建自尊为年轻人的生活做出贡献的能力。在2001年12月24日，年轻人有两次在市体育场接受奖金的庆祝活动中受到了公众的热烈欢迎。这些情况让年轻人觉得，不管他们的经济情况、家庭或个人环境如何，他们都可以成为教育别人的人。

2002年4月，由斑马青年领导的“道路教育运动”重新开始，扩大了运动的覆盖范围。在2003年，年轻的斑马人展开了第二阶段的车辆限行和提倡走人行横道活动。在此期







the initiative was given the task of recruiting young men from the street who wanted to wear the

They organized a group of 24 young people, in two two-hour shifts: from 8 to 10 in the morning and from 2 to 4 in the afternoon. At this early stage, the young Zebra tasks in the streets and avenues of the city center, orienting themselves into group interventions in certain areas. The

stripes were painted to resemble a zebra.

The characteristics of the suit and the lack of residents understanding of the work carried out by the zebras caused them to suffer aggression from the population.

In the beginning, interactions with drivers involved rejection, aggression, insults and blows with other young people who bothered and mistreated them. Despite the sometimes aggressive reaction of drivers and pedestrians, children, crossing with their parents, supported and promoted the crosswalks with Zebras. Some youth groups, such as Adventist scouts and the junior Rotary



Business Association, which became involved in some Zebras activities.

During the first months of implementation of the Road Education Campaign, the Zebra showed the capacity to contribute to the life of the young people through rebuilding their self-esteem. On two occasions, young people felt the validation of their presence when a public ovation was given to them in a celebration where they received their bonuses in the city stadium on December 24, 2001. These situations allowed young people to feel that regardless of their economic, family or personal circumstances they could be the ones who educate people.

In April 2002, the Road Education Campaign led by the Zebra Youths was reinitiated, expanding the coverage of intervention. For the year 2003, the young Zebra accompanied the second phase of the vehicle restriction and the use of the crosswalks. During this period, the young people decided to enter the Program mainly motivated by the need to receive a benefit that will enable them to continue studying, and the desire to do something for their city.

The population of the young Zebras comprised of 18-year-old youths in a situation of risk and that needing work. Taking into account the characteristics of the people, the delivery of benefits to the youth was a constant challenge. In 2003, the monthly delivery of benefits and medical care to the young Zebras was institutionalized in a partnership between the municipality and the Rainbow Foundation. Also, in 2003, the first modifications were made to the four-legged suit, becoming an individual zebra suit. It was plush overalls with a front closure and shirt collar, with the body a jumpsuit, and the head was of sponge with big red or green eyes.

During the period 2001-2003, the central theme that the young Zebra works were the roadway, focusing on the demonstration of the pedestrian crossing and the accompaniment to the first and second phase of vehicular restriction, as well as the use of stopping points. The guidance given to young people to act was limited to recommendations related to road and pedestrian crossing. At this early stage, the evaluation of the performance of the young people's was limited to compliance with the internal regulations regarding assists, faults and permits. The young people organized themselves in a campaign to manage their participation and prioritise the well-being of the youth in fulfilling their task in the streets.

During the period 2001-2003, the preparation of the Zebra Youth was restricted to recommendations related to road and pedestrian crossing. As of 2004, it was recognised that to carry out their task on the street, young people required prior preparation in signage, body language and performing arts.

The Small Theater Group designed a workshop of physical expression and theatrical arts with the aim that the young Zebra's necessary knowledge and self-knowledge be better managed in the streets. The workshops provide the Zebras with the tools, attitude, body gestures and

表演艺术方面的准备。

项目设计了一个关于肢体语言和戏剧艺术的讲习班，目的是让年轻的斑马人在街上更好地运用他们的基本知识和自我认知。这些讲习班为斑马人提供了工具、姿态、肢体语言和语言培训，使他们成为更有效的沟通者。当交通信号灯是红色时，斑马人负责开展城市的日常活动。

斑马人这一角色引起了居民的注意和反应。此后，斑马人的形象延伸到学校和文化活动中。该市将斑马人项目制度化，并在秉持包容、跨文化、民主化、多元化和透明化的原则上将其运用到政策推广、培训、文化遗产的保护、恢复和传播以及鼓励居民行使权利和履行义务等方面，促使项目实现可持续发展。

此时，人们决定给斑马人这一角色取名为城市教育者，并开始注重对年轻人专业能力和艺术素养的培养。最终，两班倒的青年充分利用活动时间继续他们的研究，他们发现年轻人应该学会主动审视自己的行为以确保行动的高效性。

每天，“斑马人”及其团队回顾当天的活动，确定了哪些有效，哪些无效，并选择了最成功的策略。在不断反思的过程中，通过开放式的交流，斑马人成为了一个能够利用观察进行工作的团队，同时，他们完成了他们的使命。开放式对话是走向团队合作的第一步，也是走向一种组织形式的第一步，它有助于灵活处理公众的看法和态度。直到那个时候，市政官员才了解“斑马人”的作用。逐渐地，市政当局把他们当作是政府和居民之间一种纽带和缓冲剂。而且，“斑马人”成功地改变了人们的看法和反应，斑马人不再是一种强制的存在，而是变成了一个关注公众福祉的教育者。

## ➔ 成效与挑战

### 1. 项目成效

斑马人的经验告诉我们城市居民的行为习惯可以通过互动和交流发生改变。

在传统的教育实践中，孩子和年轻人被动学习和接收知识。而斑马人将年轻人变成了城市变革的共同创造者、主角和负责任的公民。斑马人证实了通过榜样和表演艺术来改变情感和行为的可能性。斑马人表明，所有的城市空间都可以有教育意义，人们可以用创意去找到影响人们的不同方式。



language to be more effective communicators. Scenic routines were developed that represented daily events of the city were presented during by the Zebras while stop lights were red.

The character of the Zebra displayed a message that then captured the attention and generated a reaction from residents. Following this, the role of the Zebras expanded into schools and cultural events.

After this process, the Municipality institutionalized the program and its changes incorporating the process into policies of promotion, training, conservation and restoration and dissemination of both the cultural heritage of a resident culture and the promotion of the exercise of residents' rights and obligations to generate sustainable development based on principles of inclusion, intercultural, democratization, diversity and transparency.

At this point, it was decided that the character of the Zebra, would be given the name of Urban Educator, and that began to give importance to the professional and artistic preparation of young people. Eventually, the youth were organized in two shifts to take advantage of the time of their actions and for them to have the opportunity to organize their time and could continue their studies and it was recognized that to carry out an effective action young people should learn to observe their actions proactively.

During the daily encounters, the Zebras and Zebra Team reviewed the activities of the day, identified what had worked and what had not, and selected the most successful strategies. In this process of continuous review through an open dialogue, the Zebras became a team capable of using the tool of observation for their work; also, they met their mission. The practice of open dialogue was the first step towards teamwork and towards a form of organization that was flexible tools to deal with the perceptions and attitudes of the public. Until that time, the role of the Zebras had not been understood by Municipal officials. Gradually they became perceived by the Municipality as a link and buffer in the municipal-residents government relationship. Also, the Zebras managed to change the perception and reaction of the population ceasing to be an enforcement presence, to being an educator who looks out for the well-being of the public.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

The Zebra experience presents lessons that behaviors and habits of urban inhabitants can be transformed through interaction and open communication.

The Zebra goes beyond traditional education practices where children and young people are passive actors and recipients of knowledge. The Zebra turns young people into co-creators,







protagonists of urban change, and responsible citizens. The Zebra confirms the possibility of educating through example and performing arts to transform emotions and behaviors. The Zebra shows that all urban spaces can be educational and that with creativity alternatives can be constructed to find different ways of engaging the population.

The program receives support from the private sector through several ways and sometimes participating in the “Zebra for one day” program, which is currently ongoing, has been a way for employers and employees in the private sector to actively participate in the campaign and raise awareness on various topics and themes. Also, many private firms have offered financial support for specific activities designed for the Zebras. Without a doubt, one of the biggest outcomes of the Zebra has been and continues to be the mobilisation of youth at risk and the corresponding reduction in illegal activities. In essence, every young resident joining the program becomes a new human being who gains dignity, a sense of purpose and the desire to contribute to society.

## 2. Challenge of the Initiative

A growing number of residents living and cars circulating in the city are two significant challenges, due to high immigration rates from the rural areas. Migrants often do not know most of the rules related to traffic and other social activities and thus tend to “misbehave”. That is why the innovation still needs to reinforce even the most basic ideas it promotes. The risk of over-exposing the zebras is also present, but fortunately, the coaching team keeps finding innovative ways to revitalize the image of the program to keep it fresh and friendly.

### ➔ Innovation of the Initiative

The innovation is applied in policy implementation, mobility strategy of the city and, as the program evolves, as part of an ambitious residents culture and participation strategy. The Zebras Program will remain an essential tool for improving mobility in the city despite an ever-growing number of cars that circulate within the city, but also support many other city campaigns related to social and environmental objectives, such as taking care of the elderly or learning how to recycle garbage.

### ➔ Highlight of the Initiative

Improving the behavior of the residents on the street and public spaces in general, leads to lower levels of traffic incidents and increase in the levels of happiness within the city. It has been

## → 项目创新

这一创新被应用于政策的实施、城市的流动性战略。随着项目的发展，这一创新成为了当地文化和参与战略的一部分。尽管越来越多的汽车流通于城市内，斑马人项目仍将是一个改善城市人口流动问题的重要工具。同时该项目也支持许多其他城市开展与社会和环境相关的活动，比如照顾老人或学习如何回收垃圾。

## → 项目亮点

改善街道上和公共区域居民的行为可以减少交通事故，提高城市居民的幸福感和安全感。研究表明，居民对斑马人发出的友好而有创意的提醒反应积极，从而形成了新的行为模式。

## → 经验与启示

### 1. 项目经验

市政府制定的将弱势青年居民转变为对社会有重大影响的城市教育工作者的方法，已演变成该政府的一个标志，被称为“转型的斑马人方法学”。它鼓舞了年轻的弱势群体，让他们认识自己，并设想自己未来的人生规划、对生活的新态度、新的与人交往的方式和信心，如每天与司机和行人打交道。这个方法正在被这个城市的小学教师学习。

在公共政策层面，斑马人项目是人类的一个创新，至少解决人们每天见到的两个问题：(1) 挣扎在少年犯罪或吸毒边缘、且对未来没有任何计划的弱势年轻人；(2) 拉巴斯市民中弥漫的底层市民文化和低参与度。

鉴于其多年来取得的巨大成功，目前每一项市政活动都有一群斑马人给各个年龄层的居民带来欢乐和笑声。很多儿童常常希望斑马人活动成为自己生日聚会的主要娱乐项目，而同时，斑马人往往借助这些娱乐活动，开展交通教育和市民责任教育。

15年前的许多年轻斑马人现在都是优秀人士，拥有稳定的工作，组建了自己的家



demonstrated that residents react positively to the friendly and creative messages given by the zebras, thus building new patterns of behavior.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

The methodology developed by the Municipality to transform vulnerable young residents into urban educators with high impact in the society has evolved to become a trademark of the institution, called “The Transformational Zebra Methodology”.

It has inspired young people with troubled childhoods to realize themselves and to visualize and realize a life-program, a new attitude towards life and new tools and confidence in interacting with people, such as drivers and pedestrians every day. This methodology is being replicated by primary school teachers of the city.

The Zebras Program is a human innovation regarding the implementation of public policy aiming to solve at least two human problems seen every day: (1) Vulnerable youth at the verge of becoming delinquents or falling into drugs, with no apparent life direction in sight; and (2) Low levels of resident culture and participation among the city’s population.

Given its remarkable success over the years, currently, there is no municipal event without a group of zebras bringing joy and laughter to the residents of all ages. Many children often ask to have the Zebras as the main entertainment at their birthday parties, with traffic education and responsibility the main topics they promote in such events.

Many young Zebras of 15 years ago are now fine women and men, with stable jobs and who now have their own families and in some cases have opted to pursue higher education. Every one of them is a life story that deserves to be told as a way to inspire the new generations who are suffering similar challenges in their lives.

Motivated by their friendly approach and the transformational methodology they apply to drive behavioral changes, even the most reluctant residents will end up smiling and following the recommendations and advice offered by the zebras.

### 2. Inspiration of the Initiative

The zebra initiative was a local innovation which, in turn, has been borrowed by some other cities in Bolivia and Latin-America over the last few years. To the best of our knowledge, it was the first of its type back in 2001 and the fact that it considered not only people disguised as

庭，有些人还接受了高等教育。他们的故事可以用来激励那些正面临生活挑战的新一代年轻人。

他们以友好的方式和变革的方法来改变人们的行为，即使是最不情愿的居民也会微笑着听取斑马们的建议。

## 2. 项目启示

斑马人项目是当地的一项创新，而在过去几年中，玻利维亚和拉丁美洲的其他一些城市也借鉴了它。据我们所知，这是2001年来的第一次，而且它不仅考虑了伪装成斑马的人，还考虑了有社会目的的演员，这使它更具革命性。

从一个开始了十多年的文化转型城市的变化和经历来看，我们可以断言向城市更好的共存的文化转型并不是白日做梦。拉巴斯的文化变迁是一种可能的建构，因为它是由斑马人的教育之心所趋，斑马人认为文化居民不仅是一种生存的方式，也是一种共同生活的方式。

斑马人的历史是关于成千上万边缘青年的生活变化的故事，这些年轻人努力改变他们的生活和城市。斑马人的历史鼓舞了我们所有人成为更好的居民。他们也邀请我们真正参与改造拉巴斯城，改变我们的生活方式。

拉巴斯的斑马人在其他城市也得到了承认，现在他们开始在世界范围内为人所知。斑马计划制定了制度协议，尽可能地借鉴斑马精神的含义。他们还与这些城市保持联系，了解项目进展如何。在市政府开展的后续活动中，城市之间有培训和会议，使志愿者能够在国家一级分享经验，共同成长。斑马人项目已经超越了国界，开始出现在其他国家，如德国、西班牙、哥斯达黎加和中国。

斑马人项目不仅解决了玻利维亚的交通拥堵问题，而且为斑马人创造了工作机会。这是一个让他们的生活回到正轨，并回馈城市的机会。你随处都可以看到他们的行动是那么的鼓舞人心，老年人感激他们的关心，孩子们跑去拥抱他们，年轻人要求自拍。而且，当他们看到剧中人物的表演时，他们会大声笑出来：他们跳舞，站在移动的小巴士前面，或者鼓励行人在正确的时间过马路。

由于当地居民和游客对这个项目很感兴趣，一个名为斑马俱乐部的俱乐部应运而生。就连拉巴斯的市长路易斯·雷维拉（Luis Revilla）也参与了这个项目，以表达他对年轻人





zebras but actors with a social purpose, made it even more revolutionary.

process of cultural transformation, it was asserted that the cultural change towards a better

because it is guided by the educational impulse of the Zebras who assume the culture residents as a way of being, of living and living together.

The history of the Zebras is the story of the transformation of the lives of thousands of youth at risk committed to the profound transformation of their lives and their city. The history of the Zebras inspires all of us to be better residents. It is also an invitation to truly engage in transforming the city of La Paz, the transformation of our way of being, and living together.

The Zebras of La Paz are recognized in other municipalities, and now they are starting to be known across the world. The Zebra program makes institutional agreements to replicate the program as closely as possible to what the zebra philosophy implies; they also maintain contact with these cities to know how the program is progressing. Among the follow-up activities carried out by the Municipal Government, there is training and meetings between cities so that volunteers can share and grow as a group at the national level. The Zebras have transcended







borders and set out to conquer other cities like in Germany, Spain, Costa Rica and China.

The Zebra program not only helps them in traffic in Bolivia, but many of the people in those outfits also need the job. It is an opportunity to put their lives back on track and give something back to the city. Seeing them in action inspires, the seniors appreciate their attention, the children run to embrace them, and young people ask for selfies. Also, many laugh out loud when they see the performances of the characters: they dance, stand in front of moving minibuses, or encourage pedestrians to pass at the right time.

Due to the interest in the program by residents, tourists, a club called Zebra Club was created. Even the mayor of La Paz, Luis Revilla, also participated in the program, to express his pride for the youth and recognize that it is a work of sacrifice in dealing with the weather and heat, but also with passersby and drivers.

The registration is free and the only requirement is to receive training to know the zebra philosophy, basic rules and recommendations to operate in the midst of the traffic. The opportunity to live the experience of being an educator through the Zebra program for a day, which enables all residents to be interested in wearing striped skin and out to the streets for an hour.

The Club, which allows the participants to contribute to the city with social work in nursing homes, hospitals, schools and other public spaces. So far, hundreds of residents have carried out reforestation, classroom cleaning and recreational programs for older adults, among other tasks. In fact, the greatest impact of the Zebras characters is the impact they produce in children, who run to embrace them and tell their parents not to cross when the traffic light is red or not to throw garbage in the streets, because said by a zebra, either on the street or in one of the workshops in the schools.

La Paz for its response to a “very serious challenge” confronting cities worldwide—the subordination of pedestrians to cars—with “great humor and understanding,” and said they hoped the project might inspire “more civilized streets” around the world.

## / 波士顿（美国） /

# 青年引领变化：青年参与预算

□ 伍庆、邓丹莹 / 广州市社会科学院

波士顿是2016年第三届广州国际城市创新奖获奖城市。本次调研开展于2017年6月23日至24日。

波士顿市位于美国东北部大西洋沿岸，是美国马萨诸塞州的首府和最大城市，其历史可追溯至1630年，是美国最古老、最有文化价值的城市之一。波士顿市总面积为232.1平方千米，截至2016年，人口总数为673,184人，人均地区生产总值高达74,643美元，经济基础主要是科研、金融与高新技术。波士顿的大学是影响该市和整个区域的最重要因素，他们将高技术产业吸引到该市及附近地区，包括计算机硬件与软件公司以及生物工程公司等。因此，波士顿市也是美国东北部高等教育和医疗保健的中心，是美国人口受教育程度最高的城市。在知名机构发布的全球城市排名中，波士顿被认为是一个创新性较高的多元化全球城市。

### ➔ 项目背景

#### 1. 波士顿是勇于创新的城市

波士顿是美国历史最悠久的城市，是美国智力、技术、文化与政治思想中心，也是全球最富于创新活力的城市，拥有哈佛大学、麻省理工学院和波士顿大学等全球顶尖高校，还有世界一流的文化设施、大量聚集的风投资本和创新企业。波士顿市政府实施的“青年

## / Boston(the USA) /

# Youth Lead the Change: Youth Participatory Budgeting

□ Qing Wu & Danxuan Deng / Guangzhou Academy of Social Sciences

Boston was a winner of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during June 23<sup>rd</sup> and 24<sup>th</sup>, 2017.

Boston is the capital of the State of Massachusetts and is located in the north-eastern coast of the United States. With a history dating back to 1630, Boston is one of the most ancient cities of cultural value. The city covers an area of 232.1 square kilometers with a population of 673,184 as of 2016 and per capita GDP of USD 74,363. R&D, finance, and hi-tech industry are the main sources of income for Boston. Universities are the most important elements for the economic growth of Boston and the whole region, because they bring to the city and its surrounding areas hi-tech industries, including computer hardware, software, and bio-engineering companies. Therefore, Boston has become the center of higher education and healthcare in the North East as well as the most educated city in the country. Global city rankings are done by renowned institutions list Boston as a highly innovative globally diversified city.

## ➔ Background of the Initiative

### 1. An Encouraged Innovative City

Boston is the center of intellect, technologies, cultures, and political ideology of the US, with the longest history in the country. Home to Harvard University, MIT, and University of Boston, the city is the most dynamic in innovation: there are first-class cultural facilities and numerous venture capital firms and innovative enterprises. Youth Lead the Change led by the



municipal government is a display of Boston's innovation in its development concepts.

## 2. A Multi-ethnic and Harmoniously Developed City

Protestants from the United Kingdom constitute the majority of the earliest immigrants to Boston. They established the first American public school in 1635 (Boston Latin School) and the first American university in 1636 (Harvard University). With the first wave of immigrants from the European continents in the 1820s, many Irish and Italians moved to Boston and the demographic structure of the city started to change. By mid-19th century, there had formed South End, West End, financial district, and Chinatown. Afterwards, top global universities here attracted students from all around the world to study and to seek future development in Boston, which is why its multi ethnicity is very evident. Statistics from the US Census Bureau show that people of Latin American and European origins account for around 60% of Boston's population and those of African origin take up roughly 25%. About 10% of the population comes from Asia, and the remaining 5% from other continents. Therefore, Boston, as a city with a diverse population, needs to promote peaceful co-existence between different ethnicities. The program "Youth Lead the Change" has brought together young people of different backgrounds to collaborate for shared goals. This is a representation of Boston's concept of harmonious development.

## 3. A City that Focuses on Engaging Youths in Public Affairs

Young people take up a major proportion of Boston's population, of which 22% is aged less than 19 years old, 14% are aged between 20 and 24, 33.2% are between 25 and 44 years old, 20% are middle and old aged people between 45 and 64 years old, and the approximate remaining 10% are aged 65 or above. That is to say, over 1/3 of the citizens are teenagers and children under 24 years old. Considering future urban growth, the municipal government attaches great importance to youth development. The authorities believe that young people are the future and hope of Boston and with the launch of the innovative program "Youth Lead the Change", they can provide a platform for youngsters to get engaged in public decision-making and to unleash their creativity. During the implementation of the initiative, the mayor of Boston met up with young leaders of the projects several times to discuss future development issues of the city.

65岁及以上的老年人口。从这个统计数据来看，不难发现，波士顿有超过1/3的人口为24岁及以下的青年和儿童。因此，从城市未来发展的角度考虑，波士顿政府对青年人十分重视，认为青年人是波士顿的未来和希望，他们通过启动“青年引领变革”这一创新实践项目，为青年人提供一个积极参与公众决策并发挥青年人创造力的平台。不仅如此，在项目具体执行过程中，波士顿市长还多次接见参与项目的青年骨干，并与他们探讨城市的未来发展问题。

#### 4. 波士顿市政府重视对弱势群体赋权

波士顿市政府实施的“青年引领变革”项目不仅仅招募青少年领导者参与波士顿基础设施的建设与规划，还招募传统意义上的弱势群体，比如无家可归的青少年、拘留中心的青少年、来自低收入家庭或面临社会经济障碍的青少年。这体现出波士顿政府致力于为弱势群体赋权，而不仅仅是向这些群体提供救助和福利。波士顿市政府期望通过让这些青少年群体参与“青年引领变革”项目，让他们能够参与城市的公共决策和治理，超越“受帮助”的角色，成为城市的“主人”，为该青少年所在的家庭、社区的发展起到积极作用，并能够为其他公众提供帮助、带来改变。

### ➔ 项目实施

该项目主要是由波士顿市长的青年委员会来负责，凭借波士顿青年与家庭中心遍布全市的社区青年组织网络的支持，与政府相关部门进行合作，最终由12—25岁的青少年决定这100万美元的城市预算该投入到哪些项目的使用上。

#### 1. 项目执行过程

表1 “青年引领变革”项目执行过程

序号	步骤	执行方	支持方
1	制定“青年引领变革”项目的实施规则	市长青年委员会	市政府
2	收集关于这100万美元的市政府预算如何使用的想法	青年家庭中心的青年志愿者	市长青年委员会



## 4. A City that Pays Attention to Empowering Disadvantaged Groups

The initiative “Youth Lead the Change” engages not only young leaders in the planning and construction of the city’s infrastructure but also youths belonging to the “disadvantaged groups”, i.e. someone who dropped out of school, is homeless, is being detained, comes from a low-income family, or is socially and economically disadvantaged. This shows that the government is not only providing aid and welfare, but it is also dedicated to empowering these young people. With this program, the government encourages these youngsters to pass from “Those in need of help” to becoming “owners” of the city. Therefore, instead of receiving help, they are expected to offer help to other people and bring about changes, producing a positive influence on their families and neighborhoods.

### → Implementation of the Initiative

The Mayor’s Youth Council (MYC) is in charge of the program. And with support from numerous community youth organizations of the Boston Centers for Youth and Family (BCYF) and cooperation with government entities, youths aged between 12 and 25 years old will be determining how to spend the 1-million-dollar budget.

#### 1. Process of the Implementation

Table1 Implementation Process of the Youth Lead the Change Program

No.	Steps	Executors	Supporters
1	Draft the implementation rules for the Youth Lead the Change Programme	The Mayor’s Youth Council	City Council
2	Collect suggestions on how to use the 1 million USD city council budget	Young volunteers from BCYF	The Mayor’s Youth Council
3	Draft the program plan	Volunteers from BCYF	The Mayor’s Youth Council
4	Vote to decide what programs could earn the support from the city council	Teenagers between 12-25 from Boston	Governments, schools, the third party websites, BCYF

Firstly, a dedicated youth council will make the rules for the implementation of the programme. The council, made up of 85 young people, advises the mayor of Boston on policies, projects to be implemented, and services provided.

Secondly, the council will collect ideas on how to spend this 1 million USD budget. All

(续表)

3	制定项目策划书	青年家庭中心的志愿者	市长青年委员会
4	通过投票决定哪些候选项目能够得到市政府预算支持	波士顿1—25岁的青少年	市政府部门、学校、第三方网站、青年家庭中心

第一步，成立专门的青年委员会制定“青年引领变革”项目的实施规则。该青年委员会是由85个青少年组成，为波士顿市长在政策、实施项目以及提供的服务等方面提供咨询。

第二步，由青年委员会收集关于这100万美元的市政府预算如何使用的想法。意见征集不是仅面向青少年，而是面向波士顿全体市民，不同年龄阶段的公众都可以提出自己的意见。青年委员会不仅通过公开的活动向广大市民收集想法，还通过波士顿青年家庭中心在全市广布的家庭社区网络，采取灵活多样的方式收集想法，例如：在放学之后或者在学校里面举办小型讨论会，或者在地铁站、商店、超市等地方做调查。

第三步，制定项目策划书。由被称为“变革推动者”的青少年志愿者将想法转化成可实施的、并用于未来投票的具体项目。这些“变革推动者”都是接受过一定系统性培训的青少年志愿者，负责将一个特定领域的想法转变为可实施的项目。

最后，就是由波士顿的12—25岁之间的青年来投票决定，哪些项目可以得到市政府的预算支持。投票地点一般在波士顿的学校或者地铁站，波士顿公立学校的学生可以直接在线投票。根据投票结果，波士顿市长会宣布哪些项目可以得到资助，并且将不同的项目分配到市政府的不同职能部门，并委托一名项目经理执行落实。

## ➔ 成效与挑战





the citizens of all age groups of Boston can join this process. Aside from these public events, the council also carries out other activities to pool suggestions through the community networks of BCYF. These activities can take various forms, from small pop-up discussions in classes and after-school programs to surveys at public spaces like subway stations, malls, and supermarkets.

Thirdly, the development of project proposals. “Change Agents” are young volunteers who will turn the ideas collected into applicable project proposals. These Change Agents that have gone through systematic trainings, are responsible for making feasible projects based on the collected ideas.

Finally, it is up to those youngsters aged between 12 to 25 to vote and determine which projects get funded. Polling places are usually set in schools or metro stations. Students at a public school can also choose to vote online. Based on the voting results, the mayor then announces the winning projects and assigns these to relevant government departments with a dedicated project manager to work on their implementation.

## ➔ Effect and Challenge

Youth Lead the Change was put into motion in 2014. After 3 years of implementation, 2.86

## 1. 项目成效

“青年引领变革”项目从2014年开始实施，经过三年的时间，总计出资286万美元，兴建升级改造富兰克林公园休闲游乐区项目、波士顿拉丁学校体育馆翻新项目、波士顿哈伯韦自行车共享系统的扩展项目等17个工程项目。目前，部分项目已经结项，还有一些项目仍在进行当中。调研组针对升级富兰克林公园、波士顿拉丁学校体育馆以及波士顿哈伯韦（Hubway）自行车共享系统等多个项目进行了实地考察，这些项目切实地改善了社区以及学校的公共基础设施，为广大市民提供了很大的便利，使市民们获得了较好的公共服务和文化、体育、娱乐体验，在当地市民中拥有良好的口碑和较高的使用率，对波士顿整体公共设施及服务的提升起到了积极的推动作用。

表2 “青年引领变革”历年项目概况

项目	金额 (万美元)	完成情况
波士顿两个公园的人行道和路灯翻新项目	11	完成
勒施博士家庭公园附近社区监控摄像安装项目	10.5	完成
巴黎街广场改造项目	10	完成
三个区域的高中学生提供Chromebook笔记本电脑项目	9	完成
升级改造富兰克林公园休闲游乐区项目	45.3	完成
滑板运动场可行性研究项目	5	进行中
波士顿“艺术墙”项目	6	进行中
免费学生无线网络2.0项目	11.9	进行中
公园水瓶加水站项目	26	进行中
波士顿拉丁学校体育馆翻新项目	47.5	进行中
波士顿哈伯韦（Hubway）自行车共享系统的扩展项目	10.16	完成
增加垃圾桶和资源回收桶项目	8	进行中
就业和资源搜寻App项目	13.5	进行中
全民公园项目	50	进行中
免费无线网络3.0项目	15	进行中
联系大家：学校数字公告板项目	10	进行中
阳光和书籍项目	2.5	进行中

## 2. 项目挑战

“青年引领变革”项目采取了现场投票的方法（如去学校，进餐厅、食堂等地），同时进行网络在线投票，使收集到的选票大幅度增加。2016年，该项目收到超过4400位青

million USD have been spent on 17 projects, including the Franklin Park Playground upgrade, Boston Latin Academy gym renovation, and Hubway (a bike sharing scheme) expansion. At the time, most of these projects have been completed, and some are still on their way. The 3 projects mentioned above have improved public infrastructure in the community and in school, bringing convenience for the residents. As a result, they allowed residents to have access to better cultural, sporting, and recreational experiences. As these have a good reputation and high usage rate among local citizens, this also has a positive influence on the improvement of Boston's public infrastructure and services in general.

Table 2 Overview of “Youth Lead the Change” projects over the past years

Projects	Fund (USD)	Status
Sidewalk and streetlight renovation of two parks in Boston	110,000	Completed
Installation of security cameras at Dr. Loesch Family Park neighborhood.	105,000	Completed
Paris St. plaza makeover	100,000	Completed
Techknowledge - Chromebooks for high schools of three districts.	90,000	Completed
Franklin Park Playground upgrading renovation	453,000	Completed
Skating park feasibility study	50,000	Ongoing
Boston art walls	60,000	Ongoing
Free Wireless network for students 2.0	119,000	Ongoing
Water bottle refill stations at parks	260,000	Ongoing
Boston Latin Academy gym renovation	475,000	Ongoing
Hubway bike sharing system project expansion	101,600	Completed
Increasing trash cans and recycling bins	80,000	Ongoing
Job and resource finder app	135,000	Ongoing
Public parks project	500,000	Ongoing
Free Wireless network 3.0	150,000	Ongoing
Link Up: Digital billboards in schools	100,000	Ongoing
Sunshine and books	25,000	Ongoing

## 2. Challenge of the Initiative

Youth Lead the Change employs an on-site voting technique, in which people can either vote at polling places set at, for instance, schools and canteens, or vote online. This increases the number of ballots received. In 2016, ballots received amounted to 4,400, which triples that of

年人的投票，是第一年的三倍。但对很多青年人而言，这仍然是他们第一次参与投票。相对人数众多的青少年人口，该项目的投票人数仍然相对较少，大多数青少年还没有参与投票。除此之外，相对于波士顿市的整体城市经济发展水平而言，该项目的投入资金显然不多，有进一步提升的空间。

## ➔ 项目创新

波士顿市政府实施的“青年引领变革”项目是一个创新、变革的项目。“青年引领变革”项目的主要内容是波士顿市政府拨出100万美元的城市预算，让青少年决定如何使用，这使得波士顿成为美国第一个授权青少年参与、决定部分城市预算流程的城市。

## ➔ 项目亮点

### 1. 注重发挥波士顿青年家庭中心的作用

“青年引领变革”项目虽然主要是由市长青年委员会负责的，但整个执行过程中的青少年志愿者都是由波士顿家庭青年中心通过其广泛的社区网络组织起来的。2016年，波士顿家庭与青年中心，就组织了100多名被称为“变革推动者”的青少年志愿者开展想法收集活动。可以说，波士顿青年与家庭中心的青少年志愿者，在市长青年委员会的领导下，具体执行了该“青年引领变革”项目。波士顿青年家庭中心（Boston Centers For Youth & Families），成立40年以来，通过与社会各界广泛合作，专门为满足波士顿青少年和家庭需要，提供各种服务项目。其青少年参与与雇佣部门通过与250多家非盈利组织和政府部门的合作，为15—18岁的青年人提供日常或者暑期的实习工作，这对于这些青年获得新技能并决定未来的工作方向起到了非常积极的作用。该中心还建立了一个项目数据库为青年人提供工作机会，并通过社交网络工具，例如Facebook、Twitter、Instagram和Snapchat等，发布有关找工作的信息。最重要的是该中心还有一个外出项目组，经过一定的培训，该项目组每天都在波士顿的市区里面为青少年提供矛盾解决的支持，并且该项目组的成员大多是由12—22岁的本社区青少年组成。因此，长期从事青年与家庭工作，帮助波士顿青



in the polling. Considering the large youth population, the polling number of the project is still small, meaning that most youngsters did not participate. Besides, there could still be more investment in this program, considering the overall economic development level of the city.

### ➔ Innovation of the Initiative

Youth Lead the Change led by the municipal government is an innovative and revolutionary program. Simply put, Youth Lead the Change is where the municipal government provides 1 million USD of the city's budgets and puts them at the disposal of the city's youngsters, who participate in the municipal budgeting process.

### ➔ Highlight of the Initiative

While MYC is mainly responsible for the program, the young volunteers running Youth



年与家庭中心建立了能够联系全市各社区青少年的网络。

## 2. 政府有关部门对想法的收集与形成具体可执行的项目进行指导

在“青年引领变革”项目最初的阶段，由市长青年委员会制定规则之后，市长青年委员会的成员与市长的内阁成员一道，编制8个主题领域的任务。这八个主题领域包括：艺术和文化、环境能源和开放空间、公共健康、公共安全、公共事业、教育、街道交通和卫生以及市政参与和交流。这样做，有利于分门别类，提供指导。例如，简单地提出“如何使用100万美元让波士顿变得更美？”这样的问题，艺术和文化代表会问“你会怎样使用100万美元来实现年青人接触到的艺术流派的多样性？”总之，委员会成员一共提出了24个指导性问题（每个主题领域平均3个）。

根据上述任务和要求，青年委员会成员与“变革推动者”合作，组织协调，开展调查，收集观点，召开会议。在此基础上，形成项目建议和可行性方案。在整个过程中，“变革推动者”与市政府各部门合作，听取他们的建议与指导，对观点想法进行提炼，批准相关计划和建议。通过这一过程，年青的变革推动者有机会与市政府领导层面的成人进行合作，向他们学习，得到了很好的实践锻炼。

## → 经验与启示

### 1. 项目经验

波士顿市政府通过三年来的“青年引领变革”项目，激发了青少年参与公共事务的积极性。该项目在北美受到了很大的关注，很多城市，如马萨诸塞州的坎布里奇，华盛顿州的西雅图，加拿大新不伦瑞克省的迪耶普都纷纷效仿。波士顿市的这一创新实践以引导青年人参与预算为起点，发展成为一个多层次的战略规划创新实践。这一创新实践将青少年置于社区参与的主要位置，通过参与预算，青少年们参与了公共政策的制定和城市治理。波士顿市政府在对青少年的重视，注意听取他们对公共事务的意见和建议的做法，值得我们学习借鉴。



alone, the BCFY motivated more than 100 young volunteers to become change agents to open minds and collect ideas. It is possible to say that the young volunteers organized by BCYF are actually implementing the programme under the guidance of MYC. Since its establishment 40 years ago, BCYF has been committed to providing services to Boston's young people and families through extensive cooperation. Its Youth Engagement and Employment Division partnered with more than 250 NGOs and government departments to provide summer or daily jobs to teenagers aged between 15 and 18 years old.. This helps the teenagers acquire new skills and determine future career directions. BCYF has also established a database to post job opportunities on networking tools like Facebook, Twitter, Instagram, Snapchat, and other social sites. Most importantly, BCYF has in place a out-of-office team project team. The members are mostly 12- to-22-year-old teenagers that after receiving training, mediate conflicts between young people in the communities of Boston. Through various programs, BCYF dedicates itself in helping youths and families and has thus established a large work that links young people across the city's communities.

## 2. Guidance from Relevant Departments for Idea Collecting and Project Proposal

At the initial phase of the “Lead the change” program, and after the Mayor's youth committee formulated the rules, MYC teamed up with the mayor's cabinet to develop questions under 8 subject areas, i.e. Arts and Culture; Environment, Energy and Open Space; Public Health; Public Safety; Education; Streets, Transportation, and Sanitation; Civic Engagement and Communications. In this way, better guidance is provided when collecting thoughts. Instead of asking general questions like “how to spend to 1 million dollars to make Boston a better place,” the representative for Arts and Culture will ask “how do you spend a million dollar to ensure young people have access to diverse schools of arts?” In total, the council asked 24 guiding questions, 3 questions per subject area.

Members of the MYC then work together with the change agents to launch investigations and collect ideas, which the agents then turn into project proposals and feasible plans. During the whole process, the agents collaborate with government departments, listen to their suggestions and guidance, encapsulate the ideas, and ratify project proposals. This process has also enabled young change agents to speak with managers in the government and learn from them.



## ➔ Experience and Inspiration

### 1. Experience of the Initiative

Through the three-year implementation of “Youth Lead the Change”, the municipal government has successfully stimulated young people’s interest in getting engaged in public affairs. The initiative has gained a lot of followers in North America. Many cities are trying to replicate the program, including Cambridge and Seattle in the US and Dieppe in Canada. This initiative has developed from engaging youths in budgeting into an innovative multi-layer strategic planning practice. Youngsters are placed in the main place in community engagement. Through participating in budgeting, they also participate in public decision-making and urban governance. It is worth learning how Boston values their young people and listens to their suggestions on public affairs.

### 2. Inspiration of the Initiative

#### (1) Stronger Links between the City Government and Youths

The young generation constitutes the future leaders and the hope of the city. “Youth Lead the Change” fosters the link between the city’s government and its young people. By providing a platform for them to voice themselves and integrate their suggestions into its work, the government has found a new way to encourage youngsters to take part in public affairs through budgeting. The program has not only given many young people the training they need but has also sharpened their sense of citizenship. During the implementation, youngsters need to work together with multiple government departments. Aside from listening to their views, the officials also provided their guidance, which proves to be a successful practice to link the government with youngsters.

#### (2) Motivation of Young People to Participate in Civic Services

Youths are not only the target of this initiative, but also the initiator of the changes. The government encourages them to get involved in the city’s decision-making and the advancement of its development. Through public budgeting, “Youth Lead the Change” allows young people to involve themselves in public resources allocation and enables them to influence the city’s public agenda setting. The practice shows to young people that the city is incorporating their concerns in the city’s strategic planning, which is inductive in spurring and motivating young people to take part in democracy. This influence was palpable during the group’s interview with several youth volunteers. They were all students at their puberty, but they showed considerable

响城市公共议程设置，将他们关注的事项纳入城市战略规划，这对于激发和调动青年人的民主参与积极性意义十分重大。调研组通过对几位青年志愿者的采访，深刻感受到了这种推动利益相关方主动参与带来的正面效果。这些志愿者都只有这十几岁，都是在校学生，但无论是在介绍“青年引领变革”项目的座谈会上，还是在代理课题组成员实地考察“青年引领变革”项目的过程中，他们都表现出对整个城市公共事务相当熟悉，以及对参与城市公共决策的热衷。他们都表示，今后还将继续参与波士顿市的公共事务和城市治理。这种通过开辟有效的参与渠道促进利益相关方积极主动参与公共过程的做法，值得我们研究借鉴。

### （3）跨机构的多部门联合协作

“青年引领变革”项目的成功实施，离不开跨机构的多部门联合协作。在波士顿市长办公室批准并支持“青年引领变革”项目后，波士顿青年家庭中心的青年参与就业局（政府部门）为该创新实践提供日常协助、监管和指导。预算管理办公室（政府部门）提供项目可行性方面的专业知识，并协调政府部门间的合作。新城市机制办公室（政府部门）提供技术支持，预算参与项目（非营利机构）提供项目管理支持、内容和培训材料以及外展支持的咨询；波士顿大学（私立大学）指导数据收集、成果评价以及评估归类；东北大学（私立大学）赞助社区活动和会议；斯坦福福包民主团队（非盈利机构）创建在线投票系统；波士顿青年服务网络（非营利机构）为边缘化的年青人社区提供后援服务；MGOV（私营机构）提供手机和短信平台。这种政府牵头、社会组织深度参与的公共治理创新，也给我们一些有益的启示，值得借鉴。

### （4）提升了波士顿城市的整体形象

波士顿市政府的这一创新实践有利于巩固波士顿创新城市的地位，有利于提升波士顿的城市形象。青年参与预算的项目，引导青少年参与公共事务，激发了青少年的积极性和创新性。在实施的过程中，市政府及有关部门较多地了解了青少年及广大市民的想法和要求，有利于制定公共预算等决策。同时，青少年在参与的过程中也反映了自己的诉求，得到了锻炼，提高了水平。今后，我市在公共决策中也应当重视青少年的意见和诉求，搭建平台，拓宽渠道，引导和鼓励青少年参与公共事务。





understanding of the city's public affairs and passion for getting involved in the city's public decision-making. And they said they would continue participating in such programs.

### (3) Cross-departmental Collaboration

The success of "Youth Lead the Change" relies on the cooperation between various departments. Mayor's Office approval of the program. BCYF Youth Engagement and Employment assists, guides, and monitors the program. Budget Office provides professional knowledge of project's feasibility and coordinates the cooperation between different government departments. New Urban Mechanics Office offers technical support. Participatory Budgeting Project, a nonprofit group, provides support, content and training materials for project management and outreach consultancy. The private University of Boston advises on data collection, outcome evaluation, and assessment. Northeastern sponsors community activities and meeting. Stanford Crowd sourced Democracy Team, an NPO, set up the online polling system. Boston Youth Service Network provides back-up services for marginalized youths. MGOV provides the mobile and SMS platform. In summary, this program is an innovation of public governance with the government leading the cooperation with various stakeholders.

### (4) Image Improvement for the City

The initiative of Youth Lead the Change is beneficial in consolidating Boston's place as an innovative city and improving its urban image. The program engages youngsters in public affairs and spurs in them activeness and creativity. During the implementation, the city government listens to the general thoughts and demands of young people and citizens, which is good for decision-makings such as budgeting. At the same time, through the participation of this program, young people have their voice heard and are able to improve themselves, by providing a platform for youngsters to express themselves and participate in decision-making encourages them to engage in public affairs and become responsible citizens.

## / 吕莱布尔加兹（土耳其）/ 女性参与地方当局事务

□ Rose Lukalo / 独立学者

吕莱布尔加兹是2016年第三届广州国际城市创新奖入围城市。本次调研开展于2018年4月26日至27日。

“性别平等与女性领导力”是吕莱布尔加兹市一项关于鼓励女性参与社区所有领域的项目。这一项目改变了女性在市政当局和社区管理方面的作用以及公众对女性的看法。通过提高女性领导地位和鼓励女性参与市政，这一项目使女性能够摆脱传统观念的束缚，不再局限于家庭主妇一职，而是利用自己的时间和精力造福广大女性和整个社会。

### ➔ 项目背景

在2014年的选举之后，凯夫瑟·欧兹坎女士被选为三名副市长之一，另有八名女性当选为市政人员，而市议会中约有三分之一的代表是女性，包括议长埃塞尔·谭。在市政工会里，尽管男性成员人数远超女性，但四名工会领导中有三名是女性。与此同时，在这一项目的支持下，数十个女性领导的公民社会组织积极涌现，这些组织涉及的领域广泛，从商业、音乐到成人体育，包罗万象。这一项目还促使女性更加充分地利用公共设施和公共空间，以进行健身等休闲娱乐活动，使女性在满足个人生活爱好的同时，也能为自己和家人创造新的机会。



## / Lüleburgaz (Turkey) / Sex, Egalitarian Approach and Directives

□ Rose Lukalo / Independent Researcher

Lüleburgaz was shortlisted for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during April 26<sup>th</sup> and 27<sup>th</sup>, 2018.

“Sex, Egalitarian Approach and Directrices” is a soft-footed yet radical initiative for women’s inclusion and participation in all areas of life in Lüleburgaz City. This initiative has transformed the role and perception of women in the management of the Municipality and in the community. By giving greater visibility to women’s leadership and encouraging women’s participation in the Municipality, this initiative has enabled women to go beyond their traditional role as home-makers and use their time and energies in ways that break traditional barriers and benefit women and community directly.

### ➔ Background of the Initiative

Following the 2014 elections, Mrs. Kevser Özkan was elected as one of three Deputy Mayors, along with eight women elected as Council members. Women now make up almost one third of the representatives to the Municipal Council including the Speaker Aysel Tan. The Municipal trade union elected women to three out of the four positions of leadership despite the fact that men greatly out-number women as union members. Meanwhile, dozens of women-led civil society organisations have emerged on the back of this initiative addressing widely diverse themes, from business and music to adult sports. Benefit is also evident in the growing number of women using the spaces created by the Municipal Council for their hobbies, recreation and



fitness where they are able to create new opportunities for themselves and their families.

As Lüleburgaz transforms, the initiative is believed to be impacting many other areas. The number of Lüleburgaz women with post-graduate university qualifications is double the national average. Judicial records for the whole of Turkey show a major increase in the number of sexual assault cases while crime in Lüleburgaz is declining and cases of child marriage, rape or incest have not been heard of in recent years.

Along with the striking statistics and the growing visibility of women in all areas of city life, this initiative is also changing the focus of Municipal programmes. Driven by the slogan “Everything begins with love” (Herşey sevgiyle başlar), a women-centred focus in decision making is evident in projects, such as streets that are closed to traffic during holidays so that children can play and the introduction of an electric bicycle service for mothers with children, people with disability and the elderly who need help getting around. The needs of families and ordinary people find equal consideration with that of businesses when using city space.

The idea for this initiative came from the Lüleburgaz Council – the elected representatives of the people. Led by Mayor (Mr.) Emin Halebak the idea developed from previous efforts to include more women in the staff of the municipality. The Lüleburgaz Council’s theory is that the status of women in society determines the status of the whole society and the goal was to move the City to one where all people are happy; if women are happy, families will be happy and this will in turn translate to a happy citizenry.

## ➔ Implementation of the Initiative

The sustainability of the process is secured by entrenching it in the governance structure of Lüleburgaz where it is overseen by the Deputy Mayor Kevser Özkan. The Municipal Committee, which includes both elected representatives and city officials, created a Gender Mainstreaming Sub-Committee chaired by Council member Mr. Murat Gerenli. The Committee translated the idea into activities to be implemented by the City Council staff.

The approach had two key components, namely, giving greater visibility to women’s leadership and secondly expanding women’s participation in activities around the city.

The first action undertaken under the initiative “Sex, Egalitarian Approach and Directrices” was the promotion of women from within the Municipal staff body. Strategic plan 2012-2016 outlined the achievement of gender equality and democracy in the Municipality of Lüleburgaz as a key goal and, towards this end, change started internally by promoting women to head more

## → 项目实施

“性别平等与女性领导力”项目已纳入吕莱布尔加兹的治理框架，在副市长欧兹坎的监督下，项目的持续开展得到了保障。由市民代表和市政官员共同组成的市政委员会建立了一个子机构——社会性别主流化小组委员会，该委员会由议会成员穆拉特·格伦利主持，致力于将项目构想转化为可操作的行动计划，交由市政府落实。

“性别平等与女性领导力”项目着力关注两个方面，一是提高女性领导能力的认可度，二是提高妇女的城市活动参与度。

该项目下采取的第一项行动是为市政内部女性职员提供晋升机会。2012—2016年战略计划概述了吕莱布尔加兹的建设目标：实现性别平等和社会民主。为此，市政府从自身做起，推动女性职员晋升至关键部门，在城市管理领域进一步实现性别平等。目前，市政府17个关键部门中的7个部门由女性领导，市政工会的领导层也由女性主导。从她们的头衔可以看出，让女性参与领导城市管理绝不是一句空话：

耶欣·萨奇亚——财务主任

尼尔民·阿达克——公共工程和城市规划主任

图尔坎·洛多普鲁——主编（公共传播）

蒂勒克·塞丁·希维——人力资源和培训事务主任

雷希德·坎敦——文化和社会事务主任

欧斯古·塞尔特——法务办公室主任

招募更多女性担任公职这一决定，不是做做表面功夫而已。尽管此次调研未能了解到这些女性如何走上这些职位，但能清晰地观察到市政内部已做出努力，确保有能力的女性能担任要职。这些身居要职的女性大多是市政体系内部培养的人才，政府也鼓励她们进一步攻读研究生学位；有一小部分则是从社会聘入。除了市政要职之外，政府还向社会聘任了许多有潜力的女性，让她们担任初级主管——未来的领导者。

让有能力的女性参与到管理之中是一个具有突破性的大胆决定，旨在让公众了解到女性的能力，从而向社会表明，只要能拥有平等的机会，女性也能成就一番事业。“让女性参与管理”这一做法适用于所有的城市项目。吕莱布尔加兹市艺术学院建设是一项耗资3500万美元的在建工程，在该项目中，29岁的建筑师布尔克·巴格西·乌喀尔女士和26岁





key departments than ever before, moving closer to achieving gender equity in the management of the Lüleburgaz City. Women now head 7 out of the 17 key departments in the City Council along with leadership of the Union. As can be seen from their titles, there is no tokenism in the positions assigned to them:

Yeşim Çakır – Director of Finance

Neermin Adak – Director of Public Works and Town Planning

Nalan Koç – Director of Technical Works

Türkan Rodoplu – Editor (Public Communications)

Dilek Çetin Çivi – Director of Human Resources and Training

Reşide Candan – Director of Cultural and Social Affairs

Özgü Sert – Head of the Law Office

The decision taken to promote and recruit women to serve in the public service was not executed in a cosmetic way. While details of the process by which this was done are not readily available, it is clear that effort was made to ensure that highly trained and competent women were placed in very powerful roles in the City Council. Many of these women were groomed within the system and encouraged to study for post-graduate degrees. A few were recruited from outside even as more women were brought into to become junior supervisors – future managers in the making.

This bold positioning of competent women at the helm of management was specifically intended to place the capability of women in the public eye and to demonstrate that given equal opportunity women can lead and can make a significant difference. The same approach feeds into all city projects. The on-going construction of a \$35 million Lüleburgaz Arts Academy assigned 29-year-old architect Mrs. Burcu Bağcı Uçar and 26-year-old civil engineer Ms. Gizem Çekiç to the team of experts, overseeing implementation of the project on behalf of the City Council and demonstrating City trust for women of all ages.

The other component of the initiative involves communication and facilitation to encourage women to get out of their homes and use their time to develop themselves, their skills and talents. The City Council invested in convening spaces where women could meet and decide what they wanted to do or simply read and build their knowledge. Initially the City Council made use of existing spaces; for example, the old City fire station was renovated and converted into several rooms along with 5 small centres around the city. Soon women began to meet at these venues for exercise classes, music sessions and to practice their ceramics and other traditional arts and crafts. Public parks and gardens are also used for meeting and outdoor exercise. The City Council contacted both the national government and charity foundations to sponsor teachers

的土木工程师吉塞姆·塞吉克女士受市政府委任，负责监管项目实施。这个例子很好地体现了吕莱布尔加兹市对女性的信任。

该项目的另一个组成部分是：通过对话与设施建设，鼓励女性走出家门，利用她们的时间进行自我提升。市政府为女性提供了交流见面的场所，在这里，她们可以做自己想做的事，例如阅读书籍、增长见识。起初，市政府充分利用旧城消防局等六个现有城市空间，将这些空置的地方改造成几个房间，作为女性的学习中心。随后便有妇女在学习中心上健身课、听音乐、练习陶艺和其他传统手工艺品制作。公园和花园也用于举行集会和户外运动。市政府联系了国家政府和慈善基金会，根据妇女的需求提供师资支持，以最低的成本建立终身学习中心。

该项目针对该城市所有年龄段的女性；随着该项目实施带来的成效逐日显现，女性的领导力及参与度带来的影响不断扩大，该项目也得到迅速发展。市民对该项目的积极反响促使政府开展了另两个大型项目。第一个项目是新近落成的吕莱布尔加兹市女子学院，占地8000平方米。学院拥有会议室、培训设施、演出厅、厨房、餐厅、可容纳150多名儿童的日托中心和酒店式住宅设施。学院还安装了一些3D技术设施，以确保女性即使在这里做传统的事情，也能了解到新技术。学院周围还有7000平方米的菜园，以每月4美元的价格向女性外租。

随着女性见面交流机会的增多，她们开始根据兴趣设立社团组织，组织成员将为实现自己的目标而共同努力。这些组织多达数十个，涉及领域有环境、健康、残障和老年、教育、音乐、体育、创业等。在本次调研过程中，代表团与30个由女性领导的组织进行会面。吕莱布尔加兹市政府在女子学院内为这些组织设置了会面场所，从而使这些组织在城市结构中扎根，并为更大的团体提供常设办事处，如女性企业家和生产者合作社以及土耳其女性联盟。市长哈勒白克认为，在市政设施内为合作伙伴提供场地可以让市政府向其进行定期咨询，以了解合作伙伴和利益相关方的想法。

“性别平等与女性领导力”项目催生了大量表达创意想法的需求，为了响应这一需求，市政府进行了另一个项目的建设，吕莱布尔加兹艺术学院。它有多个室内和室外的表演剧院，用于绘画、雕塑、手工艺、写作、舞蹈、戏剧和音乐的艺术工作室以及教学的空间。虽然项目最初针对女性而开设，但人们对这些设施的需求迫使市政府做出调整，将艺术学院对所有居民开放。



based on the requests from women, thus establishing life-long learning centres at minimal cost.

This City-wide initiative addressed women of all ages; it scaled up rapidly once the agency and impact of women's leadership and participation became evident. In the face of a massively successful response, the City Council initiated two large scale projects. The first is a newly completed Women's Academy—an 8,000 square metres complex of meeting rooms, training facilities, presentation theatres, kitchens, dining halls, day-care centre for over 150 children and hotel-standard residential facilities. 3D technologies have been installed, ensuring that even as women pick up traditional ways they are also aware of the new. The Academy is surrounded by an additional 7,000 square metres of kitchen gardens that are leased out for \$4 per month.

Once women started meeting on a regular basis, they began to set up dozens of organizations to reflect their interests and advance their goals: from environment to health, disability and old age, education, music, sports, and entrepreneurship. Up to 30 such women-led organizations were met during the study tour. Lüleburgaz City Council has assigned meeting spaces to civil society organizations in the Women's Academy thus entrenching them in City structures and giving larger groups permanent offices such as the Women Entrepreneurs and Producers Cooperative and the Turkish Women's Union. Providing physical space for partners within Municipal facilities enables the City Council to consult regularly and to know what partners and stakeholders are thinking according to Mayor Emin Halebak.

The second project currently under construction is the giant Luleburgaz Arts Academy built in response to overwhelming demand for opportunities for creative expression that came out of the "Sex, Egalitarian Approach and Directrices" initiative. It houses multiple in-door and out-door performance theatres, artists' studios for painting, sculpture, crafts, writing, dance, drama and music as well as spaces for teaching. While the initial project targeted women, the demand for these facilities forced the City Council to adapt the Arts Academy so that it can be accessed by all residents.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

The City of Lüleburgaz draws from the same socio-economic background that has been blamed for retarding women's advancement in Turkey (and many other parts of the world) including deeply rooted traditional patriarchal family relations where women face huge pressure to conform to the wishes of the men in their families. These pressures are said to be redoubled

## → 成效与挑战

### 1. 项目成效

限制吕莱布尔加兹女性发展的社会经济背景与土耳其其他城市（以及世界其他许多地方）一样，包括根深蒂固的传统父权制家庭关系——女性常常要遵从家中男性的意愿，而宗教因素更是强化了这一要求。在这个重男轻女、穆斯林占主导地位的国家，要改变市民长期以来对女性的固有印象，吕莱布尔加兹市议会面临着严峻挑战。尽管如此，吕莱布尔加兹市仍在相对较短的时间内，以较为和平的方式，改善男女地位关系。同样值得称赞的是，市政府仅花费了很少的开支便实现了这一目标。政府对现有设施进行改造，并以良好的沟通和外联策略支持了这一倡议。

### 2. 项目挑战

（1）在其最新的战略规划中，吕莱布尔加兹市议会选择把重点放在妇女参与日常生活的所有领域，实现其全民幸福的城市愿景。欧洲国家里，土耳其是女性话语权最弱的国家之一。土耳其劳工群体里中代表女性的发声不足，而那些既没有就业也没有接受教育的女性比例却很高。这类女性深居简出，政府难以接触她们，无法为她们提供帮助，使得在土耳其实现性别平等、赋权女性难上加难。

（2）这一项目取得的成效多是道听途说，由经历了这一进程、参与了该项目并目睹了变革的人进行叙述。关于该项目的数据记录和文件记载十分有限，该项目所采取的方法都是通过访谈而重构出来的。因此，很难量化和充分了解项目的具体进程与产生的变化。例如没有基线研究；没有里程碑事件的记录；关于这一倡议是否有助于城市经济发展，没有相关的分类数据或信息；没有记录项目实施过程中遇到的困难；也没有关于如何应对挑战的记录。鼓励女性交流沟通这一想法很有创意，但具体环节也没有相关记录。唯一能找到的记录也许是女性会面时的会议记录，但此次调研中没有充分时间对会议记录进行研究。另外很有趣的一点是，该项目如何将信息传递给了男性以及男性做出了何种回应。记录材料的缺乏限制了该项目的经验学习。



by religious requirements. In this patriarchal and predominantly Muslim country, the Lüleburgaz Council faced the challenge of changing long-standing and deeply entrenched perceptions of women that presented a key hurdle. Despite this cultural environment, the City has managed to change the course of gender relations without undue confrontation and in a relatively short period of time. It is also remarkable that the initial change appears to have required minimal expenditure and had relatively little to do with budget; the Municipal City Council renovated existing facilities and supported the initiative with a good communication and outreach strategy.

## 2. Challenge of the Initiative

(1) In its latest strategic plan, the Lüleburgaz Council chose to focus on participation of women in all areas of daily life as a central approach to achieving its vision of a city of happy people. Turkey is ranked among countries with the lowest representation of women in local governments in Europe. Women are under-represented in the Turkish workforce and a very high proportion of women are neither employed nor in education. These women remain invisible, secluded in their homes making it hard to reach them and making the achievement of gender equality and empowerment for Turkish women and girls difficult.

(2) Much of the evidence of this initiative is anecdotal and only available through the memory of those who lived through the process, were involved in its implementation and witnessed the transformation. Data and documentation about the initiative is limited and this outline of the methodology has been reconstructed from interviews. It is therefore difficult to quantify and fully comprehend process details and stages of transformation. There is for example no baseline study and no record of milestones. No disaggregated data or information as to whether this initiative contributes to the economy of the City. There is no record of the challenges that were faced and how the initiative changed in response to challenges – if at all. The communication strategy in and of itself seems to have embraced some very innovative ideas but again it was not documented except perhaps through the record of meetings which the delegation did not have time to access during this study tour. Of particular interest would be the messaging reaching men and their response. This gap in documentation limits the possibilities of learning from this initiative.

## ➔ Innovation of the Initiative

A key innovation in the initiative was to make symbiotic use of both directed intervention and non-prescriptive approaches supporting and following women's natural organizational

## ➔ 项目创新

该项目的一项关键创新是将指令性干预和非指令性方法相结合，以支持和鼓励女性发挥组织能力。通过多种形式的交流与宣传，包括让群众更加了解政府内部位居高职的女性，市政府成功推动该项目，令妇女拥有更高的自主性，决定自己想做什么，并懂得主动寻求政府帮助。这也使得市政府并非是为了完成既定目标或政绩而去关注女性权益，而是真正地去关注女性权益。

## ➔ 项目亮点

“性别平等与女性领导力”项目旨在让市民了解到，女性的潜能得以发挥对实现全民幸福而言至关重要。项目的灵感来源于土耳其国父穆斯塔法·凯末尔·阿塔图尔克（Mustafa Kemal Atatürk）的教诲，其思想之进步，开欧洲乃至世界之先河，率先赋予女性以政治权力。民众也应当谨遵国父教诲，认识到女性在社会治理中所扮演的重要角色。

“性别平等与女性领导力”项目具有可持续性，因其从根本上改良了城市治理架构，并获得了最高管理机构、市议会以及其附属机关的充分支持。该项目为吕莱布尔加兹市民带来了看得见、摸得着的益处。任何影响该项目推进的威胁最有可能来自市外。因此，应争取外部力量的支持。土耳其希望加入欧盟，而性别平等问题对土耳其入欧而言至关重要；吕莱布尔加兹的“性别平等与女性领导力”项目便提供了一个路径。除非土耳其入欧政策改变，否则对吕莱布尔加兹“性别平等与女性领导力”项目的兴趣与支持将不断上升，而且该项目很可能成为土耳其全国乃至该地区的一个典型案例。这将进一步提升该项目的可持续性。

## ➔ 经验与启示

### 1. 项目经验

在与吕莱布尔加兹市民和市政工作人员的谈话中，人们总是反复提及市长哈勒巴克在



skills. The initiative was catalysed by the use of various forms of messaging and communication including the visibility of high-ranking women within the Municipality. This allowed women to decide what they want to do and to solicit a response from the administration. This encouraged the government to focus on women for their own sake and not in order to achieve government-driven targets or to seek ownership of the process.

## ➔ Highlight of the Initiative

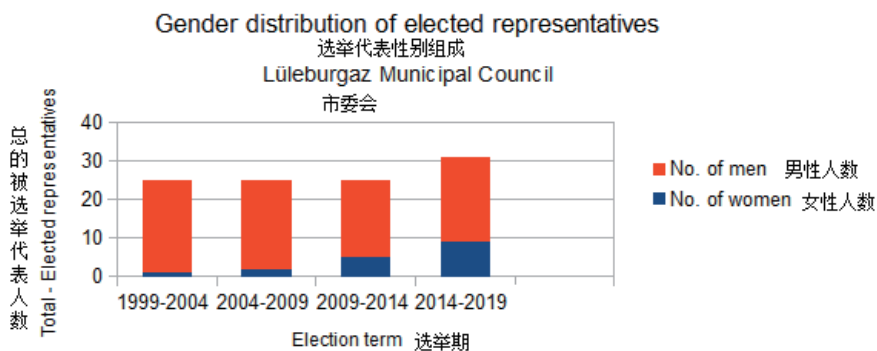
It targets and involves the whole city in understanding the importance of having women's potential realised in order for all to be happy. The messaging is very much inspired by the progressive teachings of the widely respected founder of the Turkish nation Mustafa Kemal Atatürk; it reminds people that Atatürk gave women political rights before most European nations and the world. It also urges the inhabitants of the City to return to the Atatürk mentality and his leadership role in recognising the importance of giving women's space in the management of society.

The initiative is also sustainable in that it addresses the fundamental governance structures that will be required to keep it going. It has the political goodwill and entrenched support of the highest governing body, the elected Council as well as all subordinate organs of the Municipality described earlier. It has already delivered visible and tangible results to the people of the City. Any threat to the initiative will most likely come from outside the City and it would be good to build external support. Representation of women is a key issue that Turkey is addressing as it works towards long-term interests in joining the European Union. Lüleburgaz City has shown the way in this regard and unless Turkish policy shifts the City is likely to attract only positive interest and support and may well end up serving as a model for other cities nationally and regionally, adding to the sustainability of the initiative.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

In conversations with the citizens of Lüleburgaz and staff of the City Council, the role of Mayor Emin Halebak was repeatedly mentioned in almost every conversation. Mr. Halebak served as Mayor for 19 years and is credited with beginning the move to bring women on board. The current Deputy Mayor Kevser Özkan was the only woman serving in junior management



该项目推行过程中扮演的重要角色。哈勒巴克担任市长19年，正是他开启了吕莱布尔加兹的性别平等化进程。在市政府做出“加强女性地位”的决定之初，现任副市长欧兹坎是当时唯一一个在低层管理部门任职的女性；而现在，在市政府任职的女性人数已大大增长。这说明我们需要女性地位提升的拥护者——在体制内充分认识到女性的潜力并尽己所能倡导提升女性政治地位的人。

市长与议会议员也直面一些禁忌的话题，这些话题一直无人敢提、无人质疑。他们大胆创新，用一种被广泛认同的新精神取代了禁忌，即：女性的领导力须有机会展现；女性的声音须被倾听；女性须表达自己的观点。

该项目实施之前的预备工作没有留下记录，但一些前期努力无疑为项目的实施打下了良好基础，促使一大批女性被选为议员，直接参与市政议程的制定。吕莱布尔加兹市政府中，女性议员人数不断增长，目前占比为29%，远高于4.2%的全国平均水平。

筹备阶段的工作虽然没有列入项目之中，但对项目成功实施意义重大，也是该项目体制化的核心。

市政府的九名女性官员来自不同政党，尽管在预算拨款问题上，保守派和自由派之间可能存在分歧，但在推动“性别平等方针和指导准则”倡议方面，双方的步调十分一致。

各个治理机构的积极参与，是项目可持续开展的关键。此次调研恰逢市长哈勒巴克在任的最后时日。在后期的选举之时，他已辞去市长一职，准备竞选国家级职务。哈勒巴克先生的接班人是性别主流化小组委员会前任主席穆拉特·格伦利先生。性别主流化小组委员会主席竞选市长，正代表了该项目将继续发展壮大。

此前，市政领导层从无女性的一席之地，但随着“性别平等和女性领导力”项目的

of the City Council at the time when the decision to embrace affirmative action for women within the system who understand the powerful possibilities and actively advocate for women's leadership wherever and whenever they can.

The Mayor together with members of the Council were also ready to take on taboo subjects that remained unspoken and unchallenged. They bravely created a new point of view and replaced the taboos with a new ethos that was widely shared, namely women's leadership must be visible; women must be heard; and women must contribute to all ideas.

election of a critical number of women to become representatives and the ability to input directly

Council of elected representatives, way above Turkey's 4.2 per cent average with consistent growth over the years.

Although this preparatory phase is not included as an activity of this initiative, it should be



实施，众多女性加入市政领导层，这也带动了各行各业领导层男女比例的变化，带动了全社会对女性管理的观念变化，吕莱布尔加兹市涌现出更多女性银行家、女性主管、女性经理。该项目还启示我们要重视女性在家庭中的领导和经济潜力，因为这能积累社会资本，有了这社会资本，女性能力便能得到释放和开发，相关女性机构也将应运而生。另一方面，该项目也让我们认识到，与女性打交道的过程中，不应过分保护，也不应强硬干涉，而是要恰当地回应她们的需求。

尽管我们尚不清楚究竟是什么促使吕莱布尔加兹女性转变思想、走出家门，但值得关注的一点是，民俗文化和历史先例在这个思想转变过程中发挥了重要作用。国父阿塔图尔克的名字与话语能在群众中引起广泛共鸣。而在“性别平等与女性领导力”这一项目下，吕莱布尔加兹市民在每年12月5日前往国父之墓进行朝圣，以缅怀其先进思想，抒发民族自豪感。

## 2. 项目启示

社区生活对女性的包容以及女性参与社区生活是全球的一个热点话题。为了实现这一理念，全世界做出了多方面的努力，投入了大量的资金。“性别平等与女性领导力”这一项目有助于我们更好的理解，在吕莱布尔加兹这一微观世界中，促成性别关系转变的因素是什么。

该项目表明，只要综合利用各种资源，在社会各阶层推动女性参与并非难事，包括在城市民选或任命的领导层内实现性别平等。要促成这些变化，耗资并不多，只要社会条件适合，便能在相对较短的时间内实现目标。

吕莱布尔加兹的案例为致力于提升女性地位的城市提供了许多可鉴之处，同时也提供了一个机会去见证包容性发展的成果及其对社区、城市集体生产力的影响。关注社会对女性的包容问题极大地影响了吕莱布尔加兹发展的方向和发展项目的选择，也改变了人们的行为和态度，让整个社会认真思考其共同目标与愿景。同时，这也改变了城市的规划及设计，使之将市民需求置于首位。

吕莱布尔加兹市政官员重视市民对幸福感的追求，并以身作则。女性管理者大方展现她们在生活中扮演的多重角色，并展示自己的多样兴趣。吕莱布尔加兹市文化与社会事务主任还是一支女性传统鼓乐队的领导，而鼓乐队的成员通常都是男性。



considered as a critical lesson for success and also regarded as a buttress against roll-back of the achievements made so far. It also appears to be core to the institutionalisation of the initiative.

The nine elected women members of the Municipal Council are drawn from different political parties and while there may be disagreement over budget allocations between women allied to conservative and the liberal parties, there is rarely disagreement over implementation of the initiative.

The systematic engagement with and involvement of all governance institutions in delivering the initiative is key to sustainability. By way of example, this study tour coincided with the final days of Mayor Halebak in office as he resigned to seek election for national office. In elections thereafter, Mr. Halebak was replaced by former Council member Mr. Murat Gerenli who until his election was the chair of the Gender Mainstreaming Sub-Committee. This suggests that such deliberate engagement will serve to ensure continuity and expansion of the initiative.

The appointment of women to public service leadership roles that were formerly closed to them and in such significant numbers has been a catalyst for women's leadership throughout the City. As society's perception of women in management changes, women bankers, business owners and managers are becoming common. The initiative also teaches us the importance of addressing women's leadership and economic potential in the home because this builds the social capital on which the untapped capacity and agency of women stands and can be developed. A secondary lesson is the importance of avoiding patronising and prescriptive interventions in reaching out to women but rather responding to their requests.

Although the process of getting women out of their households is not clear, one lesson that did stand out was the use of popular folk-lore, culture and historical precedent in messaging. The name and words of Ataturk resonate widely with the population. Under this initiative an annual pilgrimage to the grave of Ataturk has been instituted for 5th December as a reminder of his progressive ideals and a call to national pride.

## 2. Inspiration of the Initiative

Inclusion and participation of women in all areas of life in their communities is a topical issue globally. Multiple efforts have been made to realize this ideal and huge financial investments have been invested in countless societies around the world towards its achievement. "Sex, Egalitarian Approach and Directrices" initiative presents an important opportunity to understand factors that work to support the successful transformation of gender relations within the microcosm of Lüleburgaz City.





This initiative demonstrates that involvement and participation of women at all levels of society is readily achievable with the right combination of factors. This includes the seemingly elusive achievement of equity in the representation of women in elected and appointive leadership. It is also clear that it does cost much to initiate such change, but it is achievable in a relatively short time span where conditions are right.

This case study of Lüleburgaz offers so many insights into a question that societies around the world are struggling with. It also offers an opportunity to witness the outcomes of inclusive development and how it impacts the collective productivity of a community or City. The bold decision to focus on inclusion of women has had significant impact not only on both the direction of development and choice of projects, but also on change in attitudes and behaviour, causing the whole community to reflect on its collective goals and aspirations. It has resulted in changes to City planning and use as well as to aesthetic design giving priority to people's needs ahead of all else.

Lüleburgaz staff take the pursuit of happiness for City residents seriously and they lead by example. Women managers embrace and show off their multiple roles and interests. The Director of the Department of Culture and Social Services for the City Council also leads a traditional band of women drummers, a fact that is made more significant by the fact that drumming is traditionally done by men.

The vast majority of women working for the City Council are local and call Lüleburgaz home or live in nearby towns and villages. They have relatives and family in the area who are directly impacted and influenced in seeing their achievements and lifestyle which, in turn, further supports transformation.

While all the process details are not available, the case of Lüleburgaz suggests that women can chart their own advancement given the chance. Allowing the organic evolution processes to happen demonstrates a respectful engagement with women who were not herded into pre-determined activities and training sessions but rather encouraged to explore their own health, talents and humanity and in doing so, to find the outlet and outcomes that best suited them. Women can then find their own level, some seeking jobs as managers, shop-keepers, waitresses, cashiers and clerks while others choose creative outlets and academic pursuits.

This organic evolution allowed the City Council to recognise a huge un-met need for artistic and cultural expression. As women busy themselves with hobbies and created beautiful artefacts and clothes they quickly begin to recognise opportunities and to understand their own valuable contribution. One woman working on a piece of fine art began the piece without commercial intent; then she received offers of 400 TL, and learnt that in nearby Istanbul the same could

了企业文化和创业文化。现在，个别妇女为女性和幼儿提供舞蹈和健身课程培训；由女性负责的陶瓷和艺术项目也开始售卖。市议会已经引进3D和激光技术来支持妇女们的艺术项目，并鼓励她们使用新技术，进行新创作。

一位餐馆老板透露，女性地位的变化对餐馆生意很有好处：很多女性拥有了可自由支配的钱，可以和朋友出去吃饭。餐厅的一名员工表示，现在，妻子每天都可外出锻炼，比从前更开心也更健康，他感到很欣慰。

投身个人爱好的女性说，这让她们每天都有地方可去，也让她们了解到了不同观点，“连天空都不一样了”。另一个人说：“我已经对缝纫上瘾了。”她还说她不会再浪费钱了，连丈夫的西装都会亲手缝制。

用一位当地父亲的话来说，他很高兴看到女性在各个领域发挥领导作用，“我希望我的女儿也能在社会中受到这样的重视”。他的妻子最近找到了一份工作，成为该市第一位女救护车司机，这也增加了他的家庭收入，改变了家庭和朋友对他们的看法。

“性别平等与女性领导力”项目最初的目标是让女性走出家门，展现她们的才华，促使她们用自己的精力和业余时间为自己谋福利。这反过来又为女性带来个人成就感，并积极影响着她们的生活，提升了她们的社会地位。最终，该项目不仅造福女性，还提高了社会创造力、鼓励了民意表达、提高了社会安全系数、发展了城市经济、提升了医疗保障体系。无论身份高低、能力强弱，吕莱布尔加兹市民都能从该项目中获益。

“女性若能对自己进行投资，发现自我的价值，并彼此扶持，能为世界带来不可估量的益处。”——吕莱布尔加兹副市长凯夫瑟·欧兹坎。



easily fetch 2000-3000 TL.

The tailoring class has women stitching clothes for their families—much appreciated by their husbands—while others upgrade to contracts for embroidery of wedding dresses and evening gowns for commercial outlets even before graduating. This is allowing natural progression to the development of a business and entrepreneurship culture. Individual women now offer dance and fitness classes for women and toddlers. Ceramics and art projects undertaken by the women are finding buyers as are clothes tailored by them. The Municipal Council has introduced 3D and laser technology to support women with their artistic projects and encourage them to take steps in using the latest technologies.

One restaurant owner revealed that the change in the status of women has been very good for business as many now have their own money to spend on dining out with their friends. An employee at the restaurant spoke of satisfaction seeing his wife happier and healthier now that she finds space to work out every day.

Women engaged in their hobbies say it gives them somewhere to go every day and makes them conscious of a different point of view such that “Even the sky is different,” said one. “I have become addicted to sewing,” says another, and she declares that she no longer wastes money as she now stitches even the suits her husband wears.

In the words of one local father, he is happy seeing women leading in every sphere, “I want my daughters to be valued this way in society.” He is also proud of the fact that his wife recently found a job as the first woman ambulance driver in the city and that has changed his family income and the outlook of family and friends.

The initiatives “Sex, Egalitarian Approach and Directrices” began with the goal of getting women out of the house to release their talents, energy and spare time for their benefit. This in turn delivers personal fulfilment and positively affects their lives and their social status in society. Ultimately it demonstrates that inclusion and participation of women in the life of their communities pays off in terms of creativity and expression, improved security and expanded economy, improved health and general social welfare of all individuals regardless of their status or ability.

“Where women are allowed to invest in themselves and to value their own humanity and support each other, the world benefits.” —Kevser Özkan, Deputy Mayor, Lüleburgaz Municipal Council.

## / 特拉霍穆尔科（墨西哥）/ 环境法律诉讼地方办事处

□ 伍庆、邓丹萱 / 广州市社会科学院

特拉霍穆尔科是2016年第三届广州国际城市创新奖入围城市。本次调研开展于2017年6月19日至20日。

特拉霍穆尔科市（Tlajomulco）隶属于墨西哥哈利斯科州，位于瓜达拉哈拉大都市区的西南角，面积682平方千米，截至2015年底，人口总数为549,442人。

### → 项目背景

地方环境检察机关的设立与特拉霍穆尔科市近年来的经济社会发展息息相关。由于临近瓜达拉哈拉市，特拉霍穆尔科的发展与瓜达拉哈拉市的发展密切相关。作为墨西哥第二大城市，瓜达拉哈拉市是哈利斯科州的首府，也是瓜达拉哈拉大都市区的首府，人口总数在600万左右。近5年来，特拉霍穆尔科由一座位于瓜达拉哈拉市郊区相对落后的区域，发展成为瓜达拉哈拉市的重要居住区，从2010年到2015年，人口增长了31.9%。人口的急剧增长给特拉霍穆尔科的城市发展带来了一系列的问题，例如环境问题日益严峻、公共服务和自然资源愈发紧张等。

#### 1. 受自然地理条件的限制，容易产生环境问题

虽然墨西哥国家大部分地区属于高原，但在特拉霍穆尔科市，部分市内居住区地处山



## / Tlajomulco (Mexico) / Environmental Law Prosecution Local Office

□ Qing Wu & Danxuan Deng / Guangzhou Academy of Social Sciences

Tlajomulco was shortlisted for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during June 19<sup>th</sup> and 20<sup>th</sup>, 2017.

Tlajomulco de Zúñiga is a Mexican town in the State of Jalisco, located at the southwestern corner of Guadalajara Metropolitan Area. Tlajomulco has a population of 549,442 as of 2015, with a land area of 682 km<sup>2</sup>.

### ➔ Background of the Initiative

The initiation of this program is the outcome of the social and economic development in Tlajomulco. Because of its proximity to Guadalajara, Tlajomulco's development is largely dependent on that of Guadalajara. The latter is the capital of State of Jalisco as well as Guadalajara Metropolitan Area and the second largest city in Mexico, home to 6 million people. In the past 5 years, Tlajomulco has grown from a relatively worse-off suburban area in Guadalajara into an important residential area for the city. Its population experienced a skyrocketing increase of 31.9% from 2010 to 2015. However, this jump in the population also gave rise to a series of problems, for instance, worsening environment as well as shrinking natural resources and public services.

#### 1. Pollution Exacerbated by its Geography

Although most of Mexico is covered by plateaus, part of Tlajomulco's residential quarters

谷，因此易被瓜达拉哈拉市区产生的空气污染笼罩，导致部分社区每年空气质量较差的天数达到200天。另外，由于特拉霍穆尔科市内的希蒂特兰市泻湖位于居民区下游，再加上污水处理能力不足，引发了严重的水污染，为附近居民的生活带来了很大的负面影响，对特拉霍穆尔科市的生态环境也造成了很大的压力。

## 2. 经济快速发展，吸引了大量的外商投资

特拉霍穆尔科市地理位置临近瓜达拉哈拉市，受到瓜达拉哈拉大都市区发展的辐射带动，大量外商投资涌入特拉霍穆尔科市。据市政府数据显示，近5年来，特拉霍穆尔科市是整个瓜达拉哈拉大都市区吸引外资增速最快的区域，从2010年到2015年，共吸引外资约6亿美元，这些投资主要集中在医疗器械、生物制药、食品加工、可再生能源、机械设备等行业。

## 3. 人口的迅速增长，带来一系列城市发展新挑战

近年来瓜达拉哈拉市的房价及生活成本居高不下，相当一部分居民迁移到特拉霍穆尔科市居住，而特拉霍穆尔科市自身的经济发展也吸引了众多的外来人口。据特拉霍穆尔科市政府统计，该市的常住人口从1990年的68,428人增至2015年的651,000人，增长了9.5倍多。与此同时，社区的数量也大幅增加，从2000年的25个增至2015年的288个，增长了11.5倍多。人口的迅速增长加速了特拉霍穆尔科的城市化进程，但同时也带来了一系列挑战，比如，由于人口激增，对于公共服务和自然资源的需求不断上涨，导致该市大部分公共服务、私人服务和自然资源基本处于饱和状态；又如，运输、安全、教育、社会服务、就业机会以及饮用水等方面都面临着巨大的压力。

## 4. 城市环境治理能力相对不足

经济的快速增长为特拉霍穆尔科市的环境治理带来了挑战。比如，大力发展经济、促进城市化进程的过程中，诱发了新一轮的大气污染、水污染和土地污染问题，给治污能力本就薄弱的特拉霍穆尔科市带来了更大的压力。此外，由于缺乏有效的问责机制，产生了一定的官僚机构运行成本和腐败问题，导致特拉霍穆尔科市出现环境保护执法不严以及违法不究等问题。同时，在当前的政治体制下，尽管已有相关环保的法律规定，但是在执行





are situated in the valley. Such landscape contributes to a dome of polluted air, discharged from downtown Guadalajara, over these quarters. As a result, certain neighborhoods are experiencing 200 days of poor air quality a year. In addition, as the living quarters are located at the lower reaches of the Lagoon of Cajititlan, plus inadequate capacity for water treatment, there have been serious water pollutions. This has brought about not only negative impact on the life of the local residents but also high pressure on the environment of Tlajomulco.

## **2. Large Amount of Foreign Investments Attracted**

The proximity to Guadalajara has brought to Tlajomulco economic growth with a lot of foreign investment. Statistics from the municipal government of Tlajomulco shows that the city has been the fastest growing area in the metropolitan area in terms of attracting foreign investment for the past five years: during 2010 and 2015, the city attracted USD 600 million foreign investments, mainly in medical equipment, bio-pharmaceuticals, food processing, renewable energy, and machinery.

## **3. Challenges Created by Population Boom**

The living costs, e.g. housing price, has been high in recent years in Guadalajara, and thus a considerable number of people have moved to Tlajomulco. Aside from this, the economic growth in the city has also attracted many residents. Census conducted by the city government points out that the population of permanent residents has gone up 9.5 times, from 68,428 in 1990 to 651,000 in 2015. In the meantime, the number of communities has also increased to 288 in 2015, 11.5 times the figure of the year 2000, which is 25. Though it has accelerated urbanization, the rapid growth in population has also created side effects. The capacity for providing public and private services as well as natural resources has reached the cap due to increasing demand. Other fabrics of life have also been facing huge pressure, including transport, security, education, social services, job opportunities, and drinking water.

## **4. Inadequate Capacity in Environmental Governance**

The economic boom posed challenges for Tlajomulco's environmental governance. New pollutions to the city's air, water, and land put another straw on the city's management capability. Bureaucracy and corruption emerged because of lack of accountability mechanism, which resulted in slack law enforcement. Besides, there were also a lot of problems in enforcing environmental laws under the political framework. These are all hindrance to Tlajomulco



enhancing efficiency in utilizing energy and resources, improving environmental monitoring framework, and pushing forward environmental protection.

## ➔ Implementation of the Initiative

Against the backdrop of imbalance between urbanization and environmental management, Tlajomulco decided to set up a Municipal Environmental Prosecutor (MEP) and the Climate Change and Sustainability Public Policy of Tlajomulco de Zúñiga for the 21<sup>st</sup> Century (ECCSTZ21).

### 1. Establishment of MEP

At a Council meeting in 2016, Alberto Uribe, Mayor of Tlajomulco, proposed to create an independent institution to supervise the enforcement of environmental laws and prosecution, along with the proposal to establish a new theoretic framework for environmental protection. As this idea was relatively new, there were not many lessons to learn from other cities. After the Council meeting, the Cabinet Coordination of Municipality convened 25 experts from 21 institutions for discussions. After 4 intense sessions, the new model for the management of environmental resources was developed, i.e. MEP and ECCSTZ21, an innovation in Tlajomulco's environmental management and public institutions.

ECCSTZ21 is a comprehensive public policy framework. The main purpose is to, through innovation in the government's management of environmental resources, encourage participation from public and private institutions alike as well as the general public in the whole process of environmental protection, including planning, construction, management, and evaluation. Besides, the policy framework also aims to make adjustments to the government departments and to create tools for performance assessment in the respect of environmental resources.

After the approval of the policy and relevant administrative changes, the new environmental protection framework was put into effect. Under this new framework, MEP is responsible for protecting the city's environmental resources, implementing the framework, and dealing with all complaints filed by public and private institutions and citizens about illegal environmental activities.

### 2. Selection Process of Prosecutor and Duties of MEP

The city government issued a call for candidacy on national media for the Prosecutor.

环境、气候变化及可持续性公共政策框架和地方环境检察机关，以此推动特拉霍穆尔科市在环境治理模式及公共部门体制上的创新。

21世纪环境、气候变化及可持续性公共政策框架是综合性很强的公共政策体系，旨在通过市政环境资源管理模式创新，推动特拉霍穆尔科市公共部门、私营机构以及全体市民参与环境保护规划、建设、管理和评价的全过程，并对地方政府组织架构进行调整，为地方环境资源制定绩效评估工具。

自市议会批准该项政策与相关行政改革后，在新的环境保护框架下，地方环境检察机关负责保护该市环境资源，实施新的地方环境监管框架，监测、检察并处理本市范围内市民及公共部门和私营机构等向当地政府提出的非法环境活动投诉。

## 2. 地方环境检察官遴选过程及机构职责

市政府在全国范围内的媒体上公布地方环境检察官（即地方环境检察机关负责人）的招聘启事。

该市地方环境检察机关的主要职责如下：

- （1）通过法律手段保护市政自然资源；
- （2）与各级联邦政府合作，处理各类环境保护案件；
- （3）对市政环境保护工作进行评估、监控、监督与审查；
- （4）从市政以及其他环保数据库中获取数据，对环境保护工作进行监督；
- （5）对噪音污染、辐射、大气污染、资源浪费等情况进行监控与评估；
- （6）组织各类活动对社会公众的环保意识进行教育与宣传；
- （7）与市政府相关部门的官员进行合作，对各类可能造成环境污染的私营经济活动进行监控；
- （8）接受社会各界对于环境污染行为的投诉，并对这些违反环境保护法行为进行调查与诉讼；
- （9）经市议会授权，地方环境监察机构有权起诉市政府的环境违法行为，并可协助市法庭对相关违法行为进行处理；
- （10）对环境保护法律法规监管之外的环境破坏行为，仍拥有调查权和诉讼权。





The responsibilities of MEP include:

- (1) protecting municipal environmental resources through legal actions;
- (2) collaborating with all levels of federal governments to deal with cases of environmental protection;
- (3) evaluating, monitoring, supervising, and reviewing the government's work in environmental protection;
- (4) obtaining data from municipal (or other) databases of environmental protection for the monitoring of environmental protection;
- (5) monitoring and assessing pollution, e.g. noise pollution, radiation, and air pollution, as well as waste of resources;
- (6) organizing various promotional activities to educate citizens in environmental protection;
- (7) cooperating with officials of relevant government departments to supervise economic activities of the private sector that may cause pollution;
- (8) receiving complaints of polluting activities and investigating and prosecuting such environmental crimes;
- (9) preserving the right, granted by the Council, to prosecute even the government, if guilty of violating environmental laws, and assisting the municipal court in dealing with such violations; and
- (10) preserving the right to investigate and prosecute any polluting activities even if they are not included in environmental laws and regulations.



## → 成效与挑战

### 1. 项目成效

从2016年设立至今，地方环境检察机关已经对几百起违反环境保护法的投诉案件进行了处理，其中，2016年有118起案件，2017年有450起案件。经调查后，地方环境检察机关已经受理了超过五成的案件，并对其中约1/5的涉及违法行为的案件进行了相应的处理。从上述数据可以看出，地方环境检察机关在成立短短一年多的时间里，便在环境保护监察方面取得了重要成效，为特拉霍穆尔科市的环境保护做出了积极的贡献。

### 2. 项目挑战

到目前为止，地方环境检察机关共有10名工作人员，包括1名检察官、2名处长、5名监督员、1名协调员、1名律师以及1名行政管理人员。由于地方环境检察机关需要对全市的环境保护工作进行监督，同时要对市民及各类机构提起违反环境保护法的大量投诉案件进行跟踪、调查与处理，因此在经费和人员配备方面存在明显的不足。除此之外，为保持地方环境检察机关的独立性，其办事处没有设在市政办公区域内，而是设在市政府附近的居民区，办公条件较为简陋。同时，由于仍处于成立初期，地方检察机关在环境保护监督、执法、诉讼等方面经验仍然不足，未来仍有相当大的改进和完善空间。

## → 项目创新

在地方政府层面，特拉霍穆尔科市是墨西哥首个设立独立环境检察机关的城市，在环境保护方面具有先导性的贡献，其地方检察机关在机构独立性、工作权责、检察选举等方面都有独创特点。





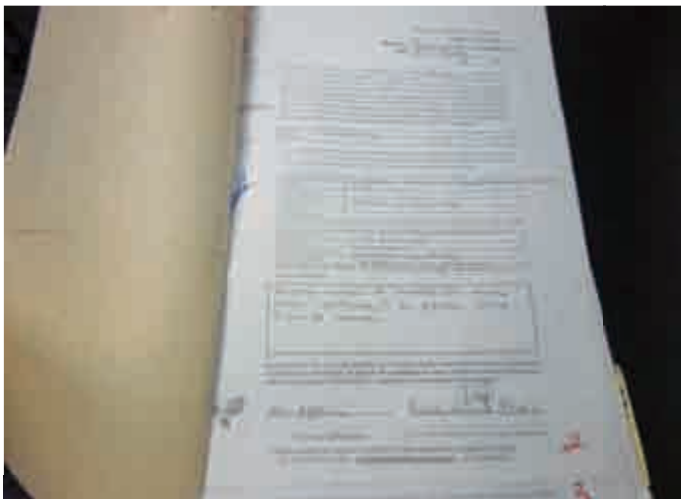
## ➔ Effect and Challenge

Since its establishment in 2016, MEP has received hundreds of complaint cases of violating environmental laws, including 118 cases in 2016 and 450 in 2017. More than 50% of the cases have been registered after investigation, and 20% of them solved. Seen from the statistics, MEP has achieved considerable results, in spite of its short time of operation, and contributed to the work of environmental protection in Tlajomulco.

MEP currently has 10 staff, i.e. a prosecutor, 2 directors, 5 monitors, a coordinator, a

MEP needs to monitor city-wide environmental protection and follow up, investigate, and deal with a large number of complaints of violation of environmental laws. Besides, to display its independence from the government, MEP set up its office in the residential area near the government instead of within it. Therefore, MEP's staff works in a very humble environment.

illegal environmental behaviors and enforcing environmental laws. There is still large room for improvement.



## ➔ 项目亮点

### 1. 首创地方环境检察机关

独立于政府的环境检察机关在少数地区也有实践，如哥斯达黎加和洪都拉斯，但这都属于中央政府层面的独立环境检察机关。

在市政地方层面，这种独立于市政的地方环境检察机关实践行为具有独创性，显示出了特拉霍穆尔科市对环境保护问题的重视，以及对环境治理的决心与对城市未来可持续发展的的高度重视。

除了在市政层面上运行之外，地方环境检察机关还负有对外责任，要维护和代表特拉霍穆尔科市在环境资源领域的利益。因此，地方环境检察机关有权在国家与国际层面上提起环境案件诉讼，利用其他层面的法律和行政资源，履行其保护、保存和恢复特拉霍穆尔科市环境资源的使命。

### 2. 地方环境检察机关工作职责的独立性

特拉霍穆尔科市地方环境检察机关最主要的创新和特色就是该机构的运行独立于市政府的各职能部门，并且对于市政府以及市长本人的违反环境保护法的行为具有监督权和诉讼权，对环保局的环境保护执法过程有监督权。同时，地方环境检察官任期为4年，而市政官员任期为3年，与市政官员的任期不同更能保持地方环境检察机关及检察官工作的独立性与自主性。

### 3. 地方环境检察官选拔过程的公开、透明

首先，特拉霍穆尔科市政府向全国范围公开地方环境检察官的招聘启事，应聘人员来自全国各地，而不仅是当地人才。其次，在检察官遴选过程中，特拉霍穆尔科市组建了专家委员会，成员皆是环保方面的权威专家，来自瓜达拉哈拉大学、莫雷洛斯州自治大学社会研究学院、墨西哥国立自治大学生态系统中心研究所及系统和可持续发展研究所、社会和人类学高级研习和研究中心、瓜达拉哈拉都市区理工大学、纳亚里特州自治大学、北美环境合作委员会、善待自然民间协会、保护后备森林资源民间协会、亲希蒂特兰州泻湖网络民间协会、特拉霍穆尔科市工商会等多个机构。专家委员会对应聘人员进行层层筛选，最终确定检察官候选人。

## ➔ Innovation of the Initiative

Tlajomulco is the first Mexican city to establish an independent environmental prosecuting institution at the local level. MEP is unique in its independence, responsibilities, and appointment of prosecutors.

## ➔ Highlight of the Initiative

### 1. Pioneering in the Setup of Local Environmental Prosecuting Office

Although there are such practices in the world, the rest only exist in national level in a few countries, e.g. Costa Rica and Honduras.

The independent MEP is unique at the local level. It is proof of Tlajomulco's emphasis and determination on environmental protection and governance as well as sustainable development.

Aside from its operation at the municipal level, MEP is also obligated to represent Tlajomulco's public interest in environmental resources. Thus, MEP is able to file environmental cases at national and international level, relying on laws or administrative resources at other levels to fulfill its mission of protecting, preserving, and recovering local environmental resources.





## 2. Independence of MEP

The major innovation of MEP is its independence from the city government and its various departments. MEP has the right to monitor environmental behaviors of the government and the mayor and prosecute illegal acts. MEP also monitors law enforcements by the environmental protection department. Besides, the difference in the term of Prosecutor (4 years) and that of municipal officials (3 years) further guarantees the independence of the MEP and the Prosecutor.

## 3. Open and Transparent Selection Process of Prosecutor

Firstly, the municipal government issued a national call for candidature. In this way, the pool of candidates is a national instead of local one. After that, a committee was then convened by the government to carry out the selection. The committee was made up of renowned experts in environmental protection from various institutions, including University of Guadalajara, Institute of Social Research of Autonomous University of Morelos State, Ecosystem Center Research and Systems and Sustainability Research Institute of National Autonomous University of Mexico, Center of Advanced Social and Anthropology Studies and Research, Polytechnic University of Guadalajara Metropolitan Zone, Autonomous University of Nayarit, Commission for the Environmental Cooperation of North America, Pro-Natura Civil Association, Save the Primavera Forest Civil Association, Pro Cajititlán Lagoon Network Civil Association, and Tlajomulco de Zúñiga Industrial Business Chamber. And the committee would decide on the final candidates for the Prosecutor after several rounds.

## 4. Advocacy by MEP for Active Civic Engagement in Environmental Monitoring

MEP sought for active citizen participation in monitoring environmental behaviors. Various channels were opened to residents wishing to make a complaint, including media, complaint hotline, online platform, and on-site complaint. After a complaint is lodged, MEP will carry out their investigation. Since the establishment of MEP, the number of complaints has been on dramatic rise: the number for the first two quarters of 2017 quadruples that of the whole year of 2016. In addition, the MEP's handling of complaint cases is in line with ISO 9000 standards. As a result, MEP starts to gain trust and authority among the public. On the other hand, citizens' involvement in environmental monitoring raised their awareness of environmental protection, which in turn prompts the operation of public environmental policies.

与治理同步进行的理念，非常值得广大发展中国家内快速城市化的城市学习和借鉴。也正因如此，阿尔贝托·乌里贝先生被誉为“墨西哥最绿色的市长”。

### （2）相对独立于市政府的环境检察职能

环境保护工作是一项基础工作，涉及到各行各业和市民的日常生活。不仅如此，作为政府环境保护部门，其执法的公平与公正也应受到一定监督，否则容易造成“公地悲剧”。独立于市政府的地方检察机关，其职能就是通过自身的独立自主性与跨部门的协作，确保环境保护监督职责的实施。

### （3）提升市民的环保意识、鼓励市民广泛参与环保工作

环保工作不仅仅是政府的职责，作为城市的居民，每个人都应当具有环境保护意识、肩负环保监督职责，特拉霍穆尔科市地方环境检察机关的设置为广大市民提供了一个通道，市民能直接向检察机关提起对违反环境保护法行为的投诉，能够提升广大市民的环保意识，激发市民参与环境保护活动的积极性，形成全民参与环保、全民参与监督、全民参与治理的社会氛围，这对一个城市可持续发展理念的实施至关重要。

## 2. 项目启示

特拉霍穆尔科市是一个刚刚开启城市化进程的城市，但该市市政府对城市环境保护与未来可持续发展有着重大决心，在环境保护方面做出了积极而富有独创性的实践，值得许多城市学习借鉴。





## ➔ Experience and Inspiration

### 1. Experience of the Initiative

#### (1) Equal Attention on Economic Growth and Environmental Governance

Tlajomulco is a small town situated in the mid-western part of Mexico. Although it has gained rapid economic development as well as large number of foreign investment and migrants, Tlajomulco is still at the early phase of urbanization and public services and facilities are lacking. However, Tlajomulco is committed to environmental protection and sustainable development and putting this determination into practices. During a news conference, Mayor Alberto Uribe, hailed as the greenest mayor in Mexico, announced to build Tlajomulco into a global sustainable city. This mindset of synchronized development with governance is worth learning for cities in the developing world that are going through fast urbanization.

#### (2) Environmental Monitoring Relatively Independent from City Government

The work of environmental protection is a fundamental one that involves all sectors of the society and has an influence over citizens' everyday life. The environmental protection department of the government must be monitored in certain degrees in terms of fairness and justice of their enforcing the laws; or else it will easily lead to tragedy of the commons. The duty of a local prosecuting institution, independent from the government, is to ensure the work of environmental protection is monitored through autonomy and cross-departmental collaboration.

#### (3) Raising Citizens' Awareness of Environmental Protection and Wide Participation

Environmental protection is not only the job of the government, but also of every single resident living in the city. Every citizen should be aware of it and shoulder the environmental responsibility. The establishment of MEP has offered people a direct channel to report violations of environmental laws to prosecuting institution. This is beneficial to increasing people's awareness and stimulates their enthusiasm for participating in relevant activities. In the long run, there can cultivate a culture of citizen-wide participation, monitoring, and governance in environmental protection, which is crucial to a city's sustainable development.

### 2. Inspiration of the Initiative

Though it is at its early stage of urbanization, Tlajomulco offers a valuable lesson in terms of its active and innovative approach to environmental protection and its determination in sustainable development.

## / 卡柳比亚（埃及）/ 综合社区固体垃圾管理

□ Azza Sirry / 埃及国家住房与建设中心

卡柳比亚是2016年第三届广州国际城市创新奖获奖地区。本次调研开展于2017年10月10日至11日。

城市垃圾是埃及的一个主要问题，在大开罗地区更是如此。大开罗地区产生了全国45%的城市垃圾。在过去20年里，埃及垃圾处理一直是由私营部门负责。研究表明，对于垃圾的处理，非正规垃圾运营者和负责处理垃圾的当地社区发挥着重要作用。同时，研究还建议应规范垃圾的回收利用过程。在城市和农村地区，垃圾的产生方式和家庭处理垃圾方式截然不同。在农村或半农村地区，家庭剩饭剩菜用作动物饲料；收割期后的垃圾制为燃料，剩余部分则自制堆肥，用做土壤肥料。农村产生的垃圾特别适合这样处理，因其主要成分为有机物。随着塑料袋引进，使用量增加，城乡产生的无机垃圾也带来许多问题。在城市，这个问题更为显著。

### ➔ 项目背景

扎巴里（阿拉伯文为Zabbaleen，意为拾荒者），居住在城市周边的几个地区，并负责这些地区特别是开罗地区的垃圾处理。开罗地区最大的垃圾处理区是曼史耶特纳瑟尔（Manshiat Naser）的莫卡塔姆（Mokattam），其他较大型的处理区还包括柯索斯



## / Qalyubeya (Egypt) /

# Integrated Community Based Solid Waste Management

□ Azza Sirry / Housing and Building National Research Center of Egypt

Qalyubeya was a winner of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during October 10<sup>th</sup> and 11<sup>th</sup>, 2017.

Municipal waste is a major problem in Egypt, and it is even more so in Greater Cairo Region, where 45% of the national municipal waste is generated. Over the last 2 decades, waste service in Egypt has been driven mainly by the private sector. Studies in this regard indicated the importance of the roles played by the informal waste operators and local communities in waste management and have recommended the formalization of informal waste collection and recycling process. Waste production and household practices are different between urban and rural areas. In rural or semi-rural areas, food from households is fed to animals. Post-harvest waste is converted into fuel, and the excesses are home-composted and used to condition the soil. The composition of waste generated in rural areas is particularly suited to such practices as it is mainly organic. Although the newly introduced plastic bags started to appear as waste of both urban and rural areas, causing problems, urban communities produce more nonorganic waste.

### ➔ Background of the Initiative

The waste collectors (“Zabbaleen” in Arabic) live and operate within several areas around cities, especially around Greater Cairo Region. The largest settlement in GCR is in Makkattam, Manshiat Naser, but there are others including Khosos and Barageel. The old practice of Zabbaleen or garbage collectors was to go door-to-door from the residents of Cairo for very low



charge. They used to sort the garbage and recycle about 80 % of the waste. They used the houses for sorting and raised pigs on the organic and some non-organic waste. The living situation for the Zabbaleen is poor. Some development initiatives had introduced locally made plastic crushers and cloth grinders to recycle waste. This tended gradually to change the Zabbaleen's role; they had previously acted more as sorters than recyclers. The scheme eventually involved the development of techniques to reclaim plastics, cloth, paper, aluminum, and tin. As a result, many of the original pig breeders found a new role in the micro-enterprise sector and sold their pigs to become recyclers. They are also faced with a challenge in 2009 when the Egyptian Agricultural Ministry ordered the culling of all pigs, in response to national fears over the possible spread of H1N1 influenza.

By 1990, the Cairo and Giza Governorates forbade waste collection in donkey carts and formalized the subcontracting of door-to-door waste collection. As a result, many Zabbaleen formed co-operatives to be able to buy pick-up trucks to continue their waste collection services.

The increased urban growth rate in Egypt has been coupled with growth of environmental problems. Some of them could be traced to the solid waste management (SWM), which became a challenge. Thus, in 1999, the national government launched a program to have a sustainable solution to solid waste through the privatization of SWM in 11 priority governorates by contracting international private sector operators. The government also adopted new legislation and means of enforcement. Studies and assessments have been given to the privatization trend, indicating its failure to resolve the problem and causing hardship on the Zabbaleen community. Consequently, many new initiatives have been put forward to revitalize the old Zabbaleen practice of recycling under the condition of reducing its negative effects.

The main objective of the initiative was improving the integrated SWM in Qalyubeya concentrating on the city of Khosoos, where garbage collectors live, and Khanka, where the main landfill is and the line of sorting was located. The initiative had 5 key objectives:

- (1) Developing integrated SWM strategy through the participation of all stakeholders;
- (2) Raising the awareness among key actors on challenges and potentials of solid waste and their roles and responsibilities;
- (3) Building capacity of stakeholders;
- (4) Improving the living conditions of informal waste collectors and recyclers;
- (5) Creating a sustainable structure for SWM that includes recycling.

执法措施。研究表明，固体垃圾处理权私有化并不能解决问题，反倒让拾荒者的生活陷入窘境。后来人们提出许多新倡议，建议在减少负面影响的条件下，重新采取拾荒者循环利用固体垃圾的做法。

“基于社区的综合固体垃圾管理项目”的主要目标是改进卡柳比亚省固体垃圾的综合处理方式，项目地为柯苏斯（Khosos）和坎卡（Khanka），前者是垃圾收集者的聚居地，后者是卡柳比亚主要垃圾填埋场和垃圾分拣线的所在地。该项目的5个主要目标如下：

- （1）通过所有利益相关方的参与，制定综合的固体垃圾处理战略；
- （2）让主要的项目执行者明晰应对固体垃圾处理问题的挑战与机遇，明白各自所肩负的责任；
- （3）加强对利益相关方的能力建设；
- （4）努力改善非正规垃圾收集者和回收者的生活条件；
- （5）创建一个可持续的固体垃圾处理体系，包括回收利用。

## → 项目实施

项目团队首先与固体垃圾收集社区和回收社区会面，试图制定这一计划。随后，由56名成员组成的7个社区委员会成立，逾1000名公民参与了委员会举办的活动。同时，委员会还举行了会议并开展相关宣传活动。宣传的目标群体是社区和当地员工，因此，活动须与群众建立紧密联系，充分考虑每个人的需求。该活动通过一些宣传材料和培训以增强人们的意识，参与者包括教师、学生和市议会工作人员等。

固体垃圾随处可见，街道脏乱，清洁部门的街道清洁工作不尽人意等问题在会议期间着重提出，急需解决。虽与相关公司签订合同，但执行过程监管不力。德国国际合作机构（GIZ）对固体垃圾管理系统与体制性缺陷进行了研究，研究结果建议引入地理信息系统与其他新型技术以加强固体垃圾管理相关的合同管理。通过开展会议，项目团队与利益相关方、社区、妇女和青年共商对策，在原项目目标的基础上又制定了新目标，开展了新项目，致力于提升人们意识、改善生活条件、推动基于微型回收的创收计划和健康倡议。得益于慷慨捐赠，项目团队又推动实施了5个项目和一些更小型的项目，由此加快改造升级柯苏斯市的步伐，提高固体垃圾收集者社区的效率。为实施该项目，首先进行了基准调





### ➔ Implementation of the Initiative

The project started with meeting the community of solid waste collection and recycling local community and tried to formulate the initiative. Seven community committees constituted by 56 members were established, whose events were attended by more than 1,000 participants. Meetings were held and campaigns were conducted. The campaigns targeted at the community and local staff; thus, relations were built and everyone's needs were included. The campaigns, which used material that sought to raise awareness and provided training for people, were participated by teachers, students, and city council staff.

Scattered solid waste, dirty streets, and the incapability of cleansing department to clean streets were main issues discussed at the meeting. Despite contracts with companies, the monitoring was weak. The SWM systems and institutional deficiencies were studied by PDP/GIZ. The study proposed the introduction of GIS along with other new technologies to better



manage the SWM contracts. The project started with some set objectives. Later, through the meetings with stakeholders, community, women, and youth, other objectives were set and other programs were launched such as raising awareness and improving the living conditions, micro-scale recycling-based income generation initiative, and health initiative. The flexibility of donor enabled the introduction of 5 more programs and smaller initiatives that were integrated with the original one, so the transformation of Khosoos and the community of solid waste collectors became more effective. To start the project, a baseline study was conducted and problems were identified by participatory methods.

After several meetings with all actors of the governorate, Khanka, Khosoos, and informal waste collectors reached an agreement. An integrated strategy was formulated, identifying roles and responsibilities of each actor. The integrated approach included:

(1) Create new private companies – changing from informal collectors to formalized collectors.

(2) Establish 2 SWM units in Khanka and Khosoos. The staff received training in downloading Google maps and GIS. The staff were also trained on monitoring performance of waste operators through tracking the waste collectors' size with special devices, and tracking the collection cars with GPS devices placed on cars. The staff now monitor the work of collectors from 11 city sectors, among which 9 contracted to formalized private sectors and NGOs and 2 collected by the cleaning department of the city.

(3) Produce RDF material as an alternative energy through Integrated Resource Recycling Center (IRRC) facility or through small-scale manual sorting of the private sector in order to reduce the amount of waste going to landfill and produce energy.

(4) Improve the life standard of solid waste collectors by creating new jobs, investing in startups, giving them tricycles, or formalizing the informal business.

(5) Build awareness from young age through campaigns in schools, offering training for teachers and environmental summer camps, and providing resource separation containers. The teachers were trained on how some recycled material, especially recycled paper, can be reused for art activities.

(6) The IRRC facility started using existing separation line (set in 2009 but was never used) and added a new one. The facility separated paper, plastics, and biodegradable waste, which were used as fuel for many industries. Cement was mainly used to separate and produce bio nutrients/organic compost. It had never been used before, and the initiative decided to adopt and upgrade this line and add another one to produce RDF as energy.

The second line was tendered and Econ, an Egyptian local company, won the bid. It

主要用于分离和提取生物营养素或有机堆肥，在此之前，未有人使用过这一方案。本项目决定使用并升级该分离线，同时增加一条分离线以生产垃圾衍生燃料。

新增分离线的运作工作对外招标，埃及本地公司艾康（Econ）中标。它使用当地的技术。综合性资源回收中心由地循环公司（Geocycle）管理，受坎卡当地行政协调委员会的监督。卡柳比亚每天生产4000吨固体垃圾，其中200—400吨由综合性资源回收中心进行处理。建筑垃圾运往填埋场，家庭垃圾则运往综合性资源回收中心。该项目从2010年开始，于2014年结束，德国国际合作机构也参与其中。综合性资源回收中心包括以下工作流程：

- （1）汽车进入时称重
- （2）将垃圾放在传送带上
- （3）自动与手动相结合分离垃圾
- （4）含有机成分的垃圾提取其有用部分
- （5）纸类或其他材料脱水后用作燃料
- （6）这些机器于阿拉伯工业部门设计和制造。

柯苏斯垃圾收集社区距离坎卡填埋场及综合性资源回收中心有一段距离，而位于柯苏斯的转运站成功解决了这一问题。垃圾收集承包商将街道垃圾和家庭垃圾运往转运站，随后，更大型的车辆会把垃圾再转运到坎卡。这样一来，承包商一天可以进行多次垃圾收集，街道变得更干净。该转运站为承包商减少了50%的垃圾收集路程。

## → 成效与挑战

### 1. 项目成效

该项目成功改善柯苏斯市的环境，提高人们的居住水平，减少固体垃圾污染的问题，同时在保留现有工作岗位的前提下创造了新的工作。

柯苏斯市每天至少实行两班轮班，处理垃圾。现在，街道变得更干净了，垃圾堆集点也从400个减少到了40个。



used local technologies. The IRRC Facility is managed by Geocycle under the supervision of coordination committee from local administration on Khanka. Qalyubeya produces 4000 tons of

process took place:

- (1) Car entering weighting
- (2) Waste put on belt
- (3) Waste is separated through automatic and manual selection
- (4) The part containing organic material go to produce nutrients
- (5) The paper and other material is dried and goes to be RDF
- (6) The machines were designed and manufactured in Arab industries agency.

The transfer station in Khosoos was a solution to the problem of distance between Khosoos

from streets or houses transfer it to the transfer station; then bigger vehicles transfer it to Khanka. This way contractor vehicles can make more than one round a day and streets are cleaner. This station reduces the collection tour by 50%.

## ➔ Effect and Challenge

The project has improved the environment of Khosoos city, raised the living conditions of local residents, alleviated the problem of solid waste, and created new jobs without affecting the





## 2. 项目挑战

### （1）收集和运输

在垃圾收集之前，先将固体垃圾堆积在街道的特定角落。但回收公司抱怨道，堆积起来的垃圾如果不及时收集，很快便会被弄散、四处都是垃圾，这无疑加大了他们的工作量。

而且，仍然有人用老办法对垃圾进行收集、分类、扩散和转售。例如，家庭垃圾是综合性资源回收中心最需要的一种垃圾，但家庭垃圾回收者却习惯把垃圾分类后售往一些工厂。综合性资源回收中心并不能对这些家庭垃圾回收者处以罚款，也没有奖励或惩罚措施促使他们将未经分类的家庭垃圾运往综合性资源回收中心进行处理。

过长的运输线路也是一大挑战。从柯苏斯的转运站到坎卡的综合性资源回收中心和土地填埋场需要很长时间，以致由项目提供的新车都需要做保养，尤其是花费高昂的新型轮胎，更须保养，是一笔不小的支出。但该问题可以通过提高转运站的容量或在转运站内增设垃圾回收部来解决。

垃圾收集的困难也导致了垃圾处理设施能力过剩。现在，综合性资源回收中心的设施容量大于垃圾总量。起初，综合性资源回收中心两条工作线每周工作7天，每天24小时。如今，每周仅工作6天，每天12小时。由于分离带可持续运转的能力不足，部分已停止运行。

### （2）监督和管理

许多垃圾运输车辆和拾荒者不愿意前往综合性资源回收中心处理垃圾，而是选择垃圾填埋场。但是，只要运输的垃圾符合衍生燃料标准，综合性资源回收中心便无法强制要求他们前往中心进行垃圾处理。

过去，运用传统的“针对性场地监管”方式，对垃圾倾倒场的运输车辆及收集的垃圾进行监管，但这种监管方式已无法适应新需求。监督人员必须使用新设备来检测固体垃圾是否完全清除。如果固体垃圾未清理干净，则违约者或承包人将被处以罚款，监督人员可获罚款的5%。

### （3）研究分析

到目前为止，市政府对家庭垃圾类型和数量的调查极为欠缺，比如不同的住宅区或家庭成员数量是否对垃圾类型和数量有影响。关于对垃圾进行源头分类或在转运站附近进行垃圾分类是否会影响从街道收集的固体垃圾总量，也没有进行调查研究，因此无法证明从





current ones.

For Khosoos city, at least two shifts and daily coverage of the whole city are arranged. Thus, the streets are cleaner now, and the number of garbage sites are reduced from 400 to 40.

## 2. Challenge of the Initiative

### (1) Challenge of Waste Collection and Transportation

Before collection, streets solid waste and litter is accumulated at particular corners. This leads to complaints sometimes by companies that the waste will be scattered again by people if it is not collected in time, meaning additional work for them.

It is also remarked that some waste is still collected, sorted, diffused, and resold in the old manner. The collection of household waste is one example, as collectors of household waste, which is the main waste needed for IRRC facility, tend to sell the waste after sorting. Thus, the waste will go to certain industry. There are no penalties or incentives for home garbage collectors to go to the IRRC facility with unsorted garbage.

Long routes is another problem. It takes a long time and distance to travel from the transfer station in Khosoos to Khanka IRRC facility and landfill. The long routes made more frequent the maintenance of even the new cars given by the initiative, especially the new expensive tires. This challenge may be solved through raising the capacity of the transfer station or adding recycling parts in it.

The challenge of waste collection also poses the problem of over-capacity. The capacity of IRRC facility is bigger than the amount of waste received. The facility started by having two lines working 24x7. Now the working hours have been reduced to 12x6, and some parts of the line have been stopped as it gets gamed.

### (2) Challenges of Management and Supervision

Furthermore, there are a large number of vehicles and waste collecting entities, some of which refuse to go to IRRC facility and go to landfill instead. The recycling company have no say or cannot force the driver to go to IRRC Facility if what he is carrying in the car is fit for RDF.

In terms of supervision, the traditional method of "Personalized Site Supervision" of cars and collection from waste dumping sites can no longer satisfy management demands. The supervisors have to use new equipment to measure the total removal (or not) of the solid waste at the sites. If not, the defaulters/contractors are given a fine, of which the supervisor gets 5%.

源头就进行分类的做法是否切实有效。

成本与收益分析也不足。成本可从两个方面进行计算，即建设项目启动和设备使用等初始成本以及从街道上清理每吨垃圾等运营成本。另外，必须将出售垃圾衍生燃料带来的利益计入其中，不仅包括金钱等有形收益，还包括减少环境污染等无形收益。

#### （4）资金

城市财政资源不足以支撑城市街道垃圾的收集、政府车辆（GIZ购买）的维护、GPS设备的保养等。此外，柯苏斯转运站与3辆卡车和10个集装箱也一起交由市政府来管理。因此，该市可能需要向卡柳比亚省政府申请资金，向国家政府申请补贴，或者向居民收取垃圾处理费。

#### （5）工作条件

正规私营垃圾收集公司的员工工作条件或许也是一个问题。在此次调研中，没有了解到是否有为员工提供定期体检。此外，该项目也没有针对破伤风或乙肝等疾病的疫苗接种计划。

当垃圾收集者工作时，他们也缺乏专用设备。他们没有扫帚和簸箕，在清扫街道后，还须用手从地面捡起垃圾。他们也没有防菌口罩。设备的缺乏可能会影响垃圾收集者的身体健康。

## ➔ 项目创新

卡柳比亚以社区为基础的固体垃圾综合管理是一项整合了几个当地单位的项目。在整个项目过程中，它分成了几个较小的项目。德国国际合作机构在柯苏斯市进行了一项需求评估分析，指出该市急需清洁街道，以保障市民的身体健康。通过不同利益相关方间的协调与合作，项目成功克服了几个瓶颈。该项目的创新之处在于以下几点：

1. 这是一项公私合作的项目。起初与拉法基公司（Lafarge）以及综合性资源回收中心合作，后来又与私营垃圾收集商合作。
2. 召集垃圾收集者加入新创立的公司。利用新技术监督垃圾处理过程。
3. 柯苏斯的公共垃圾收集和转运站的设计采用了一种特定的方法，即在垃圾收集的过程中先不分类，将其运送到特定工厂后才进行分类，最后制成垃圾衍生燃料。



### (3) Challenge of Studies and Analysis

The city has not done enough surveys to collect data on types and amount of household waste, say, in comparison to housing units or number of family members. And there has been no study of the effect of source segregation of waste or near the transfer station as a comparison to total solid waste collected from streets. Thus, the city cannot provide indication of whether source segregation could be more efficient.

Neither has there been enough cost and benefit analysis. The costs can be calculated by the finance given on starting the initiative for construction and equipment as well as the running costs, i.e. the cost for each ton of waste removed from streets. This has to be studied against the benefit from selling the RDF and reducing environmental hazard (intangibles).

### (4) Challenge of Finance

City financial resources are insufficient for financing collection from streets, maintenance of government vehicles (bought by GIZ) as well as GPS equipment, and so on. Besides, the transfer station in Khosoos has been handed, along with 3 trucks and 10 containers, down to the city to manage. So, the city might have to ask Qalyubeya Governorate for funds or take fees from housing units and/or national subsidy.

### (5) Challenge of Working Conditions

The working conditions for workers in the private waste collection companies (formalized ones) might be a challenge. It is unclear during this tour whether there are fixed/regular health check-ups. And there is no special vaccination program, for instance, for tetanus and hepatitis AB.

While they work, the waste collectors lack special equipment such as brooms or dustpans for removing solid waste without picking it up from the ground, after cleaning the streets. Also, no masks are given to them.

## ➔ Innovation of the Initiative

The integrated community-based SWM in Qalyubeya is a waste initiative that integrated several local units, mainly Khanka and Khosoos. It incorporated several smaller initiatives as the project developed. A necessity assessment conducted by GIZ/PDP in Khosoos city indicated the needs for cleaning the streets and health intervention. It has overcome several bottlenecks through collaboration of different stakeholders. The initiative is considered innovative due to the following:



1. It is a public-private participation initiative with Lafarge contract, IRRC Facility, and later private-sector waste collectors.
2. The process of tendering waste collection to newly created companies of informal waste collectors. Negotiations with municipality and changing of set areas according to more accurate data of houses until the signing and implementation of contract, the supervision using new technologies is innovative.
3. The Khosoos public waste collection and intermediate stations have been designed in a specific method, wherein the waste is collected without sorting then transported to plants where it is sorted and turned into RDF.
4. Technologies of the IRRC facility and machines of the plants were manufactured in Egypt. Some filtering technologies were added in accordance with the collected unsorted waste.
5. The cooperation between government entities and private companies helped create the know-how in the city, and hopefully it can be replicated around the country.
6. The solid waste that used to be dumped in streets as it has no recyclable value is now seen by collectors as of value to be used as RDF
7. The process in IRRC is semi-automatic, while many other parts of the whole process are not, thus creating jobs.
8. Auto supervision of vehicle observation (vehicles are equipped with on-board GPS, and other facilities).

## ➔ Highlight of the Initiative

The integrated community based SWM in Qalyubeya is an initiative that adopted an integrated approach that focused on waste recycling, resource recovery, awareness raising, capacity building with regard to environmentally sound methods of managing waste, providing medical service, and providing income-generating activities, and improving the living conditions of garbage collectors. The solid waste of east Cairo is collected and handled by Khosoos along with its own solid waste. The city was divided into 6 sectors. The initiative started by formalizing 3 companies and an NGO in the city. Now it has been re-divided into 11 sectors, among which 9 are contracted and 2 are serviced by the city cleaning department.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

The lessons learned from the experience of the initiative are (1) taking into account the

## → 经验与启示

### 1. 项目经验

从该项目中获得的经验如下：第一，考虑当地拾荒者的历史背景和垃圾收集的私有化趋势；第二，对垃圾处理完全私有化的趋势进行评估；第三，为拾荒者提供培训以及技术帮助，在此之后与其签订合同。

该项目优缺点共存，有些问题还需要进一步解决，以促进项目的未来发展及在其他城市的应用。

#### （1）优势

向固体垃圾收集者普及固体垃圾的新用途，使其了解固体垃圾可用作衍生燃料，为固体垃圾收集创造了新市场。很多收集者与拉法基公司签约，为其提供固体垃圾，以制造衍生燃料。

将街道清洁、垃圾回收以及改善居民生活质量三者相结合，不但减少了街道上的垃圾，也减少了填埋的垃圾量，还增加了填埋时间；

将固体垃圾收集者的工作正规化；

为柯苏斯市创造了更多固体垃圾处理领域工作岗位；

为当地政府人员引进新的监察方法。

#### （2）劣势

地方政府的财政负担有：向承包商支付的费用、转运站和汽车的运营和维护费用、垃圾填埋场的管理费用。但该项目没有任何内部资金来源或成本回收。柯苏斯的地方政府现在要向9个区的承包商支付费用。目前还没有针对持续的资金支持问题进行研究，尚不清楚是否需要向当地居民、企业甚至是固体垃圾收集者收取费用。

综合性资源回收中心设施持续满负荷工作的能力存疑。也正因如此，综合性资源回收中心的经理减少了设备的运作时间，有时甚至会关闭其中一条分离带。

综合性资源回收中心没有为当地提供能力建设，也没有使用当地人力资源。另外，地循环公司对于由艾康公司开发的技术一无所知，尤其是对垃圾分离线做的技术调整，德国国际合作机构也不清楚这些技术调整。

新增加的GPS设备使得司机的行程全程受监控，他们提出投诉，表示不满，有些人甚





historical background of private Zabbaleen practices and privatization trend of waste collection; (2) the evaluation of complete privatization trend; and (3) the need for using PPP contracts with the original Zabbaleen after training and offering them administrative and technical help.

The lessons learned from the initiative include some advantages along with some disadvantages, or critical issues that need to be addressed for future development and transfer of the project to other cities.

#### (1) Advantages

The introduction of new use of solid waste, i.e. RDF, to solid waste collectors, which creates a market for it – now many collectors get contracted from Lafarge to get RDF.

Integrating streets cleaning with recycling and better quality of life of residence: reducing the waste in streets and reducing the waste going to landfill and thus increasing the time of landfill;

Formalization of informal practices of solid waste collectors;

Creating new jobs in solid waste in Khosoos city;

Introducing new monitoring methods to local government staff .

#### (2) Disadvantages

The financial burden on local administration of paying the solid waste contractors for collection and of financing the operation and maintenance of the transfer station and cars as well as the management of the landfill without any source of internal finance or cost recovery. The local government of Khosoos is paying contractors in 9 sectors to collect solid waste. There is no study conducted on sustainability of funds available for that or whether there is need to collect extra charges from residents, business, and even solid waste collectors in the area.

This study tour leaves an impression that the sustainability of the IRRC facility working at full capacity is at risk. The IRRC facility has reduced the number of working hours and days and even uses one line of separation some days.



至试图破坏该设备。项目需要想办法让司机了解该设备的重要性。

没有研究用作衍生燃料的回收垃圾对市场产生的影响。也不清楚固体垃圾的这一新用途是否影响了运往填埋场的固体垃圾量。

升级综合性资源回收中心的设备或增加线路、维修车辆的费用问题，以及垃圾填埋与转运垃圾过程中产生的额外费用该如何处理。

没有鼓励措施，无法促使垃圾的生产和丢弃者——市民、固体垃圾收集者、单位采取“减少、再利用、回收”的固体垃圾处理原则。

## 2. 项目启示

与负责固体垃圾收集、运输、分类和处理的实体进行协调合作，对政府部门而言至始至终都必不可少。

该地有小学和预科学校，该项目选择了预备学校作为宣传对象，尤其注重对女生的宣传。这是因为预科学校的学生年纪更大，能更快理解项目理念，并将环保意识扩散到家庭中，而且女生在这一方面的成效更为明显。老师教导学生要对物品进行回收，并教会他们如何利用回收物，尤其是如何利用回收废纸。在学校篱笆外的三个垃圾回收箱由学生上色，目前还可以使用。

卡柳比亚省固体废弃物综合管理项目专为柯苏斯打造，但对于其他仍在依靠非正规垃圾回收者手动进行固体垃圾回收的地区，该项目同样适用。尽管柯苏斯市的情况不同于其他城市，但融合参与的理念与策略四海皆通。这些项目是由省长莫罕穆德·阿布戴尔·扎赫尔（Mohamed Abdel Zaher）发起的，他是一位非常活跃政府领导人。但受省长变动影响，新上任的省长对该项目不感兴趣，这项项目失去了政府的支持。可见获得政治支持对项目开展而言最为重要。



The initiative did not try to build local capacity at the IRRRC facility or use local human resources. Also, the expertise, particularly in technical changes in sorting lines, was developed by Econ, and the changes was neither clear to Geocycle nor to PDP/GIZ.

Complaints and dissatisfaction of drivers with new added GPS equipment, which made all routes they take and timing monitored. Some even tried to sabotage the equipment. Thus, there might need some work to raise their awareness.

No studies on the effect of recycled material used for RDF on market before and after the project. Has the knowledge about it affected the material going to landfill?

What about the money needed to upgrade the IRRRC facility or add lines and maintain the vehicle fleet from the transfer station to IRRRC facility and landfill or? And for landfill, is extra investments required?

No incentive for the citizens, solid waste collectors, or any entities—the producer and discharger of solid waste in the street—to adopt the 3Rs strategy toward solid waste, that is, reduce, reuse, and recycle.

## 2. Inspiration of the Initiative

Building cooperation and coordination between government departments and entities responsible for solid waste collection, transportation, sorting, and disposal is a must from the start.

Although there were primary and preparatory schools in the area, the initiative targeted preparatory school students, especially girls. The reason is that they, with an older age, have a deeper understanding and help spread the awareness at home. And girls are more effective in this regard. Teachers also received capacity-building training of recycling and what to do with the material, especially paper. Drawn on school outer fence colored by students, 3 recycle bins set in school and is still working.

The Qalyubeya Integrated Solid Waste Initiative has been designed in specific method tailored to Khosoos SWM community and its proximity to landfill in Khanka, but it can be easily tailored to other setting in Egypt and other countries that rely on manual solid waste collection and recycling as well as informal collectors. While acknowledging the local context of Khosoos city is different from other cities, the concepts and strategies, in particular of integration and participation, are universal. The project was started by an active governor Mr. Mohamed Abdel Zaher and was later affected by change of governors. The successors were not so interested, and the initiative lost political backing. Therefore, building the political support is the most important.

## / 义乌（中国） /

# 从交易市场到创客空间

□ Belinda Yuen / 李光耀创新型城市中心

义乌是2016年第三届广州国际城市创新奖组委会特别推荐城市。本次调研开展于2017年7月26日至27日。

义乌位于中国浙江省，距离上海约300千米，是一个生产、储存和再出口的城市，专门生产小商品，如珠宝、饰品、玩具、家电等。2013年，全球超过60%的圣诞饰品来自义乌。

几个世纪以来，义乌在中国的创业和贸易发展中扮演着重要角色，一如“鸡毛换糖”这一当地民间故事所记述的。据说，义乌人会去到周边的乡村，用他们当地的红糖换取鸡毛，然后把鸡毛用作肥料，或者做成鸡毛掸子出口。据历史记载，义乌最早的批发市场可以追溯到18世纪。

近几十年来，义乌已成为中国拥有首批自由贸易市场的城市之一。1995年义乌被评为浙江省唯一的全国综合改革试点县（市）。到了2004和2005年，义乌的商品中心和市场被联合国、世界银行和摩根士丹利评为“最受国内外大众喜欢的中国城市”和“全球最大的小商品批发市场”。2011年，义乌被批准为中国国际贸易改革试点城市。

随着国际贸易的发展，义乌也渐趋国际化。火车站的标志有中文、英文和阿拉伯文。在义乌各处，如宾王商贸区，还可以看到许多土耳其餐馆、阿拉伯餐馆以及其他外国菜餐馆。在过去的17年里，包括外国游客和居民在内的人口增长了240%。



## / Yiwu(China) /

# From Marketplace to Makerspace

□ Belinda Yuen / Lee Kuan Yew Centre for Innovative Cities

Yiwu was a city of special mention of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during July 26<sup>th</sup> and 27<sup>th</sup>, 2017.

Yiwu, located some 300 kilometers from Shanghai in Zhejiang Province, China, is a city for production, storage and re-export, specialising in small commodities (e.g. jewellery, decorative items, toys, household appliances). Over 60% of the world's Christmas decorative items in 2013 are estimated to have come from Yiwu.

For centuries, Yiwu has featured heavily in China's entrepreneurship and trade development as recounted through the local folklore on "sugar-for-chicken feathers". As the story goes, Yiwu men would travel to surrounding rural villages to exchange their local brown sugar candies for chicken feathers, which they could then use as fertilizer or made into feather dusters for export. According to historical records, its earliest wholesale markets can be traced to the 1700s.

In recent decades, Yiwu has become one of the first free marketplaces in China. In 1995, it is listed as Zhejiang's sole city in China's experimental counties/cities of comprehensive reform. By 2004 to 2005, Yiwu's commodities centres/markets are ranked among the most favourite Chinese cities of domestic and foreign public and the largest small commodity wholesale market in the world by the United Nations, the World Bank and Morgan Stanley. In 2011, Yiwu is approved as the pilot city for international trade reform in China.

The growth of international trade has triggered a progressive internationalisation of Yiwu. Signs at the train station are in Chinese, English and Arabic. Restaurants of many different nationalities, e.g. Turkish, Arab can be seen around the city (e.g. in Binwang business zone). Its population including foreign visitors and residents has increased 240% over the last 17 years.





## ➔ 项目背景

目前，义乌人口约200万，土地面积达1105平方千米。每年有50多万外商前来义乌，来自中东和非洲的人越来越多。据《海湾新闻》2011年报道，每年约有20万阿拉伯批发商到访义乌。义乌有来自100多个国家的1.5万名外籍居民，大多从事进出口贸易，无论是相对意义还是绝对意义，这一数字都在浙江省首位。

但是，随着国际交往和商业交易日益增长，外商和本地贸易伙伴之间的贸易纠纷也随之而来。虽然贸易纠纷突增可以作为国际贸易新发展的一项指标，但事实证明，贸易纠纷会带来不良的名声，并且在某些情况下，与私人贸易相关的问题可能会上升为国家之间的国际贸易冲突。

相反，迅速解决贸易纠纷可以增强外商的信心，提高外国顾客的信任度，确保友好的营商环境。尽早解决贸易纠纷符合城市的利益。





## ➔ Background of the Initiative

Today, Yiwu is a city of about 2 million people with a land area of 1,105 km<sup>2</sup>. More than 500,000 foreign business people visit Yiwu every year. A growing number of people are from the Middle East and Africa. According to Gulf News General 2011, some 200,000 Arab wholesalers visit Yiwu every year. Yiwu has 15,000 foreign residents from more than 100 countries, mostly working in the import and export businesses. This population is the largest, both in relative and absolute numbers, in Zhejiang Province.

But, the growing number of international connections and business transactions also brings trade disputes between foreign and local trading partners. While a rapid rise in trade disputes may be an indicator of the new development in international commerce, it has been borne out in practice that trade disputes can bring bad publicity and in some cases, initially private trade-related problem is elevated to a state-to-state international trade conflict.

Conversely, the endeavour for prompt trade dispute resolution can develop the confidence of foreign businessmen and improve the level of trust of foreign buyers, ensuring a business-friendly environment. It is in the interest of cities to resolve trade disputes sooner, rather than later.

## ➔ Implementation of the Initiative

### 1. The Process and Power of Mediation

Yiwu's experience with trade dispute resolution provides an interesting perspective. Beyond the traditional civil justice dispute resolution process of litigation and trial, which can often take a long time, the Yiwu Bureau of Justice in May 2013 piloted the first-of-its-kind mediation process in China in its determination to expeditiously resolve foreign-related trade disputes.

The process involves the establishment of the Yiwu People's Mediation Committee for Foreign-related Disputes (PMCFD) under the Bureau of Justice. A distinctive feature of this Committee is its use of volunteer resident/partially resident foreigners doing business in Yiwu as mediators to reduce trade disputes. This is a revolutionary concept in the application of the rule of law in China.

From an original 3, the number of foreign mediators has quickly expanded to 11 by April 2014 and to 22 from 18 countries by 2017. The appointed foreign mediators are skillful and well-regarded business people who have lived in Yiwu for more than 10 years. They speak at least 3

## → 项目实施

### 1. 调解过程和效果

义乌的贸易纠纷解决经验提供了一个引人注意的视角。传统的诉讼、审判等解决民事纠纷的司法程序十分耗时，义乌市司法局决心加快解决涉外贸易纠纷，于2013年5月，试行中国首个涉外贸易纠纷调解程序。

这一过程包括在司法局下成立义乌市涉外纠纷人民调解委员会（简称“外调委”）。外调委的一个独特之处是它让定居或半定居义乌的外商担任志愿调解员来减少贸易纠纷。这是中国法治应用中的一个革命性理念。

2014年4月，外籍调解员从最初的3名增加到11名，到了2017年，增加到18个国家122人。任命的外籍调解员都是在义乌生活了10多年的商人，技能熟练、德高望重。他们会说至少三种语言，包括汉语（有人甚至会讲义乌方言），熟悉中国和中国文化，另外很重要的一点是，他们做正经生意，诚信经营。

除了外国调解员外，外调委还有37名中国调解员，由法官、检察官、律师和贸易专家组成。在整个调解过程中，外调委与义乌市人民检察院和义乌市人民法院密切合作，聘请义乌市人民法院三名法官担任调解员的导师和顾问，让整个调解过程更可靠、更可信。

调解员任期满1年即重新选举，重新任命，而新调解员可根据自我推荐、同行推荐、面试和评估被纳入。调解员由22名外国成员组成，尽可能与调解当事人的文化、语言和贸易背景相协调。在调解过程中，与当事人来自同一国家的调解员是首选。如果不能达到国籍匹配，与当事人同一语种的调解员将受邀参与调解。除调解外，调解员还被要求跟踪结果执行情况，并协助宣传法律法规。

义乌市司法局除了对调解员进行个人审查外，还会每年对外调委的行动进行评估，以确保调解过程和结果符合法律规定。如有必要，司法局还会提出进一步的措施和准则加以改进和标准化。

义乌项目的成功源于以下方面的效力：

(1) 简化流程——与复杂的传统司法手段相比，调解过程相对简单。它涉及提出申诉申请和听证会，申诉申请陈述当事人和争议性质，听证会通常在随后一周或两周内安排。

(2) 节省时间——传统司法手段需要很长时间（1个月或以上），而整个调解过程只需



languages including Chinese (some can even speak Yiwu dialect), are familiar with China and Chinese culture, and importantly, operate respected businesses with a high degree of integrity.

Besides the foreign mediators, there are 37 Chinese mediators, comprising judges, public prosecutors, lawyers and trade specialists. The PMCFD works closely with Yiwu People's (public) Prosecutor and Yiwu's People Court throughout the mediation process. It employs 3 judges from Yiwu People's Court as instructors and mentors to the mediators. Their presence adds credibility and trust to the mediation process.

Mediators are re-elected and re-appointed for a term of 1 year while new mediators are inducted based on self-recommendation, peer recommendation, interviews and evaluation. Comprising 22 foreign members, as far as possible, the mediators are matched with the cultural, linguistic and trade background of the affected parties in the mediation panel. Mediators from the same country with the affected parties will be the first choices in the mediation process. If match of nationalities cannot be achieved, mediators that speak the same language will be invited to join in the mediation. In addition to mediation, mediators are asked to follow up on the implementation of the results and assist in the publicity of laws and regulations.

Aside from individual mediator review, the Yiwu Bureau of Justice would evaluate the actions of PMCFD on an annual basis to ensure that the processes and outcomes of the mediation cases are in compliance with the law. Where necessary, further measures and guidelines are suggested for improvement and standardisation.

Its success may be traced to several efficiencies:

(1) Simplified Process—compared to the traditional recourse to legal justice, which procedure is complex, the mediation process is relatively simple. It involves the lodge of complaint application (stating the parties and nature of dispute), and a hearing is then scheduled, usually within 1 or 2 weeks.

(2) Time Saving—while the traditional recourse to legal justice can take a long time (1 or more months), the entire mediation process takes 10 working days, (technically usually 1 or 2 weeks) and sometimes 2 to 3 days.

(3) Cost Saving—the foreign mediators who make up the mediation panels are not only culturally and linguistically sensitive but also have deep knowledge and familiarity with their business and trade practices. They together with the legal service come at no cost to the affected parties as part of the mediation process. From the viewpoint of the city, mediation offers a less costly route of dispute resolution than going to court.

(4) Communication and Outreach—another benefit stems from the novel notion of the mediator's 'Dual Responsibilities for One Position' where the mediator undertakes not just

10个工作日（准确地说，通常为1或2周），有时只需2至3天。

(3) 节省成本——组成调解小组的外籍调解员不仅对文化和语言很敏锐，而且对他们的商贸惯例深入了解、十分熟悉。作为调解过程的一部分，调解员及其法律服务无须当事人支付任何费用。对城市来说，相比诉诸法庭，调解提供了一条成本更低的纠纷解决渠道。

(4) 宣传影响——该项目的另一个好处来自于调解员的“一岗双责”这一新理念，即调解员不仅负责调解纠纷，还承担宣传工作，让国内外商人都熟悉中国的商贸法律法规。

通过引入定居义乌的外籍商人作为调解员，外调委能够让外商参与解决涉外贸易纠纷，注入文化意识，打破语言和文化障碍，使涉外法律事务更有针对性和有效性，而且很关键的一点是，它能提高所有当事人对涉外纠纷裁决的信任。其结果是既实现了以人中心、具有文化敏锐性的调解，又普及了法治。

现在本地商人和外国商人都更了解外调委和调解服务。外调委一直都在扩大其影响、宣传和通讯服务。它运用包括社交媒体（如微信）在内的平台和案例故事，让商人增强意识，普及良好的贸易道德行为和法制知识。

外调委的成果已经在国家电视台播放，并拍成短片。调解案件的经验已被汇编成中英文资料，作为本地和外国商人的行为守则（例如，在义乌如何保护知识产权），同时外调委建立了一个数据库和查阅系统，以记录屡犯不改的奸商。外调委正继续扩大其数据收集和统计，以给商界传播和提高意识，从而避免违规市场操作，让调解更有效。

该项目的核心是外调委与其他部门、利益相关者进行信息交流与合作，以全社会参与的方式进行调解。这些方法、程序和指导方针是在参与过程中制定的，参与的不仅有市政府的各个部门，如法院、检察院、海关、公安机关、外事与侨务办公室、商务局等，还有商业和贸易代表、专家、法律和法律助理等。

为保持沟通畅通，外调委每月都会举行会议，包括与调解员、专家、法律和政府当局进行在线讨论。会议议程涵盖工作量计划讨论、每日案件、待解决问题、调解借鉴的经验教训，以及加强外籍调解员当地知识、调解和沟通技能的法律培训等。其核心宗旨是强调不断反思和学习，从而提高贸易的服务质量和环境。外调委力求邀请更多的外籍调解人，包括经验丰富的侨商，壮大调解团队，这就是成功之处。

外调委并非单独工作，而是激励关键的利益相关者——行政和专业人士——创造切实可行的解决方案。外调委定期与义乌外事与侨务办公室、公安局、出入境管理局、中国商



dispute mediation but also advocacy work to familiarise traders, foreign and local, with Chinese laws and rules on business and trade.

Through the induction of resident foreign business people as mediators, the PMCFD is able to introduce foreign business people to participate in the resolution of foreign-related trade disputes, infuse cultural awareness and break language and cultural barriers, make foreign-related legal matters more targeted and effective, and crucially, improve the trust of all parties in foreign-related dispute resolution. The consequential outcome is the twin accomplishment of people-centred, culturally sensitive mediation and the popularisation of the rule of law.

Both local and foreign traders are now more aware of the PMCFD and mediation services. The PMCFD has been scaling up its outreach, advocacy and informational services. It has used various platforms including social media (e.g. WeChat) and case stories to sensitise traders and mainstream good trade ethical behaviour and knowledge of rule of law.

the mediation cases have been compiled and available in Chinese and English in codes of conduct for local and foreign traders (e.g. intellectual property rights protection in Yiwu) while a database and referral system has been established to keep track of recurrently dishonest traders.







awareness of the business community so as to avoid unofficial market practices and become more effective in mediation.

The centrality is information exchange and cooperation with other departments and stakeholders in a whole-of-society approach to mediation. The methods, procedures and guidelines are established in a participatory process involving not just various departments of the municipal government (e.g. the Courts, Procuratorate, Customs, Public Security Bureau, Foreign and Overseas Chinese Affairs Office, Administration for Commerce) but also business and trade representatives, experts, legal and para-legal professionals.

To keep communication open, monthly meetings are held including on-line discussions with mediators, experts and legal and public authorities. The agenda covers the discussion of workload planning, daily cases, outstanding issues, lessons from the mediation process as well as legal training to improve foreign mediator's local knowledge, mediation and communication skills. A key tenet is its emphasis on continuous reflection and learning to improve service quality and environment for trading. Such is its success that the PMCFCF is looking to invite more foreign mediators including experienced overseas Chinese business people to augment the mediation team.

Rather than working in silo, the PMCFCF acts to galvanise key stakeholders—administrative and professional—to create executable and realistic resolutions. It has regular dialogue and communication with Yiwu Foreign and Overseas Chinese Affairs Office, Bureau of Public Security, Immigration Bureau, China Commodity Group and other foreign affairs and trade related organisations. To this end, Yiwu has created a one-stop business and immigration facilitation service centre for doing business in Yiwu. This is conveniently located next to Yiwu's International Trade Market District Four.

## 2. Not Just Mediation, But Dispute Prevention

More than mediation, Yiwu has taken a holistic approach to view trade disputes along the conflict continuum, taking steps to avoid conflicts from arising in the first place through its project of 'Integration of Foreign Population into Yiwu'. With the growth of diverse groups has come a strengthened emphasis on creating a city of inclusive, vibrant neighbourhoods. The key strategy is to foster tolerance and hospitality for foreign business people through the close connection between economic development and local urban spaces, giving them the feeling of home.

Each year, foreign residents in Yiwu are invited to meetings to share the problems they

会服务中心，以更好地与鸡鸣山社区（鸡鸣山社区居住着50多个国家的居民）及周边社区的外国群体建立联系。该中心每周开放7天，为多文化和跨国交流与互动提供社区居住活动中心。其目标是打造义乌国际融合社区，使社区生活和谐愉快。

社区纠纷是不容忽视的。该中心为社会、社区或家庭纠纷提供社区调解服务。与外调委一样，这项服务的团队也有外籍志愿调解员。

在商界层面，“世界商人之家”支持外贸和商业群体，组织各类社会活动俱乐部，如医疗保健、体育俱乐部等。最大限度地实现社会包容也体现在表彰和更好地利用外籍群体的人才。对那些为其社会经济发展做出巨大贡献的外国人，义乌授予他们“商城友谊奖”。

外籍群体跟城市协作的方式包括：

受邀与当地政府进行互动会议，给当地商业发展事务建言献策，以综合方式共同开发解决方案，更好地应对与外贸相关的机遇和问题。

受邀成为当地社区的一份子，例如通过担任调解志愿者、大使及导师，协助新来的外国人士适应义乌的生活等。

受邀参与文化活动，向当地社区介绍他们的文化，为当地人民学习他国文化和语言提供机会。

项目的核心是致力于社会与文化的理解、凝聚与融合，采取行动从根本上解决纠纷。正如许多国际学者所说，文化是纠纷演变和解决的关键因素；文化意识和文化理解在处理跨文化纠纷时是必不可少的，因为文化差异会影响一个人的思维和行动。尽管避免纠纷是另一回事，但也应该在纠纷管理中予以考虑。

## ➔ 成效与挑战

### 1. 项目成效

事实证明调解过程是非常成功的。外调委每年平均处理100多起涉外纠纷。2013年至2016年7月，外调委解决了287起纠纷，涉及金额约4500万人民币，成功率达96.7%。中国和外国贸易商由此得到的经济损失赔偿约2300万人民币。



encounter in work and in daily life. A list of 10 “internationalizing measures” is then designed based on this sharing and government departments are charged with their implementation as relevant to their respective duties. In addition, regular sessions are held to expound these 10 measures and interpret new foreign-related policies.

At the neighbourhood level, various cultural programmes are organised for the resident foreign communities to help them settle in, get connected and become familiar with Chinese culture, e.g. Chinese language classes, day trips around Yiwu, dumpling festival, children’s art classes, information on healthcare, education, etc.

Since 2014, Yiwu has established the Yiwu Tongyue Social Services Centre at Jimingshan Neighbourhood, the first non-profit social service centre, to better connect with the foreign communities in Jimingshan Neighbourhood and surrounding neighbourhoods (residents of over 50 countries live in Jimingshan Neighbourhood). The centre is open 7 days a week, providing a community-dwelling focal point for multi/inter-cultural and country exchange and interaction. The aim is to build a Yiwu international fusion community, making community living a harmonious and pleasant experience.

Community conflicts are not neglected. The centre offers community mediation service for social, community or family disputes. As with the PMCFD, this service also includes volunteer foreign mediators on its team.

At the business level, foreign trade and business groups are supported through the International Family Programme to organise social activity clubs, e.g. healthcare, sports, etc. Maximising social inclusion is also about recognising and making better use of the talent that resides within the foreign communities. A “friendship award” is accorded to foreigners who make strong contribution to Yiwu’s social and economic development.

Some of the synergistic way in which the foreign communities interact with the city includes:

They are invited to give input to local business development matters through interactive meetings with local authorities in an integrated approach of co-developing solutions to better respond to the opportunities and problems associated with foreign trade;

They are invited to become a part of the local community, e.g. through volunteerism as mediators, ambassadors and mentors to help new foreign arrivals to settle into life in Yiwu, etc.;

They are invited to introduce their culture through cultural events and activities to local communities, offering opportunities for local people to learn international culture and languages.

At the core is a commitment to social and cultural understanding, cohesion and integration. Actions are taken to resolve conflicts at the basic level. As many international scholars observed,



culture is a key factor in conflict evolution and resolution; cultural awareness and understanding is a must-have when dealing with cross-cultural conflicts because cultural differences contribute to how a person thinks and acts. Conflict avoidance though a separate matter should be considered in dispute management.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

The mediation process has proved hugely successful. The PMCFD handles, on average, over 100 foreign-related disputes each year. Between 2013 and July 2016, 287 disputes involving about RMB 45 million were reconciled through mediation with a success rate of 96.7%. This has enabled Chinese and foreign traders to recover about RMB 23 million of economic damages.

### 2. Challenge of the Initiative

For Dispute Prevention, the actions are simple but fundamental to building awareness and connection across different communities, especially towards developing an entire ecosystem of services to foster a conducive environment for working and living in Yiwu. The outcome is perhaps best glimpsed from the Ethiopian mediator's (whom we met during the July 2017 visit) declaration that "Yiwu is my home", which seems to suggest that Yiwu is well on its way to realise its goal of making the foreign resident feel at home in the city.

## ➔ Innovation of the Initiative

Yiwu's innovation is not limited to minimising trade disputes but extends to continuous upgrading of technology and science in its business ecosystem. The increase in business and trade transactions has accelerated the expansion of small factories to produce and process small trade products to be sold and exported from Yiwu's marketplace. With the advent of technology and advanced manufacturing, Yiwu is placing renewed emphasis to aggregate and strengthen its industrial economy. It is restructuring its low-technology industrial activities towards higher technology and value-added products.

## ➔ Highlight of the Initiative

The step change though recent is reshaping the image of Yiwu, projecting an external image





of a business- and community-friendly place while providing a framework for global marketing of both place and products by local firms and foreign businesses doing business in Yiwu. Doing so is not easy. It takes leadership, vision and institutional innovation on the part of policymakers as well as active participation and partnership on the part of businesses and community. A key tenet is its emphasis on continuous reflection and learning to improve service quality and environment for trading and living in Yiwu.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

In common with many Chinese cities, Yiwu is working to establish its position within the global economy. What distinguishes Yiwu is its holistic approach towards conflict resolution and ease of doing business. Despite its size and scale, Yiwu demonstrates that it is possible for sub-national places to try new policy approaches like mediation in the resolution of foreign-related trade disputes and keep at the leading edge through institutional innovation.

Recognising the importance of place branding, gradually but surely, Yiwu has started the process towards strengthening its image as a welcoming and convenient place for international business. Its place strategy is comprehensive, taking account of both institutional and societal aspects. Harnessing the skills of the many business people in Yiwu through its innovative use of foreign business mediators in trade disputes, it is making foreign-related legal matters more effective, and crucially, improving the trust of all parties in foreign-related dispute resolution. Rather than working in silos, the different agencies have come together and worked assiduously to simplify the process, improve time, cost and communication between international and local business people. At the same time, they are infusing greater cultural awareness, reducing language and cultural barriers, and building greater tolerance among the different communities at various levels, which is a crucial first step in dispute prevention.

Taking a holistic, whole-of-society approach to urban choices, as Yiwu has done in the case of inducting foreign mediators into the resolution of foreign-related trade disputes, is a most valuable response to the dynamics of innovation activities over time and space. Properly conceived, local innovation can come in many forms and phases of production and development to intimately affect how communities are built. If ever there was a lesson from the Yiwu mediation experience, it is how diverse communities become connected to ensure a thriving and tolerant society where constituents can live, work, learn and play together and feel a sense of

的城市形象。它的地方战略是全面的，考虑到体制和社会两个方面。通过在贸易纠纷中创新地使用外商调解人，利用义乌众多商人的技能，义乌正让涉外法律事务更有效，更重要的是，提高各方当事人对涉外纠纷解决的信任度。不同的机构并非在孤军作战，而是聚集在一起，努力简化流程，改善效率、成本以及外商和本地商人之间的沟通。与此同时，它正在加强文化意识，减少语言和文化障碍，在不同层次上让不同社群之间更加接纳包容，这是防止纠纷的关键第一步。

一如义乌在引导外国调停者解决涉外贸易纠纷时所做的，采取全方位、全民参与的方式进行城市选择，是对创新活动时间和空间动态很重要的应对。地方创新如果构想合理的话，可以以多种形式和阶段进行生产和发展，以密切影响社区的建设。如果说义乌调解的经验有什么值得借鉴之处，那就是不同的社区如何联系在一起，以确保一个繁荣、包容的社会，在这个社会里，各社群可以一起生活、工作、学习、玩耍，有归属感——即“义乌是我的家”。项目的挑战在于如何确保创新动力继续跟上经济增长和财富创造的步伐。

## 2. 项目启示

与许多国家一样，中国认识到对研究、创新和企业的投资对其未来经济至关重要。中国已经开始投资研发，尤其是技术创新：目前研发支出占生产总值的1.61%。义乌也开始发展必要的基础设施，包括科技园区和创新区，重点发展时尚、信息、先进设备制造和生物医学科学。它正在吸引当地和国际的公司和科学家到这些地区工作，提供包括住房补贴在内的有力支持。

义乌信息与光电子高新技术产业园就是一个例子。该产业园位于义乌东北部，占地143平方千米。2017年2月，义乌宣布它为省级科技企业的孵化器。其定位为研发商业化、创新创业、高新技术企业孵化、产业转型（特别是光电LED）的平台。园区已吸引了160多名博士，并孵化了100多个项目。

这些发展战略打破了普遍的基于“一村一产品”原则的单一商品工业区模式。工业园区虽仍在建，但它的发展体现了义乌的另外一面：善于让传统的形势适应现代新形势，支持其成为全球和国内企业一站式交易的重要窗口。这是义乌创新精神的见证。



belonging—“Yiwu is my home”. The challenge is to ensure the innovative momentum continues to keep pace with economic growth and wealth creation.

## 2. Inspiration of the Initiative

China, like many countries, has recognised that investments in research, innovation and enterprise are critical to its future economy. It has begun to invest in R&D, especially technological innovation: the R&D expenditure currently accounts for 1.61% of GDP. Yiwu, too, has started to develop the required infrastructure including technology parks and innovation districts with focus on fashion, information, advanced equipment manufacturing and biomedical sciences. It is attracting local and international corporations and scientists to work in these districts with persuasive support packages including housing subsidy.

An example is the Yiwu Information and Optoelectronics Hi-Tech Industrial Park (143 sq km) located in the north-east of Yiwu. Announced in February 2017, Yiwu Information and Optoelectronics Hi-Tech Industrial Park is a provincial-level incubator for sci-tech enterprises. It is positioned as a platform for the commercialization of research, innovation and entrepreneurship, incubation of hi-tech enterprises and industrial transformation, especially in photoelectric LED. The industrial park has attracted more than 160 PhD degree holders and incubated over 100 projects.

These development strategies are a break with the prevailing model of the single commodity industrial districts based on the doctrine of “one village, one product”. The industrial park development though work-in-progress showcases yet another aspect of Yiwu’s adeptness in adapting traditional in-situations to new, modern conditions to support its role as a one-stop trading window for global and domestic firms. It testifies to Yiwu’s innovative spirit.

## / 布鲁塞尔（比利时）/ 屠宰场2020：屠宰场的改造

□ 骆建云 / 广州市城市更新规划研究院

布鲁塞尔首都大区是2016年第三届广州国际城市创新奖入围地区。本次调研开展于2017年6月1日至2日。

### ➔ 项目背景

布鲁塞尔首都大区有着一千多年的历史，占地161.4平方千米，拥有116万常住人口。布鲁塞尔高度国际化，是欧洲理事会、欧盟委员会、欧盟理事会等欧盟主要行政机构所在地，有“欧洲首都”之称，也是欧洲第三富裕的地区。

随着欧洲经济陷入停滞，布鲁塞尔在经历高速发展之后也面临着如何复兴的问题。针对去工业化后的运河区，布鲁塞尔于2008年研究制定了推动布鲁塞尔运河区可持续发展的总体战略规划，旨在改善和提升这一区域的经济状况、环境、知名度，加强该区域的吸引力，使之成为布鲁塞尔中央地带重要的发展轴线。其中，布鲁塞尔运河边的屠宰场项目显示了该区域可持续复兴的成效，起到了示范作用。

### ➔ 项目实施

屠宰场位于布鲁塞尔运河区，占地10.5英亩（约4.2公顷），地上建筑物约4.7万平方



## / Brussels (Belgium) /

# Abattoir 2020: Reconversion of the Slaughter House Site

□ Jianyun Luo / Guangzhou Urban Renewal Planning Institute

Brussels-Capital Region was shortlisted for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during June 1<sup>st</sup> and 2<sup>nd</sup>, 2017.

### ➔ Background of the Initiative

Brussels-Capital Region enjoys a history of one thousand years, covering an area of 161.4 square kilometers with 1.16 million permanent residents. Brussels is the 3<sup>rd</sup> richest region in Europe and is hailed as the capital of Europe: it is home to several major administrative institutions of the European Union, such as European Council, European Commission, and EC Council.

As Europe's economy lapsed into stagnation, Brussels, after a period of rapid development, was confronted with the challenge of reinvigoration. One of the efforts is the regeneration of the de-industrialized Brussels Canal Area. Brussels initiated the "Canal Plan" in 2008 to boost the sustainability of this area and to make it a central development axis. The purpose is to spur the economic growth of the Canal Area, improve the surrounding environment, and raise the stature, thus enhancing the attractiveness of the Canal Area. Abattoir 2020 plays an important role in the sustainable regeneration of the Canal Area and serves as an exemplary program.

### ➔ Implementation of the Initiative

Abattoir 2020 is implemented in the Brussels Canal Area and covers an area of 10.5 acres









(about 4.2 hectares), where the ground buildings covers an area of about 47,000 square meters. The slaughterhouse was built in 1890 and is still running.

In 2007, owners of the abattoir realized that the regeneration of the Canal Area would bring about opportunities for the transformation of the abattoir. Renewal was made to the abattoir against the backdrop that this area is inhabited by many immigrant ethnic groups, usually with low income. On the one hand, coordinated development is promoted of the slaughterhouse, meat processing factories, and the market. On the other hand, the site is redesigned, with introduction of new buildings, into a farmer's market and small commodity market. This turns the original abattoir into an everyday infrastructure closely connected with the residents. In addition, urban agriculture is encouraged, such as rooftop gardening and greenhouse mushroom growing, whose produces like vegetables and fruits can be sold in the market directly.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

Abattoir 2020 not only satisfies the needs of the communities, but also attracts a large number of stores, which provides plenty of jobs for the immigrants and revitalize the economy of this region. This program thus becomes an inspiration in the Canal Area and gained financial support of the European Union.

### 2. Challenge of the Initiative

Implementation of the Canal Plan will run into 2030. The budget for the plan is 17.74 million euros, of which 7.48 million euros is funded by the European Regional Development Fund (ERDF). It is expected, after completion, that the total floor area will reach 130,000 square meters.

## → 成效与挑战

### 1. 项目成效

屠宰场的更新项目既满足了社区居民的生活需求，又吸引了众多商铺入驻，为当地移民族群提供了大量的就业岗位，活跃了该区域的经济活动，成为运河区复兴发展的代表，并获得了欧盟的资助。

### 2. 项目挑战

整个布鲁塞尔运河区可持续发展项目将持续建设，预计2030年实施完成。项目总预算为1774万欧元，其中748万欧元来自欧洲区域发展基金项目的资助，总建筑面积预计达13万平方米。

## → 项目创新

屠宰场项目的创新点在于采用切合实际的渐进式转型发展战略。其发展转型主要建立在三方面：

1. 保护和提升现有的生产活动（屠宰和肉联加工），保留原有的就业岗位，并使该产业链保持活力；
2. 通过更新改造，使新增加的业态形成独特的集聚空间，汇集各色族群的居民、各种城市活动、各种经济活动，共存共赢，改善该地区的环境和城市形象，提高对该区域的关注度；
3. 引进众多中小企业，为该地区创造大量的就业机会，将该项目的发展与社区居民和从业人群密切联系起来，与运河区域的发展也紧密互动，巩固该区域多元文化背景下的社会结构。



## ➔ Innovation of the Initiative

The innovation of the Abattoir 2020 program lies in adopting a practical strategy of gradual transformation. Its development and transformation are mainly based on three aspects:

improved, thus retaining the original jobs and keeping the dynamics of the industrial chain.

2. An industrial cluster is formed through renewal, bringing together all kinds of urban activities and economic activities as well as residents of all ethnic groups. By doing so, the local environment and the city's image and even the popularity of this region are highly improved.

3. The introduction of large numbers of small and medium-sized enterprises creates many jobs for the region. In this way, development of this program gets connected with the local residents and professionals and becomes intertwined with the development of the Canal Area. The program also fosters the multi-culturalist social structure.







## ➔ Highlight of the Initiative

When the program started, owners of the abattoir did not abandon the original operation to seek for high-tech development. They, instead, made a thorough analysis of the characteristics and demands before adopting practical gradual development strategy.

1. Invite professional planning teams and research institutes to make the overall development plan;
2. Discuss the plan with the community, administrative departments at all levels in Brussels, and relevant departments of the European Union for policy and financial support;
3. Discuss the plan with businesses, community residents, and investment firms in the area and make corresponding improvements;
4. Cooperate with civil societies and organize various activities, including forums, to promote the plan.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

The whole program adopts various methods to realize sustainable development, such as preservation and promotion, renewal and transformation, and active introduction. The program is characterized with practical and gradual development, enabling the Brussels Canal Area to achieve sustainable development while retaining the vitality of the whole region.



## 2. 项目启示

许多大城市已不再需要依靠城市扩张来发展，而是需要在建成区进行更新、挖潜、提质、转型。众多城市面临着以下几个更新改造的问题：旧厂、旧村、旧街区如何改善人居环境、产业如何升级转型、资源如何实现价值最大化、城市如何可持续发展。布鲁塞尔屠宰场的转型经验给我们带来几个方面的启示：

### （1）更新改造的目标

城市的转型发展，是城市综合发展的需要，是对发展所需的新空间、新经济、新功能的资源再发掘。提升城市的竞争力，靠的是地区的可持续发展要素的提升，包括人才、就业环境、社会治理方式等方面，也就是要盘活资源、主动供给。布鲁塞尔屠宰场项目的成功说明，不能只抬头盯着高科技、高附加值、高回报的产业，也要低头关注日常民生密切需求的产业，吸引众多中小微企业。同时，区域复兴的成效不能用单一项目的建设成效来衡量，也不能仅用该区域的经济数据指标去定夺，衡量指标还应包括该区域的各阶层、各族群的和谐发展，城市公共服务系统的完善，地区社会结构的健康稳定。

### （2）更新改造的策略

布鲁塞尔的土地产权多为私有制，在改造过程中需要与私人业主进行协商谈判；而中国城市的土地产权则是公有制，多是通过控制土地资源、制定规划、出台政策去推动实施，多依赖自上而下的运动式集中活动，但这往往会导致成效不高甚至民众抵触进而无法推动实施的局面。借鉴布鲁塞尔屠宰场项目的改造策略，应积极推动社会向共同治理转型，依托公众参与，回应公众民生需求，才能使社会基层单元、企业和社区居民共同关注区域发展战略，共同研究实施的策略路径，共同寻找城市生产、社会治理和民众生活的需要要素，刺激各方主动实施的动力，形成自上而下与自下而上相结合的更新改造策略，将地区战略发展与社区的改造治理相结合、与民生需求相结合，才能真正形成有目标、有规划、有策略、有实施、有成效的更新改造行动路径。





## 2. Inspiration of the Initiative

The key to development of big cities lies in renewal, upgrade, and transformation of the built area rather than expansion. Many cities are now faced with these questions: how to achieve sustainability, how to improve the living conditions in old factories, villages, and neighborhoods, how to upgrade the industry, and how to maximize the value of resources. Brussels' Abattoir 2020 offers a couple of lessons in transformation.

### (1) Goals of Urban Renewal

Transformation is necessary of the comprehensive development of a city. It is a rediscovery of the resources needed for development, such as new space, new types of economy, and new functions. The competitiveness of a city relies on its sustainability elements, including talents, employment climate, and social governance. This requires wise utilization of the resources and active supplies. The success of Abattoir suggests that there should be equal focus on high-tech, high added-value, and high-return industries and the industries closely connected with people's daily life as well as micro-, small-, and medium-sized enterprises. Moreover, the performance of regional regeneration cannot simply be evaluated by the success of a single program or economic statistics of the region. The performance indicators should also include rapport between all classes and ethnic groups, public infrastructure and services, and stability of the social structure.

### (2) Strategy of Urban Renewal

In light of the regeneration strategy reflected in Abattoir 2020, there is the need to promote co-governance and respond to citizens' needs through public participation. for the public to promote social transformation towards a common governance. Only through this will different stakeholders be actively engaged: the grassroots, businesses, and residents will pay attention to the development strategy, think of the strategies and means of implementation, identify the demands of production, social governance, and daily living. It is also necessary to combine the top-down and bottom-up approach while integrating regional development strategies with renewal of neighborhoods and demands of residents. If this is achieved, then there will be a real renewal roadmap that is effective and clear in objectives, planning, and tactics.

## / 坦佩雷（芬兰） /

# 面向城市、企业和市民的区域循环经济最佳范例

□ 唐建辉 / 广州市城市管理委员会

坦佩雷是2016年第三届广州国际城市创新奖入围城市。本次调研开展于2017年8月31日至9月1日。

### ➔ 项目背景

坦佩雷市是芬兰第三大城市，也是北欧最大的内陆城市，位于两大湖泊之间，风景优美秀丽。人口22.8万人，面积520平方千米，人口密度每平方千米434人。曾是一个工业城市，以木材、纺织、金属等工业闻名，被称为北方的曼彻斯特。经过转型发展，已成为一个在技术、研发、商业、教育、体育等方面领先的城市。目前，坦佩雷市也是芬兰发展最快的三个地区之一。在城市发展过程中，各种问题也接踵而至。虽然与大部分发达城市都面临“垃圾围城”困境不一样，但坦佩雷市也面临如何加强垃圾管理的问题。自2014年初开始，坦佩雷市实施“面向城市、企业和市民的区域循环经济模式”，推动新型垃圾管理模式发展，使垃圾回收率达到近90%。

### ➔ 项目实施

项目由坦佩雷地区固废管理有限公司负责具体实施。该公司成立于1994年，是一家非

## / Tampere(Finland) / Circular Economy

□ Jianhui Tang / Guangzhou City Administration Committee

Tampere was shortlisted for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during August 31<sup>st</sup> and September 1<sup>st</sup>, 2017.

### ➔ Background of the Initiative

Tampere is the third largest city in Finland and largest inland city in Scandinavia. The city covers an area of 520 square kilometers and is home to 228,000 residents, with a population density of 434 people per square kilometers. Tampere is situated between two lakes and thus enjoys a beautiful view. It used to be an industrial city, hailed as the northern Manchester, famous for its wood, textiles, and metals. Now it has transformed into a leading city in technologies, R & D, commerce, education, and sports. Tampere Region is one of the 3 fastest growing regions in Finland. Along with the development come all sorts of problems. Although it does not suffer from what most developed cities are suffering—overwhelming amount of waste—Tampere is confronted with the challenge of strengthening its waste management. At the beginning of 2014, Tampere launched the initiative of “Model of the Best Regional Circular Economy Concept for Cities, Companies and Citizens”. The initiative has promoted the development of a new model of waste management and pushed the waste recycling rate to nearly 90%.

### ➔ Implementation of the Initiative

The implementation is carried out by Tampere Regional Solid Waste Management. This



non-profit company, established in 1994, is owned by 17 cities in the Tampere Region and provides waste management service to the 440,000 inhabitants of the region. It provides an open platform for cities, enterprises, and citizens, with 55 private companies as its partners.

Moreover, the concept of circular economy is dominant in the management and practices of the 17 municipalities. Hiedanranta, a brownfield district of the City of Tampere, is a testbed for new technologies and solutions to be applied in the initiative. The City of Nokia is experimenting with new technical solutions for bio- and circular economy in its ECO3, a circular economy business park. The Laboratory of Chemistry and Bioengineering at Tampere University of Technology is researching on bioengineering technologies. MariMatic is building the newest autonomous waste collection system in the world. All of these practices and explorations has prompted the development of a municipal waste management service model in the Tampere Region. And citizens are satisfied with the service.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

(1) Tampere Regional Solid Waste Management is owned by 17 municipalities, including Tampere, and is assuming the functions of managing municipal waste on the government's behalf. Tampere positions itself as a leading city in circular economy in Europe, which provides a solid foundation for the implementation of this initiative.

(2) Through partnership with private businesses, Tampere Regional Solid Waste Management profits from the market and use these gains to support municipal waste management, which provides an untiring drive to the implementation. In 2016, its turnover stood at 39.4 million euros.

(3) Because the waste management concept is widespread, the fee in Tampere is the lowest among European cities. Through economic instruments, Tampere has achieved the goals of the initiative, successfully reducing the amount of waste generated and improving waste separation, collection, and recycling.

### 2. Challenge of the Initiative

#### (1) Maintaining Active Participation

Citizens are significant stakeholders to this initiative. The application of innovative methods

政府行使城市垃圾管理的职能。坦佩雷市把自身定位成为欧洲循环经济的领先城市并发起实施本项目，为项目发展打下了坚实基础。

(2) 坦佩雷地区固废管理有限公司通过与私营企业合作，从市场获利并反哺城市垃圾管理工作，为项目发展提供了源源不断的动力。2016年该公司营业额为3940万欧元。

(3) 由于垃圾管理理念的推广，坦佩雷的垃圾管理费在欧洲国家是最低的。坦佩雷通过经济调节手段，有效促进了垃圾的减量和分类收集与回收利用，实现了项目发展目标。

## 2. 项目挑战

### (1) 保持参与积极性

项目一个重要的参与方是市民，所有的创新和实践能否落地，项目能否成功，都离不开市民的参与和支持。在确定了项目发展目标后，坦佩雷市采取各种方式与市民进行沟通，加强对市民的宣传引导，例如通过编排木偶戏、播放电影、将重要的信息编写进日历或大事件、在学校开展活动等，让每个家庭知晓项目的要求，在项目的初期效果很好。但在新鲜感过后，如何让更多的市民参与到项目中来，以及保持参与市民的积极性是项目的主要挑战，这需要通过系统的宣传发动和激励机制来进行解决。

### (2) 推广复制新技术

项目积极运用新技术，如坦佩雷理工大学在海达湾研究如何使用干厕系统收集尿液培育微藻、诺基亚市在EC03商业园以木材为基础开展生物经济和循环经济实践等。这些实践和尝试对项目给予了有力的技术支撑，但目前还局限于小范围或局部的试验，能否将试验成果进行规模化推广和复制将是检验这些新技术试验成果是否可行的标准。

## ➔ 项目创新

项目采取政府主导、企业运营、经济调节的形式，立足循环经济发展，突出整体价值链管理，推动新型垃圾管理模式发展，为城市范围内的市区垃圾提供管理服务，降低垃圾管理和实施循环经济解决方案所带来的成本费用，实现了可持续发展。





and success of the initiative could not be achieved without citizens' support and participation. Tampere communicated with the citizens through various means after the objectives were set, and educated them through different events, including puppet shows, movies, integration of important information into calendar or chronicles, and activities at schools. The city hopes to spread the requirements of the initiative among families, and has achieved so. Nonetheless, it is a

would demand systematic advocacy and publicity as well as motivational mechanism.

#### (2) Scaling of New Technologies

New technologies are being applied in this initiative. Tampere University of Technology is studying how to cultivate microalgae with the urine collected from the dry toilet system in Hiadanranta, and City of Nokia is conducting bio- and circular economy practices based on wood in the ECO3 business park. However, these technological supports to the initiative are still

their success or failure.

### ➔ Innovation of the Initiative

The initiative, based on the concept of circular economy, is led by the government, operated by enterprises, and employs economic measures. One of the focuses of this initiative is placed on the management of the whole value chain of waste management.





## ➔ Highlight of the Initiative

### 1. Government Laying a Solid Foundation for Implementation

The European Union has always been in the forefront in terms of waste management. Finland not only strictly implements EU's regulations and requirements over waste management legislature, but also improves its own legislature system and management policies according to domestic conditions. The Waste Act Finland stipulates that a municipal authority shall manage administrative functions of waste management within the municipality. It may assign the service function of municipal and household waste management to a company owned by municipalities. The company shall act as the municipal waste management authority.

### 2. Corporate Operation Driving Development of the Initiative

Tampere Regional Solid Waste Management carries out its work through strengthening its management of the whole value chain. Its main services include waste collection, disposal, and incineration. Besides, 55 private companies are involved. They raise innovative solutions to problems in planning of technological and corporate resources as well as operation. And because participating companies share economic risks, resources get utilized more efficiently.

### 3. Use of Economic Measures to Achieve Implementation Goals

During the implementation, Tampere employs economic leverages to encourage producers and consumers to reduce discharge of waste and separate waste. The policy for waste management fee is in line with the "polluter pays" principle. As a result, it is steering the producer and the consumer to avoid producing or produce less waste from the source. In order to encourage household waste reduction and separation, the amount of fee depends on the volume of the bin and the times of emptying it. Moreover, the management fee for sorted waste is 40% lower than that of mixed waste. The average annual waste management bill for a household is 113 Euros.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

#### (1) Improving Legislation System

Tampere and even the whole country of Finland attach great importance to the legislation

数来确定，产生的垃圾越多，缴交的垃圾处理费越多，而且分类好的垃圾处理费一般要比混合垃圾处理收费低40%左右。据我们了解，一个家庭每年须付费113欧元。

## → 经验与启示

### 1. 项目经验

#### （1）完善立法，健全体系

在调研过程中我们了解到，坦佩雷市乃至芬兰整个国家高度重视垃圾管理方面的立法，对相关的法律进行了数次修改，不断进行完善。通过学习坦佩雷市的经验，城市立法修订中应着重增加诸如生活垃圾生产者付费、便利垃圾分类保障性措施以及对部分生产、销售企业的义务、行政处罚与教育相结合等方面的规定，进一步加强城乡生活垃圾强制分类的薄弱环节，消弭生活垃圾分类工作的短板效应；同时，要落实国家要求，用健全的体系保障垃圾分类工作。

#### （2）政府主导，企业参与

通过调研，我们认为政府主导、企业参与是坦佩雷项目取得成功的重要原因之一。城市应继续完善垃圾治理模式，采取政府注资、国企主导的形式，通过政策支持、税收优惠等措施，扶持引导大型国有企业全过程、全链条参与垃圾分类处理工作，充分发挥国企担当、创新、引领的作用以及体制、管理、应急方面的优势。

#### （3）整合资源，共享服务

为促进共同发展，同城化已成为发展趋势。基于此，坦佩雷等17个城市共同拥有坦佩雷地区固废管理有限公司，并享受其服务，实现了优势互补、资源共享。城市可借鉴坦佩雷市等17个市共同拥有、管理坦佩雷市固废管理有限公司并享受其服务的经验，研究城市间共同建设生活垃圾处理基地的可行性，重点研究生活垃圾焚烧处理和填埋处置的离岛方案，启动生活垃圾焚烧填埋基地建设工作。此外，还可探讨把生活垃圾处理服务供给列为都市圈同城化项目，建立生活垃圾处理服务供给跨域合作机制，实现垃圾衍生燃料、低值可回收物跨行政区划有序流动和循环利用，通过整合资源，共享服务，提高处理效能。

#### （4）加强沟通，示范带动

从此次调研来看，坦佩雷市十分注重与市民的沟通，听取市民的意见和建议，与市民

of waste management, and the relevant laws have been revised and improved several times. Inspired by the experience of Tampere, the revision of urban legislation should focus on increasing the penalty of the waste producers, ensuring the facility of classifying garbage, the duty of part of production and sales enterprises, and giving administrative punishment with education, etc. Also, it is necessary to further strengthen the weak link in classifying the urban and rural living garbage compulsorily and to eliminate the buckets effect of the work of classifying the living garbage. At the same time, we will implement the state's requirements and ensure a sound system for classifying waste.

(2) The government plays the leading role while enterprises participate in the project

This is also one of the important reasons for the success of Tampere project. Cities should continue to improve waste management mode with the investment of government and the domination of state-owned enterprises. A series of measures like policy support and tax incentives are conducive to the whole process of large state-owned enterprises and the whole chain involved in garbage classification. In addition, it is advisable to give full play to the role of the state-owned enterprises, innovation, and leadership, as well as take the advantage of system, management, and emergency.

(3) Integrating Resources and Sharing Services

In order to develop together, urban integration has become a new trend. Take Tampere as a good example. Seventeen cities including Tampere are home to Tampere Regional Solid Waste Management Co. LTD and enjoy its services, which are a good demonstration of sharing resources and complementing each other's advantages. Other cities can also learn from these 17 cities experience. They can explore the feasibility of building a base for processing living garbage, study domestic waste incineration and landfill disposal scheme of isolated islands, and launch the construction work of a base for waste incineration and landfill. Furthermore, they can also regard providing living garbage management service as a program with the integration of neighboring cities, establish a inter-cooperation mechanism for supplying garbage disposal service, and recycle the derived fuel of waste and low-value recyclable materials and keep them flow orderly across administrative divisions. The efficiency shall be improved through integrating resources and sharing services.

(4) Strengthening Communication and the Positive Effects of Good Demonstrations

Tampere attaches great importance to communicating with the public, listening to their views and suggestions. The interaction with the public is beneficial to help them gaining a sense of engagement and recognition. Cities should pay attention to the communication with residents and unimpeded listening channels in the process of development.

充分互动，让市民从中获得参与感和认同感。城市应在建设过程中应注重与居民的沟通，畅通听政渠道。

## 2. 项目启示

### （1）准确认识城市发展趋势，着眼防范于未然

自19世纪以来，工业发展引起世界性人口的迅速集中，城市规模不断扩大。在18世纪中叶，世界人口仅有3%住在城市；到1950年，城市人口比例占29%；1985年，这个数字上升到41%，预计到2025年，世界人口的60%将住在城市或城区周围。可以预见，城市的生活垃圾将会越来越多。按照目前统计，城市每人每天所产生的垃圾量为1—2公斤，其多少及成分与居民物质生活水平、习惯、废旧物资回收利用程度等有关，城市生活水平愈高，垃圾产生量愈大。在低收入国家的大城市，如印度的加尔各答、巴基斯坦的卡拉奇和印尼的雅加达，每人每天产生的垃圾量为0.5—0.8公斤；在工业化国家的大城市，每人每天产生的垃圾通常1公斤左右；而在美国的纽约，每人每天产生的垃圾已经超过2公斤。城市生活垃圾作为城市代谢的产物已经成为了城市发展的负担，世界上许多城市正面临或即将面临“垃圾围城”的困境。虽然目前坦佩雷市并未遇到这样的困境，但是他们高度重视城市生活垃圾处理，防范于未然，为全球城市提供样本。

### （2）充分运用循环经济理念，实现可持续发展

循环经济的理念于20世纪90年代后期在工业化国家出现，它是相对于传统经济而言的一种经济形态，代表了一个新的发展趋势。其基本含义是指通过废弃物或废旧物资的循环再生利用来发展经济，其目标是使生产和消费过程中投入的自然资源最少，向环境排放的废弃物最少，对环境的危害或破坏最小，即实现低投入、高效率和低排放的经济发展。随着环境问题逐渐被全球所重视，节能、环保成为了世界各个国家和地区的发展主题，再生资源成为资源循环的新起点，同时成为循环经济的重要组成部分，垃圾处理产业迎来了发展机会。坦佩雷面向城市、企业和市民的区域循环经济的理念对城市生活垃圾进行处理，不但解决了资源循环利用问题，同时降低了垃圾排放，正可谓“一举两得”，值得全球城市学习借鉴。





## 2. Inspiration of the Initiative

### (1) Taking Preventive Measures

Since the 19<sup>th</sup> century, industrialization has led to the rapid concentration of world population and expanded the urban realm. In the middle of the 18th century, only 3% of the world population lived in cities. This figure rose to 29% in 1950 and 41% in 1985. It is estimated that the urban population will reach 60% in 2025. It is also foreseeable that the amount of municipal waste will also be on the rise. Current statistics put the amount of waste generated per person in cities to 1 or 2 kilograms. The amount and composition varied with living standards, habits, recycling rates. Generally speaking, the higher the living standard of the city, the larger the amount of waste. In big cities of low-income countries, e.g. Kolkata (India), Karachi (Pakistan), and Jakarta (Indonesia), the amount of waste generated per person is 0.5 to 0.8 kilograms. In New York (USA), the figure has exceeded 2. Waste, as the metabolite of the city, puts pressure on the city's development. More and more cities are facing the problem of too much waste. Although it has not encounter this situation, Tampere is highly concerned over the disposal of municipal waste, preventing the situation from happening.

### (2) Sustainable Development through the Concept of Circular Economy

The idea of circular economy was first put forward in industrialized countries in the end of the 1990s. It is a type of economy different from the traditional ones and represents a new trend of development. Basically, the idea means economic development through recycling and renewing of waste or old materials. The objective is to minimize the natural resources put in the production and consumption process, waste discharged into the environment, and the harm or damage done to the environment. Simply put, it is highly-efficient economic development with low investment and discharge. As environmental issues attract global attention, energy conservation and environmental protection has become the development theme of countries and regions around the world. Renewable resources have become the starting point of resources recycling and an important component of circular economy, which brings development opportunities for the industry of waste management. Tampere's initiative of "Model of the Best Regional Circular Economy Concept for Cities, Companies and Citizens" has achieved dual outcomes: solving the issue of resources recycling and reducing the amount of waste discharged.

## / 松坡区（韩国） / 太阳能共享发电厂

□ 李肇铸 / 广州市环境保护科学研究院

松坡是2016年第三届广州国际城市创新奖获奖地区。本次调研开展于2017年9月13日至14日。

松坡是韩国首尔市人口最多的自治区，拥有660万人口，环境优越且文化遗产丰富。由于近年能源价格的不断上涨，能源支出对于低收入群体来说日益成为沉重负担。为减轻这部分群体的负担，松坡区政府与非政府组织（NGO）等合作建设太阳能共享电厂，将发电收益用于资助低收入居民、发展中国家能源援助和后期太阳能电厂建设。2009年以来，已资助低收入人群5.09亿韩元，援助2个发展中国家能源项目3个共0.75亿韩元，并投资63.4亿韩元，建设了4期太阳能发电厂（第5期计划中）；按5期电厂运营20年估算，可减少温室气体排放1.5万吨，相当种植1.7公顷森林。松坡太阳能共享电厂通过商业和技术模式创新，实现环境保护与公益事业的有机结合，为全世界树立了成功范例，项目获得第三届广州国际城市创新奖。

### ➔ 项目背景

自2000年以来，由于石油价格上涨及政府实施减少温室气体排放的政策，全球能源价格大幅上涨。能源支出对于低收入群体来说成为沉重负担，低收入家庭须将收入的可观部分用于购买能源；同时，由于他们使用低能效、保温系统差的旧家电而导致能源消耗更

## / Songpa-gu(South Korea) / Songpa Solar Nanum (Sharing) Power Plant

□ Zhaozhu Li / Guangzhou Research Institute of Environmental Protection

Songpa was a winner of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during September 14<sup>th</sup> and 15<sup>th</sup>, 2017.

As the largest population district in Seoul, capital of South Korea, Songpa-gu is home to 6.6 million residents with pleasant natural environment and rich cultural heritages. In recent years, energy prices continues to climb, which makes energy costs become a large burden for low-income groups. In order to ease their burden, Songpa-gu Office works with NGOs to build solar power plants, spending profits from the solar power plant on grants to low-income residents, energy assistance for developing countries and subsequent construction. Since 2009, the program has earmarked 509 million won to subsidize low-income groups, provided 75 million won for three energy programs of two developing countries and built the No.4 Solar Nanum Power Plant (No.5 Solar Nanum Power Plant is being planned). It is expected that the No.5 Solar Nanum Power Plant will reduce potential carbon dioxide emissions by 15,000 tons over 20 years, which is equivalent to planting trees over a land area of 1.7 hectares. Songpa Solar Nanum (Sharing) Power Plant is being assessed as a new business and technology model integrating both environmental and welfare aspects, setting a successful example in global community. The program is recognized by the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation.



## ➔ Background of the Initiative

Energy prices worldwide have dramatically increased since 2000 due to the rise in oil price and governmental policies for reducing greenhouse gases. This became a large burden for low-income earners who had to spend a significant amount of their income on energy bills. Besides, low income households also tend to use more energy due to having older electrical appliances with low energy efficiency and often less insulated housing. It is estimated that there are approximately 1.5 million households lacking access to energy and many of the individuals included in this category are the aged the disabled. Among them, only 100,000 households (8.3%) are able to benefit from the currently operating energy welfare projects. In addition, these money comes from energy suppliers such as Korea Electric Power Corporation, Korea city gas association and Korea District Heating Corporation. Thus, the subsidies are severely circumscribed by financial situation of these firms. With their decreased capacity of providing financial support, subsidies may be called off either. Therefore, there is concern that this support system cannot be sustained.

Government's financial supply only focuses on electricity and gas, however, no support is provided to people who use kerosene or oil boilers as heating systems. Moreover, when low-income groups receive the money, they are apt to spending money on basic necessities such as medicine and food to satisfy more urgent need. We are not able to confirm whether the cash grant is actually being used for energy.

To deal with the problems on energy subsidies, Songpa-gu Office established "the ordinance on climate change response" in 2009, a first among the autonomous districts of Seoul, carrying out policy that would lead to the conversion of the renewable energy system. Songpa-gu Office put out a joint statement with the NGO, "Energy Peace", signing a joint No.1 Solar Nanum Power Plant operational agreement. According to the joint statement, 25 percent of net profit would be used for people that lack access to energy, 25 percent forwarded to underdeveloped countries and the remaining 50 percent would be used to build additional Solar Nanum Power Plants.

Construction funds come from various channels: government subsidies and sponsorship from companies and residents. An NGO and a private company established Energy Donation and Stabilization Company, in charge of the installation, operation

“能源捐赠与稳定公司”，负责建设、运营和管理各个电厂，并每月向政府报告电厂发电量、二氧化碳减排量以及运营利润情况；松坡区政府负责给予上网电价补贴政策，以确保电厂有所赢利，并对项目建设、运营和利润使用情况进行监督。2010年6月前，捐献资金均由“能源捐赠与稳定公司”通过社会公益基金体系进行捐献，但在《松坡资金提供条例》颁布后，目前捐献资金的使用是直接由松坡区管理，并由其选择符合条件的贫困家庭作为援助计划的受益人。



电厂运营和管理模式

## ➔ 项目实施

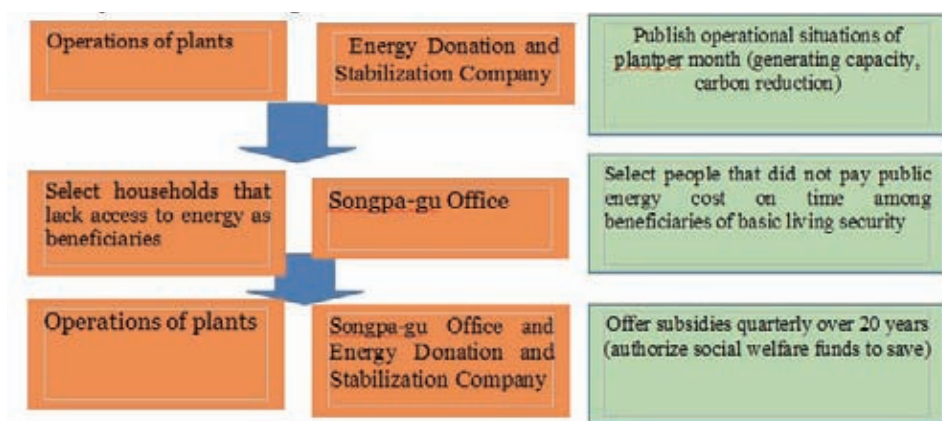
### 1. 项目建设及运营

2008年10月，松坡区宣布成为“应对气候变化的领导城市”，最先提出了系统地转换可再生能源的政策。

2008年11月，由非政府组织和私营企业成立的“能源捐赠与稳定公司”提出1号发电厂建设计划，正式启动太阳能共享电厂建设，到2013年5月，已完成1—4号电厂的建设，各电厂建设及运营情况见下表：



and management of each plant. The electrical output, carbon reductions and profits from each plant are reported to Songpa-gu Office every month. The operational profits are guaranteed by applying for FIT of the Songpa-gu Office's renewable energy support policy. Also, Songpa-gu Office monitors the construction, operation and profits allocation of plants. Funds were donated through a social welfare funding system until June 2010 by Energy Donation and Stabilization Company. Currently the distribution is directly managed by Songpa since the "ordinance on funding" was established. Songpa selects eligible households that lack access to energy as beneficiaries of the support schemes.





Plants Operation and Management Models

## ➔ Implementation of the Initiative





### 1. Construction and Operation

Songpa-gu was proclaimed the "Leading city for climate change response" in August 2008, and the first district to carry out a policy switching to renewable energy in a comprehensive way.

In November 2008, NGOs and private companies started Energy Donation and Stabilization Company, which put up the plan of constructing the plant No.1 and officially started the construction of Songpa Solar Nanum Power Plant. Songpa-gu has constructed a total of four Solar Nanum Power Plants by May 2013. Each plant's construction and operation status are in the table below:



Number Abstract	No.1 plant	No.2 plant	No.3 plant	No.4 plant
Service time	Feb.2009- Dec.2023 (15 years)	Jan.2010- Dec.2029 (20 years)	June.2012- May.2032 (20 years)	May.2013- May.2033 (20 years)
Operation entities	Energy Donation and Stabilization Company	Energy Donation and Stabilization Company	Energy Donation and Stabilization Company; South Korean Development Company; Korean environment industry	Energy Donation and Stabilization Company; Korean environment industry
Program site	Gohung-gun, Jeonnam	Yonseong-gun	Jangjigong Resource Recycling Park	Jangjigong Resource Recycling Park
Program scales	7,492m <sup>2</sup>	26,000m <sup>2</sup>	1,500m <sup>2</sup>	1,500m <sup>2</sup>
Generating capacity	200 kW	921.6kW	99.36 kW	98.8 kW
Annual generating capacity	300 MWH	1,200 MWH	108.8 MWH	108.2 MWH
Construction cost	0.73 billion won ( subsidies 300 million won)	5.7 billion won ( subsidies 1.4 billion won)	340 million won (Songpa-gu)  158 million won;companies subsidy 170 million won (residents pay 170 million won)	300 million won ( subsidies 150 million won)
Estimated net	1.85 billion won	4.75 billion won	About 450 million won (estimated)	About 300 million won (estimated)
Estimated carbon reduction	127.2 ton annually	508.8 ton annually	46.1 ton annually	45.9 ton annually
Estimated aid	600 million won over 15 years	2.2 billion won over 20 years	340 million won over 20 years	280 million won over 15 years
Program site				

## 2. Support for Korean Poor Families

From 2009 to present, Songpa Solar Nanum (Sharing) Power Plant has donated 509 million won for 3312 poor families. Details are in the table below:

Table2 Songpa Solar Nanum Power Plant Donation Status

Assistance Content	Target of Assistance	Assistance Amount (won)
Provide cash to support energy costs	720 families	96,000,000
Improve energy efficiency of small-scale facilities	3 facilities	55,370,000
Support people who did not pay in gas and electricity	479 families	105,818,310
Replace emergency cut-off valve for gas	563 families	36,970,620
Insulation materials are attached to old buildings	50 families and 3 facilities	5,654,000
Replace existing bulbs with LED lights for low-income groups	938 families (central government donates 324,897,690 won Songpa-gu Office donates 59,535,140 won)	59,535,140
Provide efficient appliances	310 families (refrigerator and washing machine)	140,107,480
Provide fans in the heat	252 families	9,702,000
Total		509,157,550

## 3. Expand Overseas to Support Other Developing Countries

Songpa-gu also provides total 75 million won to three energy projects of two developing countries. In 2013, Songpa-gu helped Mongolia to install wind-solar power generation plant. In 2014 and 2015, it installed generators at village schools in Vietnam. Details are in the table





Wind-solar power generation plant in Mongolia (2013)		2014
		
Assistance time: September 2013  Object of assistance: desert zone in Mongolia Breeding center and village schools Installed facilities: integrated wind-solar power generation system (total capacity of 4 kW)		Assistance time: December 2014  Object of assistance: NANE primary school in  Installed facilities: integrated wind-solar power generation system (total capacity of 4.28 kW)
		
Assistance time: September 2015 :30 million won  Installed facilities: integrated wind-solar power generation system 2.14 kW 2 stages (1.5 kW wind power + 640w solar power)		

## ➔ Effect and Challenge

### (1) Environmental Impact

bring are equal to planting 5.24 million pine trees, 17,000 square meters mountain forests.

### (2) Economic Impact

The No.1, No.2, No.3, No.4 Songpa Solar Nanum Power Plant receive 2.008 billion won

## → 项目创新

### 1. 实现环境保护和公益福利的有机结合

太阳能是“绿色”能源，利用太阳能发电可减少温室气体（二氧化碳）的排放，而将电厂运营利润的一部分作为能源补贴资助低收入群体，将环境保护和公益福利有机地结合起来是项目的一大亮点。

### 2. 实现项目自身和公益福利的可持续发展

项目将运营利润作了合理分配，净利润的25%作为能源补贴资助低收入群体，25%援助发展中国家，剩余50%用于项目建设发展，不但保证了后续电厂建设资金，解决了项目自身发展问题，而且建立了稳定的公益福利基金，实现项目自身和公益福利可持续性发展的模式创新。

### 3. 精准有效的资助政策

为使公益福利基金准确用于须资助的贫困家庭，且有利于家庭能源效率的提高，松坡区政府和社会工作者开展详细调查，确认需要援助的家庭，将有老年人、婴儿、孕妇和慢性病人的家庭优先选为资助受益人；资助方式由前期的能源费用补贴改为更换低能耗的家用照明、电冰箱、洗衣机和其他电器。

## → 项目亮点

### 1. 松坡太阳能共享电厂项目为公私领域合作，建立了政府与私营非政府组织之间的合作关系

通过与私营环境组织合作，实施切实可行的持续性政策，而不是宣言式的政治运动。特别是3号发电厂的资金来源为松坡区、松坡区居民以及韩国南方电力公司，发电厂所用的建筑楼顶由韩国3R环境公司免费提供，“能源和平”组织则负责发电厂的宣传和管理，实现居民—城市，政府—私营企业—环保组织的密切合作。



investments and public donation. Besides, it establishes 3.42 billion won donation funds.

## 2. Challenge of the Initiative

(1) The initial cost of the project is high while profitability is low and investment returns are higher only in the long term. In order to secure adequate budget and seek support for the project, project entities visited every congressman to explain the cause and meaning of the project. Furthermore, profitability and safety were strictly analyzed in consultation with the relevant institutions.

(2) The profitability of the program is tightly connected with government's policies. Thus, the changes of government's policies have influence on the sustainability of the program. In 2012, Songpa-gu Office reduced the FIT making the profitability of the program weaken, and posting an effect on additional construction of the program.

## → Innovation of the Initiative

### 1. Realizing the Dynamic Integration of Environmental Protection and Public Welfare

Utilizing solar energy, a kind of green energy, to generate electricity, the program reduces the green house emission (carbon dioxide). Besides, the program allocates part of the operational profit as energy subsidies to support low-income groups. It is a bright point that realize the dynamic integration of environmental protection and public welfare.

### 2. Realizing Sustainable Development of the Program and Public Welfare

The program also allocates operational profit in an appropriate way: 25% of the net profit will be used for people that lack access to energy, 25% forwarded to underdeveloped countries and the remaining 50% will be used to build additional Solar Nanum Power Plants. In this way, there are subsequent funds to support the development of program with continuing public welfare funds. The program realizes sustainable development of the program and public welfare.

### 3. Carrying out Targeting and Effective Supporting Policies

In order to guarantee public welfare funds allocated to households with actual needs and improve the energy efficiency of these families, Songpa-gu Office and social workers conduct research to identify households that urgently need support. Households with the aged, infants,



pregnant women and chronic patients are preferentially selected as beneficiaries. Assistance approaches shift from subsidizing energy cost in the former stage into installing lighting, refrigerators, washing machines and other appliances with lower energy consumption.

## → Highlight of the Initiative

1. Songpa Solar Nanum Power Plant is a private-public sector collaboration which established a relationship between a city office and a private NGO. In other words, the program executed a practical and continuing policy in collaboration with a private environment organization rather than a declaratory campaign. In particular, the No. 3 plant is financially supported by Songpa-gu, citizens of Songpa-gu and Korea Southern Power Co. Ltd. The building's rooftop was provided by Korea 3-R Environment Company for free, and Energy Peace took the promoting and managing responsibility of the power plant realizing the citizen-city office-private company-environmental organization collaboration to reduce carbon emissions and support the energy-needy.

2. Songpa Solar Nanum Power Plant is oriented by local residents' participation and efforts. Construction funds consist of budget of Songpa-gu Office, donations from NGOs, local residents as well as energy companies. Local residents play a key role in planning, designing, constructing of the program.

## → Experience and Inspiration

### 1. Experience of the Initiative

#### (1) NGOs take part in poverty alleviation

NGOs play a key part in the whole process of constructing, operating, and aiding Songpa Solar Nanum (Sharing) Power Plant. With the active engagement of NGOs and monitoring of governments, the program makes up the deficiencies that brought about by governments and companies as main entities based on the principle of "allocating for non profit". Songpa Solar Nanum Power Plant has significant reference to other cities especially cities of developing countries for sustainable development of program and public welfare.

(2) The combination of poverty alleviation and environmental protection are more resilient and sustainable.

With the carbon emission reduction, Songpa Solar Nanum (Sharing) Power Plant is not

## （2）扶贫模式与环境保护结合才有生命力，才有可持续性

松坡太阳能共享电厂可减少温室气体（二氧化碳）的排放，利于环境保护，又可资助低收入群体，将环境保护和扶贫工作紧密结合起来，其环境效益和社会效益易获得全社会的广泛认可，使项目本身和扶贫规模均不断得到发展，具有很强的可持续性和生命力。

## 2. 项目启示

### （1）适当引导非政府组织参与社会救助，提升广州救助水平和效率

近年来，广州市不断提升救助服务水平，社会救助的力度不断加强，但公益性非政府组织在社会救助中的独特价值和优势，还有待进一步挖掘和利用。公益性非政府组织以受益者的需要为导向，不以牟利为动机，能更好地实现公益资源的有效配置和更大范围的社会公平。松坡区太阳能共享电厂的实践表明，公益性非政府组织作为一种新的公益资源配置方式，弥补了政府和企业这两种主要的公益资源配置体制的不足，起到了“拾遗补缺”的作用。因此，适当引导部分公益性非政府组织在乡村发展、扶贫、教育、保护妇女儿童、卫生保健、社区发展和环境保护等领域参与救助，可进一步提升广州市社会救助的服务水平和效率。

（2）环境保护和公益福利紧密结合的扶贫（救助）模式，提升广州城市美誉度和国际形象

松坡太阳能共享电厂对广州市的启示，除了上述提到的项目自身发展的可持续性、环境保护、资助国内低收入居民、援助发展中国家外，还有一个很重要的意义和作用，就是可在短时间内、有效地向全世界宣传和提升一个城市的国际形象；松坡太阳能共享电厂除获得第三届广州国际城市创新奖外，还获得了全球最宜居城市铜奖、2011年全球可持续发展城市地区奖、2013年国际绿苹果银奖和2015年联合国公共服务奖。

广州市作为一个全球新兴的国际大都市，可通过给予一定的政策倾斜等方式，引导社会力量建设一些环境保护和公益福利相结合的示范性项目，不断扩大其示范、引领作用，使其成为广州市“城市名片”的重要内容，以此激发全体市民的信心与自豪感，并借此提高城市的美誉度和国际形象。





only beneficial to environmental protection, but also to poverty alleviation. By combining these two objects together, Songpa Solar Nanum (Sharing) Power Plant receives a wide recognition for social and environmental benefit it brings. Both the program and poverty alleviation meet with good results with continuing development and vitality.

## 2. Inspiration of the Initiative

(1) Encouraging NGOs to play a role in social welfare projects within appropriate range could improve the level and efficiency of assistance

NGOs for the public good are guided by the needs of beneficiaries with non-for-profits features, accordingly, they can better realize efficient allocation of public resources as well as social equality in a more comprehensive way. According to the practice of Songpa Solar Nanum (Sharing) Power Plant, it shows that as a new approach of allocating public resources, NGOs for the public good counterbalance the deficiency of government and companies, two main allocation systems of public resources. In a word, NGO can play a role of filling a vacancy leak.

(2) Setting a good example of realizing environmental protection and public welfare simultaneously, this project has received favorable reviews in Korea and overseas

Building Songpa Solar Nanum (Sharing) Power Plant could promote and improve Songpa-gu's international image effectively in a short time. Internationally, besides awarded the 3th Guangzhou International Award for Urban Innovation, it received the bronze award from LivCom Awards, and was awarded as the winner of Sustainable City area in 2011 Globe Award. Moreover, it was awarded the grand prize of the "UN Public Service Award" in 2015, after receiving the silver prize in the 2013 International Green Apple Awards.

## / 南宁（中国） / 餐厨废弃物资源化利用和无害化处理厂项目

□ 苏兴国 / 广州市城市管理技术研究中心

南宁是2016年第三届广州国际城市创新奖专家推荐城市。本次调研开展于2017年8月22日至23日。

为了深入挖掘第三届广州国际城市创新奖（简称“广州奖”）专家推荐城市案例“南宁市餐厨废弃物资源化利用和无害化处理厂项目”（以下简称南宁项目）的创新价值，8月22—23日，市外办联合埃及国家住房与建设研究中心、广州市城市管理委员会、广州生产力促进中心一行5人前往广西省南宁市调研南宁市餐厨废弃物资源化利用情况，现场考察了南宁项目，重点了解南宁市餐厨废弃物的收运、处理、监管以及南宁项目的建设模式、处理规模、技术工艺、配套设施、设备运行状况、投资等情况。

南宁项目位于南宁高新区邕隆路85号原石西生活垃圾堆肥厂东南面，占地面积30亩，总投资1.34亿元（其中环保投资2121万元）。项目建设工程采用“EPC”的模式建设，主要处理的对象为餐饮行业产生的餐饮垃圾和“地沟油”，设计处理规模为餐饮垃圾200吨/日，地沟油22吨/日。项目主体工程由餐厨垃圾处理生产线及配套收运系统，供热、供力、供电系统，污水处理站，臭气处理系统组成。项目的餐饮垃圾处理采用“预处理+厌氧发酵”工艺，预处理采用意大利的DODA—生物质分离器，在该分离器中实现有机物、无机物的分离，有机物则被破碎制成浆料。厌氧发酵采用降流式免维护高温（52—55℃）发酵处理工艺，发酵周期28日，沼气产量2000—24000Nm<sup>3</sup>/d，沼气主要用于生物质的厌氧发酵用能消耗，项目计划于2017年底，沼气发电投入生产。项目的地沟油经处理系统制



## / Nanning(China) /

# Kitchen Waste Resource Utilization and Harmless Treatment Plant Project of Nanning City

□ Xingguo Su / Guangzhou City Administration Technologies Research Center

Nanning was a deserving city of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during August 22<sup>nd</sup> and 23<sup>rd</sup>, 2017.

In order to deeply dig into the innovation value of the third Guangzhou International Award for Urban Innovation (“Guangzhou Award”), experts recommended the city case of “Kitchen waste Resource Reusage and Harmless Treatment Plant Project for Restaurant Waste in Nanning” (hereinafter referred to as the Nanning Project). From August 22<sup>nd</sup> to 23<sup>rd</sup>, the Foreign Affairs Office of the People’s Government of Guangzhou Municipality worked jointly with the Egyptian National Centre for Housing and Construction Research, the Guangzhou Municipal Commission of City Management, and the Guangzhou Productivity Center to dispatch a group of five people who visited Nanning, in Guangxi Province to investigate the recycling utilization of restaurant waste in Nanning. Their on-site inspection of the Nanning Project focused mainly on investigating the collection, transportation, disposal and supervision of restaurant waste in Nanning, as well as the construction mode, processing scale, technical process, supporting facilities, equipment operation, and investment of the Nanning Project.

The Nanning Project is located in the Nanning Hi-tech Zone, covering an area of 30 acres, with a total investment of 134 million yuan (including environmental protection investment 21,210,000 yuan). This project adopts the “EPC” mode of construction. The main targets of the project are food and beverage waste and “illegal cooking oil” generated by the catering industry. The scale of disposal includes 200 tons of food waste and 22 tons of “illegal cooking oil” per day. The body part of this project consists of food waste processing production line and supporting collection and transportation system, heating, energy, and power supply system, sewage disposal



station and odor disposal system. The treatment of food waste employs the process of “Pre-treatment + anaerobic fermentation”. The pre-treatment uses a DODA-biomass separator from Italy, which helps achieve the separation of organic and inorganic substances and breaks organic matter into slurry. Whereas the anaerobic fermentation adopts a downflow-type high temperature (52-55°C) maintenance-free fermentation process. Fermentation lasts 28 days, producing 20000-24000Nm<sup>3</sup>/d, of biogas, which is mainly used for high-temperature anaerobic fermentation of biomass. At the end of 2017, the biogas power generation was put into production. And the “illegal cooking oil” is processed and sold as biodiesel. The waste water generated by the project (including biogas slurry, vehicle workshop flushing water, biogas dehydration, odor treatment waste water, domestic sewage, etc.) is mainly processed through the supporting sewage treatment station, and if the waste water reaches the three-level standard of “Integrated Waste water Discharge Standard”, it will be sent to Jiangnan Waste water Treatment Plant by tank truck before the municipal sewage pipe network is put into use. Waste gas generated from the project production line, sewage treatment station, etc. is discharged into upper atmosphere through a wet scrubber and a microbiological degradation processor. The pre-processing debris of the project is sent to the landfill site for disposal. The dehydrated biogas residues after anaerobic digestion are sold as nutrient soil.

## ➔ Background of the Initiative

At the beginning of 2017, the living garbage disposal capacity of urban areas in Nanning City reached 3,100 tons per day, which mainly depend on living waste incineration power generation projects and other facilities at Pingli Venous Industrial Park, Nanning, to achieve 100% harmless disposal of urban living waste. However, restaurant waste rely upon the Nanning Project to realize resource recycling utilization and decontamination disposal.

In July 2011, the National Development Committee and other departments issued the “Implementation Plan for the Implementation of the Pilot Program for the Resource Utilization and Harmless Treatment of Restaurant Waste in 33 Cities (Regions) Including in Chaoyang District, Beijing, etc., and Confirmed These Cities as a Pilot Cities (regions)” (No. 1669 of the National Development and Reform Commission [2011]). And this notification explicitly included Nanning as one of the first pilot cities for the resource recycling utilization and harmless treatment of restaurant waste. In 2012, the Nanning municipal government adopted the BOT (Build Operate Transfer) construction model. After public bidding, it was determined that



2013年9月，南宁市政府以采买服务方式与广西蓝德公司签订相关服务协议，餐厨废弃物处理市政府补贴综合单价为279.5元/吨，其中，餐饮垃圾收运费为102.8元/吨，处理费为176.7元/吨。

## → 项目实施

### 1. 项目建设进程

南宁项目采用BOT的模式进行建设，于2012年8月通过公开招投标方式，确定项目收集、运输、处置一体化服务的中标单位为郑州蓝德环保科技有限公司。2013年9月，南宁市政府授权委托南宁市城管局与中标单位签订特许经营协议和餐厨废弃物处理服务协议，随后，郑州蓝德公司在南宁成立广西蓝德再生能源有限公司为项目实施主体。项目于2013年1月获得南宁市环保批复，2月获得可研批复，3月获得施工许可批复开工建设，于2014年12月建成试运行，于2015年3月投入商业运营。目前，该项目正在建设二期工程，建成后，南宁市餐厨垃圾总处理能力将达450吨/日。

### 2. 项目推进的法律基础和主管部门

南宁市政府于2014年3月起实施《南宁市餐厨垃圾管理办法》，规范了南宁市餐厨垃圾的无害化处理和资源化利用，明确南宁市的餐厨垃圾管理遵循集中收运、定点处置、市场运作、综合利用、合理收费的原则，确定了当地餐厨垃圾的产生、收集、运输和处置的具体规范，为项目的顺利实施提供了法律保障。

该办法明确南宁市城市管理局是南宁市餐厨废弃物管理工作的主管部门，负责项目建设的组织实施，并负责项目建成投产后运营作业的监管。2015年4月，南宁市出台了《南宁市餐厨垃圾管理专项整治工作实施方案》《南宁市餐厨垃圾非法收运专项整治工作方案》，进一步统筹、指导和推动南宁市餐厨垃圾处理工作的规范管理。

### 3. 项目利益相关方的领导与协作

南宁市的餐厨垃圾工作遵循政府主导、市场运作、全民参与的管理方式，具体体现为市政府采购广西蓝德公司的餐厨垃圾收运处理一体化服务，广西蓝德公司负责收集、运输



the company of Guangxi Lande was responsible for restaurant waste collection, transportation, and disposal. In September 2013, the Nanning municipal government signed a relevant service agreement with Guangxi Lande in terms of procurement services. The city government subsidizes the total unit price for restaurant waste disposal 279.5 yuan/ton, of which 102.8 yuan/ton are food and garbage collection and transportation fees and 176.7 yuan/ton are disposal fees.

## → Implementation of the Initiative

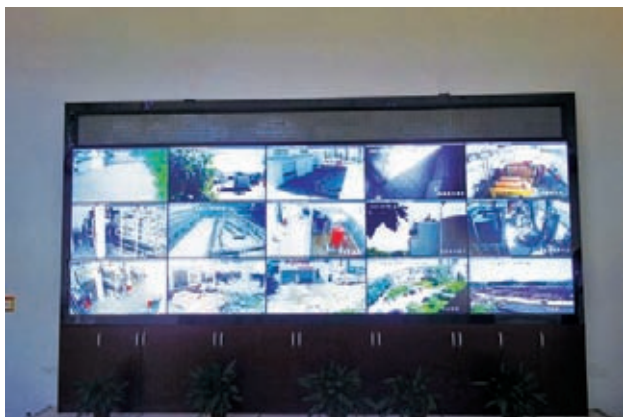
### 1. Program Implementation

The Nanning Project adopts the BOT model for construction. In August 2012, Zhengzhou Lande Environmental Protection Technology Co., Ltd. was responsible for the integrated service of project collection, transportation, and disposal through public bidding. In September 2013, the Nanning municipal government authorized the Nanning Urban Management Bureau to sign the Franchise Agreement and the Restaurant Waste Disposal Service Agreement with the winning bidder, Zhengzhou Lande Environmental Protection Technology Co., Ltd. Soon afterwards, the implementation subject of the project, Guangxi Lande Renewable Energy Co., Ltd. in Nanning was established by Zhengzhou Lande. The project was approved by Nanning City in January 2013, then was approved to reasearch in February, obtained the construction permit in March, completed trial operations in December 2014, and entered into commercial operation in March 2015. At present, the second phase of the project is undergoing. After completion, the total processing capacity of restaurant garbage in Nanning will reach 450 tons per day.

### 2. Legal Basis and Competent Department

In March 2014, the Nanning municipal government implemented the Nanning Restaurant Waste Management Plan which standardizes the harmless treatment and resource recycling utilization of restaurant garbage in Nanning. This plan also states that the management of restaurant waste in Nanning follows the principal of centralized collection and transportation, fixed-point disposal, market operation, comprehensive utilization, and reasonable charging. The specific specifications for the production, collection, transportation, and disposal of local food waste are determined. All these provide legal protection for the smooth implementation of the project.

The plan clarifies that the Nanning City Administrative Bureau is the department responsible for the implementation of the project construction, and for the supervision of the



和处理餐饮企业产生的餐饮垃圾，餐饮企业有义务向广西蓝德移交其产生的餐饮垃圾。南宁项目属公益性市政基础设施，涉及利益相关方多、关系复杂，主要涉及了政府部门、社会企业、项目所在地民众、餐饮企业、原有餐饮垃圾非法收集处理者等利益相关方。

在餐厨垃圾处理管理工作中，为了使工作有前瞻性和统筹推进，南宁市政府成立项目建设工作领导小组，负责领导、规划、统筹项目建设，协调解决项目建设中涉及规划、征地、环评、报建等行政工作以及相关问题，确保项目落地，使餐厨垃圾得到无害化处理，保护食品安全，实现工作社会公益性。同时，成立餐厨垃圾管理专项工作办公室，成员包括市城管局、食药局、公安局、农业局等相关行政部门，对行政区内的餐饮单位进行专项执法，解决因餐饮垃圾的收运工作打破存在已久的传统市场，严重触及了餐饮企业、原有餐饮垃圾非法收集处理者利益而存在的各类抗拒合法收运的行为，确保餐厨垃圾收运工作有序开展。广西蓝德公司是项目建设的具体实施企业，是各利益相关方的具体反映汇集点，是建立收运体系、处理体系的主体，该公司通过吸引当地劳动力等经济反哺工作，以企业行为有效促进了项目与当地的和谐。

## ➔ 成效与挑战

### 1. 项目成效

南宁项目商业运营后，日均处理量已达230吨，处于满负荷运行状态，基本实现项目

project operation after its completion . In April 2015, the government in Nanning City issued the “Special Treatment of Restaurant Garbage Management Implementation Plan in Nanning City” and the “Special Work Plan for Receiving Illegal Receipt and Transportation of Restaurant Garbage in Nanning” to further coordinate, guide and promote the standardized management of restaurant waste in Nanning.

### 3. The Leadership and Collaboration of Stakeholders

Work on restaurant garbage in Nanning follows the government-led, market-based, and public-involved management approaches, which are embodied in the municipal government procurement of the integrated services of Guangxi Lande including collection and transportation. Guangxi Lande is responsible for the collection, transportation, and disposal of restaurant garbage generated by catering companies, which are obliged to hand over food and beverage waste to Guangxi Lande. The Nanning Project is a public welfare of municipal infrastructure. It involves a large number of interested parties and has a complex relationship. It mainly contains stakeholders such as government departments, social enterprises, local residents, catering companies, and original catering garbage illegal collectors.

During the management of restaurant garbage disposal, in order to make the work implemented in a forward-looking and coordinated way, the Nanning municipal government established a leading group for project construction. The leading group is responsible for leading, planning and coordinating project construction, and resolving administrative problems and related issues involving planning, land acquisition, environmental assessment, and reporting so as to ensure that the project be successfully put into operation. In that way, social welfare such as harmless treatment of kitchen waste and food safety protection will be achieved. At the same time, the government set up a special kitchen waste management office. The members of this include the municipal urban management bureau, food and drug bureau, public security bureau, agricultural bureau and other relevant administrative departments to implement special law enforcement on catering units in the administrative district, which is done to solve the problem of collection and transportation of catering wastes and ensure the orderly delivery of food waste. Examples of collection and transportation problems include various types of behaviors such as the resistance against legal collection and transportation. All these action seriously touched on the interests of catering companies and illegal collectors of food waste. Guangxi Lande Corporation is the implementation subject of this project, and it is the specific response point for

建设运营一体化、运营主体企业化、监督管理智慧化，于2016年10获得第三届广州奖“专家推荐城市”荣誉称号，于2017年5月成功入选国家发改委第二批PPP项目典型案例，于2017年6月通过国家发改委、财政部、住房城乡建设部关于2017年餐厨废弃物资源化利用和无害化处理试点城市验收。

## 2. 项目挑战

南宁项目在推进中，项目与当地和谐共处、餐饮垃圾收运是项目建设的难点问题。

## ➔ 项目创新

### 1. 引进外国先进技术，铸造关键环节，保障项目可靠运营

南宁项目得益于南宁市餐饮垃圾监管到位，使其收集处理的餐厨垃圾物料含杂率不高，得益于引进意大利的DODA—生物质分离技术，无机物如塑料等在分离机中被有效分离，分离率达到95%，有机物被破碎制浆，实现了有机物与无机物一体化分离作业，达到餐厨垃圾前端预处理的密闭化、自动化、高效化和集约化，从源头解决了臭气处理难题，解决了餐厨垃圾厌氧处理的“去杂制浆”难的关键问题，保障了可后续厌氧处理。厌氧发酵处理，得益于引进了比利时的OWS—DRANCO高温厌氧发酵技术，采用高温（52—55℃）厌氧发酵工作，将厌氧罐设计为45°锥斗沉砂，浆料泵返式混料方式，避免了厌氧罐顶浮渣，解决了厌氧罐搅难、沉砂清罐难、易腐蚀等常见问题，以期达到免维护连续长期稳定运行目的。

### 2. 项目建设、运营、收运“一体化”，为项目注入活力

南宁项目以BOT的模式建设，以公开招投式方式确定中标单位，以市政府采购服务的方式，将项目的建设、项目运营、餐饮垃圾的收集运输进行捆绑，实现餐饮垃圾收集、运输到处理全过程的一站式企业服务，减轻了政府负担，减少了因餐饮垃圾成分变化致政企衔接的矛盾。同时，也压实了企业实际参与餐厨全过程管理责任，增加了企业活力，使南宁项目自2015年3月顺利商业运营至今。



various stakeholders, and is the main body for establishing a collection and transportation system and a disposal system. The company effectively promoted harmony between the project and the local community through economic back-feeding work such as by attracting the local labor force.

## ➔ Effect and Challenge

### 1. Effect of the Initiative

After the commercial operation of the Nanning Project, the average daily disposal volume has reached 230 tons, and it is in a fully-loaded state of operation. It basically achieves the goals of integrating project construction and operation, enterprise-oriented operation, and intelligent supervision and management. Therefore, The Nanning Project won the third Guangzhou Award for Expert Recommended City in 2016. In May 2017, it was successfully selected as a typical case of the second batch of PPP (Public-Private-Partnership) projects of the National Development and Reform Commission, and in June 2017, it passed the test of the National Development and Reform Commission, the Ministry of Finance, and the Ministry of Housing and Urban-Rural Development on the pilot city of the 2017 kitchen waste resource recycling utilization and harmless treatment.

### 2. Challenge of the Initiative

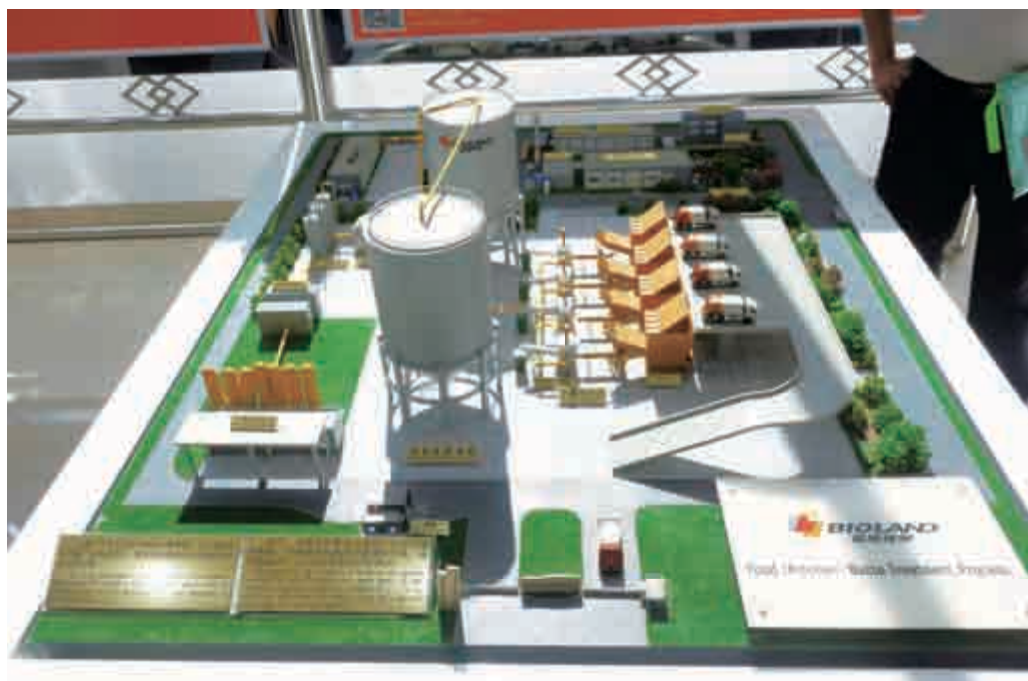
It is a difficult issue in the project construction to promote harmonious co-existence between the local project and the collection and transportation of food waste.

## ➔ Innovation of the Initiative

### 1. Introducing Foreign Advanced Technology to Cast Key Links and Ensure the Project's Successful Operation

The Nanning Project benefits from the supervision of restaurant food waste, which allows for a low impurity rate in these. It also benefits from the introduction of DODA-biomass separation technology from Italy. Inorganic materials such as plastics are effectively separated with a separation rate of 95%. And organic materials are crushed and pulped. In that way, the integrated separation of organics and inorganics is achieved, so that the pre-treatment of food







waste in kitchens is closed, automated, highly efficient, and intensive. It solves not only the problem of odor treatment from the source, but also the key issues of the “dust-free pulping” of the anaerobic treatment of food waste. All these guarantee the subsequent anaerobic treatment. Anaerobic fermentation process is achieved by the introduction of Belgium’s OWS-DRANCO, a kind of high-temperature anaerobic fermentation technology. Anaerobic fermentation performances under high temperature (52 ~ 55 °C), and the anaerobic tank is designed as a 45 ° cone -shaped to make sure that slurry pump can be back mixed. Therefore it avoids any scum from the top of the anaerobic tank, and the common problems such as anaerobic tank stirring, difficulty in sedimentation and clearing, and easy corrosion are solved, so as to achieve the goal of continuous and long-term stable operation without maintenance.

## 2. The “Integration” of Project Construction, Operation, Collection and Transportation Inject Vitality into the Project

Based on the BOT (Build-Operate-Transfer) model, selecting the successful bidder through open bidding, and adopting the municipal government procurement service, the Nanning Project bundles project construction, operations, and collection and transportation of catering wastes to achieve one-stop services for the entire process of catering waste collection, transportation, and disposal, which reduces government burdens, and reduces the contradiction between the convergence of government and enterprises caused by changes in the composition of food waste. At the same time, it also reinforces the company’s management responsibility in the whole process, and increases the vitality of the enterprise, which is what has been allowing the project to run smoothly since March of 2015.

### ➡ Highlight of the Initiative

#### 1. Focusing on Solid Foundation and Starting Projects from High Point

In the early stage of the Nanning Project, the Nanning municipal government established a project construction work leading group led by the deputy mayor, to conduct a strong unified leadership and coordination of the project, adopt a high starting point for the design and positioning of project, provide professional operating services, and give full play to the “protecting” role to ensure that the project can be successfully implemented.

垃圾管理工作。成立了餐厨垃圾监管部门，专职负责餐厨垃圾收集、运输、处置全过程的监督管理。投资约730万元建立了居民餐厨垃圾监管、餐饮企业餐厨垃圾监管、废弃油脂监管、运输车辆监管、处置监管“五位一体”的餐厨垃圾智慧监管平台，实现大数据智慧监管。

#### 4. 注重因势利导，实现餐饮企业从被动接受到主动配合

南宁市通过对餐厨垃圾无害化处理工作进行全面多方位的广泛宣传，引导舆论，营造氛围，使民众认知、理解、支持和配合餐厨垃圾管理工作。

对餐饮企业开展上门服务，主动将服务送上门，与企业签订餐饮垃圾免费收运服务协议，免费为企业提供专用餐饮垃圾收集桶和提供打扫相关区域卫生等服务，用真诚换对抗，以服务赢理解，争取到了企业的支持与配合

开展专项行动，严格执法，震慑不法行为。南宁市将违规收运处理餐厨垃圾问题的整治作为城市管理一项重点工作来抓，制定专项整治行动方案，推动违法治理，成立专项执法中队，强化执法工作。同时，与各城区签订目标责任状落实属地责任，发动街道、社区参与监督形成监管合力。

#### 5. 注重末端托底，为夯实食品安全屏障精准发力

为实现餐厨垃圾的无害化、资源化处理目标，南宁市立足于餐厨垃圾终端处理设施建设，建设高标准、高效率的餐厨垃圾无害处理厂，托举餐厨垃圾收运处理体系逐步建成。目前，南宁市餐厨垃圾无害化处理规模达230吨/日，餐饮垃圾累计处理约15万吨，与餐饮企业签订收运服务协议5025家，为民众构筑了又一道食品安全屏障，餐饮垃圾管理工作走在许多城市前面。

### ➔ 经验与启示

#### 1. 项目经验

(1) 建立完善的法律、政策保障，夯实项目建设基础

餐厨垃圾处理市场的转变、非法利益链的破除、新兴环保产业的建设仅靠“美好愿

## 2. Attaching Great Importance to Constructing a Corporate Sharing Mechanism and Balancing Government-enterprise Cooperation

The government-enterprise work responsibility is clearly defined: the government is responsible for the project's legal guarantee, construction and coordination, the construction of the restaurant waste collection and disposal supervision system; the government also guarantees that the purchase of the service subsidy is paid in full and in time; the company is responsible for the construction of the project, the collection and transportation of catering waste. Thereby, this project strikes a good balance between the cooperation of the government and enterprises.

## 3. Focusing on Inter-departmental Operation and Establishing a Smart Supervision Platform

The government in Nanning set up a linking mechanism for various related administrative departments and jointly established a special work office to guide and coordinate the management of restaurant waste. The restaurant waste supervision department was established to supervise and manage the entire process of food waste collection, transportation and disposal. About 7.3 million yuan was invested to establish a "five-in-one" kitchen waste intelligence supervision platform to supervise the residents' kitchen waste, catering food waste, waste grease, transportation vehicles, and waste disposal.

## 4. Taking Methods to Achieve the Active Cooperation of Food and Beverage Companies

Nanning City has guided public opinion, and created an atmosphere by conducting comprehensive and multi-faceted publicity on the harmless treatment of restaurant garbage, which enable the public to recognize, understand, support, and cooperate with the management of restaurant waste.

Providing on-site service to catering companies: The project strives for business support and cooperation through the signing of a free-of-charge food and beverage collection and transportation service agreement with enterprises. Providing, also for free, dedicated catering garbage collection barrels and offering services such as cleaning the relevant areas.

Conducting special operations, strictly enforcing the law, and deterring unlawful acts: Nanning formulated a special rectification action plan to cope with illegal food waste collection and treatment as a key task for city management. And established a special law enforcement squadron to strengthen law enforcement. At the same time, Nanning City signed a target



responsibility with each urban area to implement the responsibility of the local government, and encouraged the supervision of the streets and the community to form a regulatory joint force.

## 5. Attaching Great Importance to the Construction of Food Waste Terminal Treatment Facilities to Accurately Build Food Safety Barriers

In order to realize the objective of harmless and resourceful processing of kitchen waste, Nanning aims to build food waste terminal treatment facilities with high-standards, high-efficiency and harmless treatment plants, so as to ensure food waste collection and treatment system has been gradually built. At present, the scale of harmless treatment of restaurant garbage in Nanning is 230 tons per day, and the total amount that restaurants have refused is about 150,000 tons, and 5,025 agreements have been signed with catering companies. This achievement has helped to promote food safety for the society, allowing food waste management to step up on more cities.

### ➔ Experience and Inspiration

#### 1. Experience of the Initiative

(1) Establishing a Sound Legal and Policy Guarantee as Solid Foundation for Project Construction

The transformation of the restaurant waste disposal market, the elimination of the illegal interest chains, and the construction of the new environmental protection industry must be based on laws and policies to establish a solid foundation for the government to depend on. This is done so that the law enforcement of the government can be guaranteed, and illegal acts can be punished according to law. All these provide impetus and legal guarantees for the mechanism and the system of food waste treatment, as well as for promoting the legalization of project construction, and strengthening urban food safety.

(2) The government should play a “protecting” role in the food waste treatment items because they are public welfare projects

The government’s protecting role can be divided into three segments. First of all, it is necessary to establish legal and policy support and formulate relevant management methods, policies and regulations. Second is to strengthen the coordination of projects, so as to strongly lead and coordinate the whole process. And Third is to build a restaurant waste collection, transportation and treatment system, to strengthen collection and supervision, and the

### （3）项目“一体化”建设模式，是政企责任共担的有利平衡点

在构建餐厨垃圾处理的工作体系过程中，政府主要关注的是餐厨垃圾的无害化和资源化处理以及保护食品安全社会公益性公益性问题，而企业主要看重的是项目盈利多少、如何营利的商业问题。为达到项目的公益性与市场性的平衡，实现双赢目标，必须要找准平衡点，形成政企共担社会责任的格局。餐厨垃圾处理主要涉及项目建设、收集、运输、处理和监督管理执法五大环节，将项目建设、收集、运输和处理一起捆绑形成“一体化”模式，政府以采购“一体化”服务的方式，明确政企工作界面，实现餐厨垃圾从收集、运输到处理全过程的一站式企业服务，不仅减少了因餐厨垃圾成分变化致政企衔接的矛盾，又可压实了企业实际参与餐厨全过程管理责任，增加了企业活力，还可减轻政府负担，使政府聚力于监督管理执法上。

### （4）项目建设运营、收运两手抓，保障项目可持续发展

先有项目还是先收运？先建项目，则担心项目建成后餐饮收集能力跟不上造成项目处理能力浪费，先收运则又担心没有处理能力造成白收运，这是一些城市在餐饮垃圾管理工作中常遇到纠结的问题。南宁项目的成功实践表明，餐厨垃圾管理工作必须对项目建设和餐厨垃圾收运两手抓，即要重视项目建设又重视收运体系建设，妥善协调项目建设和收运时间节点，要在项目建设同时，积极推进收运体系建立。南宁市仅用半年多的时间，就建立了餐饮垃圾收运体系，形成了“多点成线、串线成片、连片成面、网格布点”的覆盖模式，保障了项目的原料供应，促进项目建成“有源活水”。

### （5）转变理念，主动服务，严格执法，赢得理解，获取支持，促进和谐

餐饮垃圾处理产业的建立，会打破旧市场，严重触及原有利益链，对餐饮企业、非法收运处理者产生影响，存在着不稳的抗拒情绪，处理不当易影响社会稳定。针对这种情况，政府要通过持续性多方位的广泛宣传，使民众认知、理解和转变理念，塑造良好社会氛围。收运企业要强化主动服务意识，主动上门为餐饮企业报务，为餐饮企业提供力所能及的如提供免费专用餐饮垃圾收集桶、打扫卫生等服务，换取餐饮企业的支持。执法要严，统一、规范的执法程序、流程，才能提高执法质量，严格的执法才能震慑、约束、处罚违法行为，才能保障餐饮垃圾处理管理工作到位，提升政府威信，才能为食品安全加道“屏”，促进社会和谐。





enforcement of food waste discharge law to ensure the the collection and disposal of food waste can follow the law.

(3) The “integrated” mode of the project can favorably balance the responsibilities of government and enterprises

In order to achieve a balance between the public welfare and marketability of the project, we must find a balance point and form a pattern of social responsibility for both government and enterprises. Food waste disposal mainly involves five links including project construction, collection, transportation, processing, and supervision and management, which are bundled together to form an “integration” model. The government clarifies the government-enterprise work responsibility by purchasing “integrated” services, so as to realize one-stop business services for food waste from collection, transportation, and processing. It not only reduces the contradiction between the government and enterprises caused by changes in the composition of food waste, but also reinforces the actual responsibility of the company to participate in the whole process of food and kitchen management, so that it increases the vitality of the company, reduces the burden on the government, and enables the government to focus on supervision and management.

(4) Paying Both Attention to Project Operation, Collection and Transportation to Ensure the Sustainable Development of the Project

The successful practice of the Nanning Project shows that the management of restaurant garbage must be carried out on both the project construction and the collection and transportation of restaurant garbage. That is to say, it should emphasize both at the same time. This requires the proper time management of project construction and collection and transportation allowing them to go hand in hand. In just over six months, Nanning City has established a food waste collection and transportation system, which has formed a covering pattern to ensure the supply of raw materials for the project.

(5) Promoting Harmony, and Gaining Understanding and Supporting through Changing Concept, Taking Initiative to Serve, and Strictly Enforcing the Law

The government is supposed to enable people to recognize, understand and change their ideas and create a good social atmosphere through continuous and comprehensive publicity. Collection and transportation companies must strengthen their awareness of active services and provide catering companies with free dedicated food and beverage collection bins, cleaning and other services in exchange for the support of catering companies. The law enforcement must be strict. Only united and standardized law enforcement procedures can improve the quality of law

## 2. 项目启示

### （1）强化政府引导、市场运作、全民参与

提升民众的意识，获取舆论支持，营造良好氛围，是项目建设的前提和基础。项目建设必须靠政府引导、协调和监管，只有政府正确宣传、引导社会意识形态才能获取民众支持，只有大力协调才能保障项目建设落地，只有严格监管才能确保餐厨垃圾处理管理工作的公正性和公益性，只有推进垃圾分类，依靠全民参与，在源头将垃圾分类，才能确保项目持续运营。

### （2）“一体化”建设模式为项目注入活力，减轻政府负担

在餐饮垃圾处理领域，企业负责项目建设、餐饮垃圾收运和处理，政府仅须负责项目建设“落地”和购买“一站式”服务的“一体化”建设模式已成主流，这种模式减轻了政府在收运环节的空白和负担，也避免了政企之间的推诿和摩擦。餐饮垃圾处理的成功经验也可给予厨余垃圾处理项目借鉴。

### （3）政府严格执法，为餐厨垃圾处理工作“保驾护航”

项目建成后，如何收集餐厨垃圾是目前广州面临的新问题。南宁通过专项行动、严格执法，查处违法行为，震慑了不法分子，使签订收运协议的餐饮企业达到5025家，每日收运餐饮垃圾230吨，实现项目的满负荷处理，起到了对餐厨垃圾处理工作的保障作用，这应给予广州启迪。



enforcement.

## 1. Inspiration of the Initiative

### (1) Strengthening Government Guidance, Market Operation, and Participation of all Citizens

Project construction must rely on the guidance, coordination and supervision of government. Only when the government correctly publicizes and guides social ideology can the project gain support from people; only strong coordination can guarantee the complementation of the project; only strict supervision and control can ensure the impartiality and public welfare of food waste management; and only promoting waste classification, relying on the participation of all citizens, and classifying garbage at the source will ensure the continuous operation of the project.

### (2) "Integration" construction mode can inject vitality into the project and reduce government burden

In the area of food and beverage waste disposal, the "integration" construction mode has become mainstream, where enterprises are responsible for project construction, collection and the government is only responsible for the implementation of the project and the purchase of "one-stop" services. This model has eased the government's burdens in the collection and transportation links, and has also avoided pushing responsibility between government and enterprises. The successful experience of catering waste disposal can also provide some references for citizens' kitchen waste disposal projects.

### (3) The government strictly enforces the law in order to make the catering waste disposal work successful

The government in Nanning investigated and dealt with illegal activities, shocked the unruly elements through special actions and strict law enforcement. These measures have resulted in 5,025 catering companies signing a collection and transportation agreement. And the daily collection and transportation of catering waste reaches to 230 tons, which realize the full-load processing of the project. Therefore, this experience is worth learning from.

## / 哥本哈根（丹麦） / 气候适应性社区

□ 李晓晖 / 广州市城市规划勘测设计研究院

哥本哈根是2016第三届广州国际城市创新奖获奖城市。本次调研开展于2017年5月28日至31日。

圣科耶兹社区（St. Kjelds Neighborhood）是哥本哈根的首个气候适应性社区。该项目获得丹麦住房部和哥本哈根市6000万丹麦克朗拨款，率先结合综合城市更新计划开展大暴雨防洪管理项目的实施，社区规模约100公顷，涉及居民24000人左右。目前，示范性项目塔星戈广场（TasingePlads）改造已实施完成，并取得良好成效。圣科耶兹广场（St. KjeldsPlads）、布鲁格万根街（Bryggervangen）改造以及雨水庭院等一批暴雨管理项目正在实施之中。

### ➔ 项目背景

丹麦哥本哈根是享誉全球的先锋与绿色城市，在可持续发展方面有着诸多创新探索和积极行动。2011年大暴雨事件促使哥本哈根市意识到需更加积极地应对气候变化的影响，特别是大暴雨对城市带来的挑战。为此，哥本哈根市在《哥本哈根气候适应规划》基础上，进一步制定了《大暴雨防涝管理规划》，提出了地下和地面的综合解决方案，以有效管理暴雨和雨水，避免暴雨对城市造成影响和损害，同时实现城市空间改造，提升社区形象，为市民创造更优、更环保的生活环境。该方案预算投资98亿丹麦克朗，在未来20年结合城市开发和城市更新逐步实施300个项目。

## / Copenhagen(Denmark) / Copenhagen Climate Resilient Neighbourhood

□ Xiaohui Li / Guangzhou Urban Planning and Design Survey Research Institute

Copenhagen was a winner of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation. This study took place during May 28<sup>th</sup> and 31<sup>st</sup>, 2017.

St. Kjelds Neighborhood is the first climate resilient neighborhood in Copenhagen and also the first to implement a cloudburst management project in line with the city's comprehensive urban renewal plan. The neighborhood covers an area of 100 hectares and is home to 24,000 dwellers. This renewal program has been granted DKK 60 million by the municipality as well as the Danish Housing Department. To date, the transformation of TasingePlads has been completed and the outcomes are positive. Also, a number of rainstorm management projects are under way, including transformation of St. KjeldsPlads and Bryggervangen as well as construction of Future Green Courtyards.

### ➔ Background of the Initiative

Renowned as a green city and trailblazer, Copenhagen is active and innovative in pushing forward sustainable development. The downpour in 2011 prompted Copenhagen to be more responsive to climate change, in particular heavy rainfall. Based on the Copenhagen Climate Adaption Plan, Copenhagen further developed the Cloudburst Management Plan. This is a comprehensive plan combining both underground and surface solutions to manage rains and storms, with the purpose to mitigate the damage done by heavy rains to the city, improve urban space and community image, and create better living conditions for citizens. DKK 9.8 billion will be invested in this initiative and 300 urban development and renewal projects will be implemented in the next 20 years.







## ➔ Implementation of the Initiative

### 1. The municipal government leads the transformation from strategic framework into special actions

Extreme rainfall (more than 1000 mm of precipitation, average annual of Copenhagen being around 700 mm) in Copenhagen in 2011 brought about severe damages as well as strong awareness among the statesmen, professionals, and citizens of the necessity and imminence to tackle climate change.

This led to the approval of the “Climate Adaptation Plan” on August 25, 2011. The plan illustrated the challenges and opportunities that future climate changes may create. To prevent negative impacts and damages, the plan put forward the strategy and action principles to combat climate change, including monitoring, avoiding wrong investment, driving green growth, ensuring coordination with other plans and actions, responding to predictions of climate change, and analyzing and debating climate actions.

The “Cloudburst Management Plan”, passed at the city council on December 13, 2012, set a policy framework for the management of deluge. The plan established a set of standards for flood prevention and called for a cost analysis of doing so. It also gave priority to four types of areas: (1) high risk areas, (2) areas where measures are easy to implement, (3) areas with ongoing urban development projects, and (4) areas where synergistic effects can be gained.

The plan was further elaborated during 2013 and 2014. According to the plan, the city would be divided into seven catchment zones. For each zone, tailored cloudburst management principles and actions are to be taken. The plan also provides four surface solutions aside from the traditional underground solution (draining storm water out to lakes or seas), to manage heavy rains as well as improving urban public spaces: (1) stormwater roads, which transport water from the surface to the lake or the gulf; (2) detentions roads, wide roads that detain and store water; (3) green roads, somewhat narrower and able to detain and hold back the water; (4) detention areas, which can hold a large amount of water. These solutions are to be combined with the overall urban development with considerations of local contexts and have been translated into 300 projects. These projects carry an importance to where implementation takes place and are considered the core of new urban spaces.

暴雨的策略框架，明确了城市暴雨防范标准，提出了防范措施费用的第一次估算，并决定在以下地区优先采取行动：暴雨灾害高发地区、防涝措施易实施地区、工程在建地区以及能够协同进行城市开发与更新的地区。

2013年至2014年，大暴雨防洪管理规划得到深化、细化，进一步将全市划分为七个汇水分区，并指明每个汇水分区应采取的暴雨管理原则和方法。除传统的地下排水管网（暴雨水管道，从地下输送雨水至湖泊或海湾）外，规划还提供了四种地面解决方案，以应对暴雨气候，提升城市公共空间的气候适应性。这四种地面解决方案包括：（1）暴雨水道路：能将水从地表输送至湖泊或海湾的道路；（2）滞留道路：宽度较大，能够滞留并储蓄雨水的道路；（3）绿色街巷：宽度较小，能滞留或减缓水流的街道；（4）滞留区域：滞留并储蓄大量雨水的区域。目前，这些方案已转化为300个具体的行动计划。这些项目被视作新城市空间诞生的开端，对项目所在地区而言意义重大。

## 2. 项目采取议会审议、政府管理、公司操作的方式

项目由哥本哈根科技环保委员会（Technical and Environmental Committee）负责审议，经过预期效果、实施周期、风险和脆弱性、建设成本，以及与其他城市建设协同等方面的综合评估，项目得以通过。而年度预算协商时再决定项目实施次序。通常的原则包括：率先能发挥效果的大型设施；简单有效并易于实现目标的项目；快速有效的滞留区域和滞留道路；近几年遭受损害最严重的地区。

项目的执行则由哥本哈根科技环保局（Technical and Environmental Administration）负责管理，首都地区公用事业公司（HOFOR）负责具体工程实施。首都地区公用事业公司是一家公私合营机构，专为哥本哈根提供供水和排水处理服务，能在政府许可的条件下进行收费和融资，为项目实施提供资金。

圣科耶兹社区被选择作为首个气候适应性社区进行打造。由于人口密集、社区设施老旧、缺乏绿地等原因，该地区在2010年就被市议会批准实施综合城市更新项目，因而也被选定为示范性区域，率先实施大暴雨防涝管理计划项目，通过示范性项目探索、积累工程和项目经验。

## 3. 采取参与式、协作式规划建设示范项目，实现多元目标

塔星戈广场是首个实施的示范性项目。塔星戈广场所在地原为一处道路交叉口。按



## **2. The initiative is approved by the council, managed by the government, and operated by enterprises**

The Technical and Environmental Committee of Copenhagen approved of the initiative after a comprehensive analysis of the expected outcome, implementation cycle, risks and vulnerabilities, construction cost, and coordination with other development projects. In relation to implementation priority, discussions are scheduled during annual budgeting, following certain principles as follows: first-responding large facilities; projects that are easily implemented; efficient and effective detention roads and areas; areas that suffered the most damages in recent years, etc.

While it is approved by the Technical and Environmental Committee, the program is managed by the Technical and Environmental Administration and implemented by Greater Copenhagen Utility (HOFOR). HOFOR, a water and sewerage services provider, is the outcome of a public-private partnership and is able to raise finance with the government's consent for project funding.

St. Kjelds Neighborhood was chosen as the first climate adaptive community to be built as well as a demonstration area for the implementation of the Cloudburst Management Plan. Renewal for this neighborhood had been approved of by the city council in 2010 because of dense population, decrepit facilities, and lack of green space.

## **3. Participatory and collaborative methods of planning and construction are adopted to achieve multiple goals**

TasingePlads, a former intersection, was the first demonstration project implemented. This project adopts the surface solutions put forward by the Cloudburst Management Plan. Permeable multi-purpose green spaces and underground reservoirs have been built to store rainwater. Through connection with the surrounding streets and buildings, the reservoirs can also trap rainwater on the roads and rooftops. When the reservoir is full, extra water will then enter the sewerage system. As for the rainwater stored, it can be used for irrigation through special devices. Spaces for recreational activities have also been created with landscaping and sporting facilities. These spaces, together with the shops in the streets, form an area for playing, recreation and drinking coffee. Transformed from a triangular hard-land intersection, the fully-built TasingePlads will become a street park that can detain water. This also means roughly 2,500 extra square meters of public green spaces for the neighborhood and a new site of ecological and social functions for the city. It is a successful combination of improving urban spaces and empowering neighborhoods.

照暴雨雨水管理规划的原则，项目设计主要采用地面改造的方式，增加可滞留、渗透雨水的绿地，增设地下蓄水池并结合场地坡度、高差设计汇集雨水。与周边道路、建筑物相衔接，疏导、收集周围路面、建筑屋顶雨水。蓄水池储满后超量雨水再进入市政下水管道，所蓄雨水则通过巧妙装置设计可用于绿化浇灌。同时，设计出向阳的活动场地以及有趣的景观小品、运动器械，与临街店铺衔接，形成可供居民游憩、闲坐、品尝咖啡的活动空间。建成后的塔星戈广场，由原来的道路交叉口三角形硬地，转变成为一个可蓄滞雨水的街头公园，为社区增加了约2500平方米的公共绿地与空间，成为城市环境中一处具有生态和社会功能的新设施、新场所，成功实现了城市空间改善与社区功能强化。

该示范项目获得成功得益于“参与式”“协作式”的规划建设方式。项目实施目标一开始就与社区公众参与、场所营造、政府宣传等紧密结合。项目启动后，塔星戈广场委员会成立，由市科技环保局（管理方）、首都地区公用事业公司（建设方）、奥比康咨询公司（设计方）、非政府组织和当地居民代表组成，建立了较为稳定的多方合作关系。在3年多时间里，委员会通过各种参与式活动征询当地居民的意见与建议，并以专业技术方案作为会议，响应其需求。同时，委员会还协调解决各方诉求，通过讨论共同制定项目规划设计方案并付诸实施。在这一过程中，与项目相关的各方深度参与，通过大力宣传及互动交流，各方充分理解了项目的目标、意义和各方需求，积累了技术、经济、管理等方面的项目问题和解决经验，最终促成项目的顺利实施。

该项目确实起到了良好的示范效应，为后续项目实施提供了支持，圣安妮广场（San AnnaePlads）、圣科耶兹广场、布鲁格万根街改造等项目陆续得到实施或启动。

## ➔ 成效与挑战

### 1. 项目成效

哥本哈根气候适应性社区项目响应了《联合国全球可持续发展目标》第十三条“采取紧急行动应对气候变化及其影响”及第十五条“建设包容、安全、有韧性的可持续城市和人类住区”，同时又与当地城市发展管理实际和需求相结合。



The success of this demonstration project is closely related to the participatory and collaborative methods of planning and building. From the very beginning, community participation, place making, and government advocacy have been integrated into the objectives of the project. After the project started, a committee was set up, comprising representatives of the Technical and Environmental Administration (manager), HOFOR (project owner), Orbicon (designer), non-governmental organizations, and local residents, thus forming a multi-stakeholder partnership. For three years, the committee had been asking local residents for inputs through various activities and then responding with professional technical solutions.

the plan and pushed it into motion. In this process, all stakeholders played an active role in the project. Intensive interaction and sufficient publicity led to understanding of the objectives, significance, and demands from different parties. The successful implementation also gives lessons to how to solve problems in relation to technicality, economics, and management.

The lessons from this demonstration project provide support for subsequent projects. Several renewal projects have been implemented or initiated, such as San AnnaePlads, St. KjeldsPlads, and Bryggervangen.





## 2. 项目挑战

### （1）示范性项目实施的长期效果有待检验

目前，只有少数几个示范项目成功实施，其组织方式、决策方式、技术方案都带有实验性、探索性和特殊性，实施过程较复杂，周期长，效果和维护成本仍未充分反映。从提高后续项目实施的有效性和效率出发，项目建设模式与经验还有待优化总结和推广。

### （2）涉及私人物业的建设改造模式有待探索

项目目前主要在公共空间和公共物业上进行，但未来将涉及私人物业，例如300个行动计划的实施会涉及132千米长的私家道路。这意味着项目实施与否必须与私人业主磋商。在个别情况下，若实施项目具有重大意义，可能须对项目地涉及的私人地产进行征用或购买，这将为项目带来很大的不确定性。尽管如此，探索涉及私人物业的建设改造模式十分必要。

### （3）如何协调设施已有功能与新增功能

以地面方式为主的暴雨解决方案，意味着对地面设施原有功能的调整和改变。如绿地、水面的增加，会减少道路路面、停车位，对交通功能产生显著影响。这对方案的技术设计、方案协调都会产生一些不确定性和挑战，尤其在建设密集、地面空间较少的地区挑战更大。

### （4）如何保持公众参与的积极性

“参与式”的工作方式本身就极具挑战。为确保参与人员和意见的代表性和有效性，合理选择参与的人员和方式是重要工作。在公众的新鲜感逐渐淡化后，如何保持其关注度和参与热情是难题。这需要综合运用技术设计、社会活动、社区管理经验加以解决。

## ➔ 项目创新

项目从设计到实施到评估，充分利用了新理念、新方法、新技术。如在原有地下系统基础上，通过精细设计增加地上系统，地上地下相结合，应对大暴雨；通过计算机建模、风险评估与模拟等手段，辅助规划与项目设计；建立数据库与信息系统，数据收集范围覆盖城区地面及地下的建筑、道路、管网等，并在此基础上进行适时模拟评估，以确保项目得到高水平的设计和建设。





## ➔ Effect and Challenge

### 1. Effect of the Initiative

Copenhagen Climate Resilient Neighborhood represents not only an implementation of Sustainable Development Goal 13 (take urgent actions to combat climate change and its impacts) and Goal 11 (make cities and human settlements inclusive, safe, resilient and sustainable) but also a type of coordination with the management and demands of the local urban development.

### 2. Challenge of the Initiative

#### (1) The long-term performance is still to be tested

Currently, only a few demonstration projects have been successfully implemented. The approaches to organization and decision-making as well as technical solutions are unique and still experimental. Also, with the complicated and long-term implementation, the outcomes of these projects and maintenance costs have not emerged sufficiently. Optimization of the implementation mode is still needed in order to enhance the effectiveness and efficiency of implementing subsequent projects.

#### (2) The construction model concerning private properties needs to be explored

The project has mainly been conducted in public space and public property in the initial phase, but in the future private properties will be involved. The 300 projects will cover 132 kilometers of private roads, which means that consultation must be made with the private owners if the program is to be implemented. In certain cases, it may be necessary to expropriate or purchase private properties for project sites of significance. This creates considerable uncertainty. However, it is essential to explore the mode of implementation that involves private property.

#### (3) It is challenging to coordinate new and existing functions of the infrastructure

The Cloudburst Management Plan focuses on surface solutions and puts emphasis on adjustments and transformations to the existing functions on the ground. The increase of blue and green spaces means less parking spaces and narrower streets, which affects transportation greatly. This will bring some degrees of uncertainty and challenges to technical designs and coordination of different projects, particularly in areas with heavy construction and less ground space.

#### (4) It is difficult to maintain active public participation

The participatory working method is challenging per se. To ensure representation of the residents while maintaining effectiveness of their opinions, it is important to have the right

## ➔ 项目亮点

### 1. 充分尊重历史

项目充分考虑了地区现状和历史遗留，没有对项目地进行大规模改造，而是很好地贯彻了《哥本哈根大暴雨防涝管理规划》中提出的综合解决方案，优先采取地面解决方案，发挥已有设施的作用，降低工程对所在地区的破坏或影响，保留和优化了地区原有的交通、停车、商业、休闲等功能。

### 2. 充分尊重自然

项目所采取的暴雨管理综合解决方案，尊重并利用自然规律，主要通过利用地形地貌改善水文、增加绿地等可渗透地表、滞留和利用雨水等方式解决或疏导雨水，不仅有助于解决城市内涝问题，还直接增加了城市水体及绿化空间，也对与城市水循环相关的温湿度、城市空气质量及城市生物多样性等方面产生积极影响，有助于改善城市微气候。

### 3. 充分尊重民意

项目采取了“参与式”工作模式，与当地居民紧密合作进行规划设计和建设。为此，项目设立项目委员会，举办多种形式的宣传和意见征询活动，如现场模型制作与展示、咖啡会、趣味活动、绿地修缮等，让当地居民主动参与到项目之中，成为项目的主人，实现了项目目标与民意需求的良好结合。同时，优先采取较低工程量与周期的地面解决方案，降低施工扰民，也是项目以人为本的体现。

### 4. 充分尊重公共资金

项目经费来自政府拨款，源于城市税收和公共资金，部分更来自居民增加缴纳的水费。预算有限，并须用于300个项目之中。为此，城市政府管理部门建立了项目评估和动态调整机制。一个项目实施完成后，会根据技术和财务分析，对其他项目实施的必要性进行评估，通过评估及时调整后续项目计划，再做推进，“用好每一分钱”，确保经费的节约和有效使用。



participating methods and right people on board. It is also challenging to maintain their attention and enthusiasm for participation. The solution could be an integration of technical design, social activities, and community management.

## ➔ Innovation of the Initiative

The project makes full use of new ideas, new methods and technological means from design to implementation and evaluation. For example, the system on the ground is added through careful design on the basis of the original underground system, and the combination of the above ground and underground is adopted to deal with the heavy rain. Assist planning and project design through computer modeling, risk assessment and simulation. Databases and information systems are covered among urban ground and underground buildings, roads, pipe network and so forth, based on which timely simulation and evaluation are also carried out to ensure high level of design and construction of projects.

## ➔ Highlight of the Initiative

### 1. Mitigating the Impact on Historical Elements

With full concern about the local situations and historical legacies, the initiative was carried out with combined solutions suggested in the Cloudburst Management Plan instead of large-scale reconstruction. The program prioritized the surface solutions while making use of the existing infrastructure. In this way, the impact on the areas is reduced and existing functions such as transport, parking, commerce, and recreation are maintained and optimized.

### 2. Taking into Consideration the Natural Elements

The measures taken in the initiative to manage storm water represent a respect for nature. These measures include improving the hydrological system by adapting to the landscape, increasing permeable areas (e.g. green lands), and detaining and recycling rain water. Aside from managing waterlogging in the city, the initiative also achieves an increase of blue and green spaces as well as positive influence on temperature and humidity - which is linked with the water cycle - air quality, and biodiversity. Therefore, the microclimate has also been improved.

### 3. Listening to Residents' Opinions

The initiative is implemented with participation from local residents, who have been active



in planning, designing, and construction. To encourage citizen engagement, a committee was set up, and various forms of publicity and consultative activities were staged, including on-site modeling and exhibitions, coffee mornings, fun activities, and green land renovations. This approach enables citizens to play an active role in the project and generates a sense of ownership among the residents. Another people-first approach is to reduce the noise created from construction by adopting surface solutions, which takes smaller amount of work and shorter period of time.

#### 4. Making Good Use of Public Funds

The funds for the initiative are granted by the government, whose sources include tax, public funds, and water consumption cost. As the budget is limited and has to be spent on 300 projects, the government has established a mechanism of project evaluation and dynamic adjustment. After the completion of each project, a technical and financial evaluation is conducted. Adjustments to ongoing and future projects are then made according to the evaluation, ensuring every penny is spent carefully and wisely.

#### 5. Employing Modern Technologies

New concepts, methods, and technologies have been applied from design to implementation to evaluation. For instance, a surface system with intricate designs was added to the original underground system to manage heavy rain. In addition, computer modeling and risk assessment were conducted to assist planning and design of the project. Besides, simulations and evaluations were made based on the database and information system of buildings, roads, and pipe network both above and under the ground. As a result, high-standard design and construction have been guaranteed.

### ➔ Experience and Inspiration

#### 1. Experience of the Initiative

(1) Integration of Climate Change Adaptation into Development Strategies and Ongoing Development Projects

The challenges that climate change brings to urban development are enormous, serious, and real. Water-logging caused by extreme weather is a common phenomenon in cities. Therefore, it is an obligation that cities worldwide take timely and effective measures and mitigate the damage caused by disastrous weather conditions. This initiative is among Copenhagen's first

决方案就充分遵循“让自然做工（let nature do the work）”的理念，顺应地形地势，采用蓝（地面雨水路径，河、湖、海水系）绿（绿地）网络，因势利导，实现雨水的汇集、滞留、渗透和排放。尊重历史因素，体现在对原有建筑、景观、功能乃至社群价值的延续和保护，哥本哈根气候适应性社区选择以地面为主的暴雨解决方案，很大程度上是为了避免实施大规模的工程改造，避免过度影响成熟的城市建成区及历史遗产。唯有如此，城市行动的创新才易于推动实施。

### （3）“参与式”和“精细化”对创新性城市行动的成功有重要影响

“参与式”的工作模式是哥本哈根气候性社区建设的重要特色，当地居民、业主与政府、建设方、规划设计师等多方合作，令项目更易获得支持，并体现了“众智、众创”的群体创新思路，产生多样化的创新解决方案。同时，多方参与也意味着多元目标与多样需求，因此须有更全面细化的技术、活动及政策方案，以做出响应。如项目中市民对广场景观设计的建议、融雪剂混合雨水的处理等等，都离不开“精细化”的分析与解决方案设计。

## 2. 项目启示

### （1）更新理念，积极应对气候变化，推进落实海绵城市建设

由于气候特点、极端天气频发以及城市基础设施等问题，许多城市被暴雨内涝等问题困扰。2015年，中央政府提出“自然积存、自然渗透、自然净化”的海绵城市，是在国内外城市雨洪管理经验基础上提出的新理念、新举措。

哥本哈根气候适应性社区及其暴雨防洪管理，与海绵城市所倡导理念与方法十分契合，其成功实践也是对海绵城市理念的良好示范。城市可借鉴其经验，积极推进海绵城市建设，更新理念，改变传统主要依靠地下管道系统的排水模式，“灰绿结合”，在提升地下排水系统的同时，积极探索实施地面雨水渗（透）、滞（留）、蓄（存）、净（化）、（使）用、排（放）的“蓝绿系统”方式，优化城市水循环，积极应对城市暴雨内涝。同时，还应将海绵城市项目建设与城市新区建设、旧区更新、景观与设施提升等目标相结合，实现人居环境持续改善。

### （2）加强市政设施系统特别是地下管网的信息化建设与管理应用

该项目对技术分析论证科学合理性的高度审慎以及高水平科技手段的应用令人印象深刻。如通过气象、技术、经济成本等方面的综合定量预测、评估，合理确定城市暴雨防洪





wave of actions as a champion in environmental protection. It is, on one hand, a step up from the city's low-carbon strategy and, on the other hand, a timely reflection on the downpour events. Statesmen, professionals, and citizens have reached a consensus on pushing forward this action. Moreover, these actions are combined with several targets, including diversified urban renewal, community activation, environmental improvement, image promotion, and local economic stimulation, and have become major events or discourse in public construction, urban activities, and community life. In a nutshell, the building of this climate resilient neighborhood is an initiative that answers the global problem as well as local demands in environmental, economic, and social development, which provides a good lesson for other cities.

### (2) Full Respect for Nature and History

Against the backdrop of globalization, natural and historical elements are not only the key components of a city's identity but the foundation and premise of innovative actions as well. It is a respect for nature to adapt to the environment and local natural conditions and to utilize the laws of nature for cost and risks reduction. The solutions adopted in this initiative are an upholding of the concept of "letting nature do the work." A blue (storm-water roads, rivers, lakes, and seas) and green (green lands) network is designed in harmony with the terrain and is able to escort, detain, store, and discharge water. Besides, the initiative also represents a respect for the city's historical elements. Preservation and continuation are achieved of the city's buildings, landscaping, functions, and community value. A major reason for focusing on surface solutions is to avoid excessive impacts that large-scale engineering transformation may have on built-up areas, especially historic relics. On this premise, innovative projects are apt to be promoted and implemented.

### (3) Participation and Meticulousness

Civic engagement is an important element of the initiative. Cooperation among different parties, including local citizens, property owners, government, designers and planners, makes the initiative more likely to gain support. In addition, it represents group innovative thinking and gives rise to a diversity of innovative solutions. Meanwhile, participation from multiple parties indicates different targets and demands, which entails all-round and more tailored solutions in terms of technologies, activities and policies.

## 2. Inspiration of the Initiative

### (1) Adaptation to Climate Change with New Thinking

Storms and waterlogging are commonplace in many cities. The Chinese concept of a "sponge city" is a good solution to this, which advocates natural accumulation, natural infiltration, and



natural purification of the rainwater. Copenhagen's Climate Resilient Neighborhood echoes with this concept. In building climate resilience, equal emphasis – if not more – should be placed on blue and green infrastructure instead of grey infrastructure. Rather than simply upgrading the drainage system, there should also be efforts to detain, store, purify, reuse, and discharge the rainwater, which can improve the city's water cycle and thus better prevent waterlogging caused by storms. In addition, adaptation programs should also aim to improving the living environments by integrating with new development and renewal projects as well as improvement of the infrastructure and urban landscape.

### (2) Establishment, Management, and Utilization of an Information System of Municipal Facilities, Particularly Underground Pipe Network

The feasibility studies and employment of technologies leave a deep impression. The level of storm prevention is decided after comprehensive quantitative prediction and evaluation of the weather, technology, and financial cost. Besides, modeling, risk assessment, and simulation are used to assist the designing of the program and decision-making of translating it into 300 action plans. After the fulfillment of each project, the effects of the project will be monitored and evaluated in a quantitative way. This will help decide if there is need to implement or adjust the goals of follow-up projects and thus save costs. In short, the quantitative studies and assessments, with the use of advanced technologies, guarantees the feasibility of the program.

Besides, Copenhagen uses information technologies to support the management of the city, such as its high-standard information system of basic urban geography and municipal facilities. It can greatly improve the efficiency of building the urban infrastructure with an information system that accurately monitors and indicates the conditions of the underground pipe network. Therefore, cities should seize the opportunity of building smart cities to push forward the survey and measurement of the underground pipelines for a database, to build the mechanism of incorporating ground and underground constructions into a digital library, and to eventually establish an information system that covers the pipelines of the built areas and new key development areas.

### (3) Public Participation in Planning and Construction

The implementation of Copenhagen's Climate Resilient Neighborhood is a good example of participation from various stakeholders. Civic engagement is important for the government in implementing projects, improving management services, and gaining citizens' support. The participatory way of urban planning and construction is conducive to coordinating the interests of all parties and gathering residents' wisdom for creative solutions. It is also of great significance for the government to gain broader supports from the public and stimulates the transition of

为此，可以智慧城市建设为导向，进一步加强地下管线的普查、测量和数字化建库，建立地面与地下建设工程数字化入库机制，逐步建立覆盖建成区和重点新区的管网信息系统，支撑城市科学、高效建设。

（3）结合城市更新，以公共性、社区类项目为抓手，积极探索“参与式”城市规划建设方式

公众参与在国外先进城市建设和治理中有比较广泛的需求和实践。哥本哈根气候适应性社区建设中多方合作的“参与式”工作模式，也充分体现了公众参与对政府项目实施、管理服务改善、赢得市民与舆论支持的重要性。“参与式”城市规划建设方式有利于协调各方利益诉求，发挥群众智慧，“汇众智促创新”，产生创新的解决方案，也有利于政府获得更广泛的公众支持，促进政府绩效管理体系从“以效率为基础”向“以责任为基础”转型。

（4）提升规划设计与建造的精细化、品质化水平，推动品质城市建设

规划设计和建造方面的高水准也是该项目成功的重要原因。雨水花园、广场、道路等地面解决方案，一方面要实现雨水渗、滞、引流的功能要求，一方面要符合作为日常公共空间的交通、景观、活动、趣味等使用要求，均需要精细化规划设计加以实现。同时，也需要高品质的建筑材料、施工工艺来保证项目实施后的效果和质量。

品质城市建设应进一步强化城市规划建设的精细化、品质化水平。一是坚持规划先行，精细规划。优化规划设计阶段的资源、时间投入和优选方式，以精细化、品质化的规划设计引领品质城市建设。二是强化指引，提升标准。加强规划设计、施工建设导则、标准方面的控制，使精细化管控要求成为设计、施工环节的通行标准，从规划、建设、管理三方面分类优化制定、实行精细的标准与导控指引。三是强调规划设计统筹建设管理，建立从一套“规划设计—施工建设—管理”的实施路径，形成全流程的管控流程。多种方式形成合力，高标准、高质量建设更有品质的城市。



government performance management system from efficiency-based to liability-based.

#### (4) Improving the Level of Refinement and Quality of Planning, Design and Construction to Promote Quality-centered Construction of Cities

The high level of planning, design, and construction also contributes to the success of the program. The rain gardens, squares, and roads should, on one hand, be permeable and divert and detain water. On the other hand, they should, as public spaces, meet people's needs for transportation, landscape, activities and recreation. The two purposes cannot be achieved without meticulous designing and planning. Meanwhile, high-quality building materials and construction techniques are also needed to ensure the outcome.

In benchmarking both international and domestic developed cities, Guangzhou still has a gap in its quality of development, which is an important goal of Guangzhou's urban planning and construction in the new era. To this end, Guangzhou should align itself with international standard and further improve the quality of urban planning and construction. Firstly, adhere to the planning first principle, and be careful with design. It should optimize the resources, time investment and preferred methods in the planning and design phase, promoting the quality of city construction with refined planning and design. Secondly, strengthen guidelines and improve standards. It should tighten the control over guidelines and standards of planning, design and construction, so that strict requirements become the standard for design and construction. No matter building square pavements, tree pools or building facades and street interfaces, optimized design, refined standard and strict management should be carried out in planning, construction and management. Thirdly, emphasize overall construction and management of planning and design, and establish an implementation system of "planning and design-construction-management", to form a full-process management and control mechanism. Using various methods together can build a better Guangzhou with high standard of quality development.



## / 悉尼（澳大利亚） / 2030 年实现永续发展的悉尼

□ 吴婕 / 广州市城市规划勘测设计研究院

悉尼是2016年第三届广州国际城市创新奖专家推荐城市。本次调研开展于2017年9月10日至12日。

悉尼，澳大利亚第一大城市及澳大利亚新南威尔士州首府，位于澳大利亚东南沿岸，是澳大利亚经济、文化、政治与旅游中心，多次被联合国评为是全球最适宜人类居住的城市之一，是全球闻名的兼具生态宜居与经济活力的城市。悉尼大都市区面积12,367.7平方千米，人口492万人，一般所指的悉尼市，为悉尼市市政府所辖区域，包括悉尼中心区及周边，面积26.15平方千米，2016年常住人口有22.4万人。

### ➔ 项目背景

2006—2008年间，悉尼市全面审视城市发展的挑战，面向全球气候变暖、能源短缺、全球经济竞争、人口老龄化、交通拥堵、住房供应力下降等问题部署战略计划。经过长达两年的市民与多群体利益相关人意见征询，以“绿色、全球化、互联互通”为城市未来发展的三大愿景，形成指导悉尼市未来30年发展的城市战略规划《永续发展的悉尼2030》（简称《悉尼2030》），2008年《悉尼2030》经市议会通过并正式公布。

《悉尼2030》围绕三大愿景制定了包括提升全球竞争力和创新性、践行环保低碳、打造交通系统、建设慢行网络、提升市中心功能、增强社区活力、发展文化创意、增强住房



## / Sydney(Australia) / Delivering Sustainable Sydney 2030

□ Jie Wu / Guangzhou Urban Planning and Design Survey Research Institute

Sydney was a deserving city of the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during September 10<sup>th</sup> and 12<sup>th</sup>, 2017.

Sydney, as the largest city of Australia and capital of New South Wales, is located in the southeast coast of Australia. Known as the economic, cultural, political, and tourism center of Australia, Sydney is regarded as one of the most suitable cities for human habitation in the world by United Nations for many times. It is also well-known for its pleasant living environment and dynamic economy. The Sydney metropolitan area covers an area of 12,367.7 square kilometers with a population of 4.92 million. The city of Sydney, in general, is referred to the areas administrated by the municipal government, including central Sydney and surrounding areas. It covers an area of 26.15 square kilometers with 224,000 permanent residents in 2016.

### ➔ Background of the Initiative

From the year of 2006 to 2008, Sydney took an overall review of the challenges of urban development, and made strategic plans to address issues such as global warming, energy shortage, global economic competition, population aging, traffic jam, declining housing supply and so forth. After more than two years of consultation and collecting wisdom from citizens and various groups of stakeholders, the three visions of “greenness, globalization and connectivity” for the future urban development have become the guidance of the next 30 years development of Sydney strategic planning—Delivering Sustainable Sydney 2030 (hereinafter referred to as “the



供给、履行可持续更新设计和管理实施等十大策略指引，并在战略规划框架下制定了一系列的重点专项行动计划，逐年推动实施，引导悉尼不断提升城市竞争力、可持续性与宜居性。

## ➔ 项目实施

### 1. 面向城市可持续与宜居发展具体目标，构建战略引领—专项行动落实—实施评估反馈的工作框架

《悉尼2030》提出了全面提升城市可持续性与宜居发展的十大具体目标与指标，既包括了城市绿色、可持续的发展要求，也包括了一系列提升居民日常生活便利度与幸福感的指标。十大目标指标包括：

（1）到2030年，温室气体相较2006年基准降低70%，到2050年，达到零排放。

Sydney 2030”), which was approved and proclaimed by the city council in 2008.

Centered on the three visions, the Sydney 2030 developed ten strategies including enhancing the global competitiveness and innovation, following the idea of environmental protection, building traffic system and slow network, improving function of the city center and vitality of the community, developing the cultural creativity and increasing housing supply, upgrading the design of sustainable development and management. In addition, a series of crucial action plan has been formulated in the framework of strategic planning so as to guide Sydney to keep enhancing its competitiveness, sustainability and livability year by year.

## ➔ Implementation of the Initiative

### **1. To meet the specific goals of urban sustainable and habitable development, the working framework of strategic guidance–implementation of special actions–implementation of evaluation and feedback is constructed**

Sydney 2030 puts forward ten specific targets and indicators for comprehensively improving urban sustainability and livable development, which include not merely the green and sustainable development requirements of the city but also a series of indicators to improve the convenience and well-being of residents’ daily lives. Ten targets and indicators are:

(1) By 2030, greenhouse gases will be 70% lower than those in 2006, and by 2050, zero emissions will be achieved.

(2) Fifty percent of electricity will be provided by renewable energy; taking 2006 as the reference year, the demand for tap water will not increase any more through water conservation and water cycle; in 2008, the vegetation coverage rate has increased by 50%.

(3) Add 138,000 new homes to meet the needs of citizens.

(4) 7.5% of the houses will be social security housing and 7.5% of the housing will be affordable housing provided by non-profit institutions and other suppliers.

(5) Through the development of the financial industry, business services, education, creative industries and tourism industries, 465,000 jobs will be created, which is an increase of 97,700 jobs compared to 2006.

(6) The daily public transport travel rate will raise up to 80%.

(7) The bicycle trip rate will be at least 10%, and the pedestrian trip rate will reach 50%.

(8) Areas within walking distance for residents should be equipped with service facilities, including fresh food markets, nurseries, medical services and other leisure and recreation



(2) 50%的电力由可再生能源提供;以2006年为基准年,通过节水与水循环,自来水的供应需求不再增长;以2008年为基准年,植被覆盖率增加50%。

(3) 新增138000处住宅以满足市民家庭需求。

(4) 7.5%的住房为社会保障性住房,7.5%的住房为非盈利机构及其他供应者提供的可负担住房。

(5) 通过加大金融业、商务服务、教育、创意产业和旅游业等行业的发展,提供465,000个就业岗位,相较2006年新增97000个岗位。

(6) 日常通勤的公共交通出行率提升至80%。

(7) 自行车出行率至少达到10%,步行出行率达到50%。

(8) 居民步行可达范围内应配齐服务设施,包括生鲜市场、托儿所、医疗服务和其他休闲游憩、教育文化等设施。

(9) 居民通过三分钟(250米)的林荫道步行可达海港、海港公园绿地、摩尔公园、世纪公园或悉尼公园等公共游憩绿色空间。

(10) 社区融合度和社交程度大幅提升,至少65%的人认为大部分人值得信赖。

悉尼在战略规划确定的十大目标框架下又先后制定了面向绿色愿景的适应气候变化、垃圾循环、节约能源、城市绿地系统、环境提升等行动计划,面向全球化愿景的经济发展计划、各类服务业发展和中心城区更新提升规划,面向互联互通愿景的交通系统、慢行系统、步行系统、住房供应、无障碍服务设施、社区建设等行动计划,基于各项行动计划部署政府资金、项目与政策落地等,并开展逐年的实施评估,反馈指标达成情况,审视战略规划提出的目标愿景,以指引下一年度的实施计划的制定,由此构建了系统的战略引领—专项行动落实—实施评估反馈工作框架,保障悉尼2030年战略规划的实施。

## 2. 采取“政府牵头、企业合作、协商共赢”的形式推动可持续发展行动计划实施

“悉尼2030”战略框架下,悉尼市联合多方参与持续提升城市各方面的功能,在应对气候变化、降低建筑碳排放、提升资源利用率等方面紧密的政商合作模式对城市可持续发展发挥了重要作用。

悉尼市推进了“优质建筑合作(Better Building Partnership,简称BBP)”项目,项目由悉尼市政府牵头成立,吸纳了悉尼市最大的公共、私有建筑业主和大学共同参与,面



facilities, educational and cultural facilities.

(9) Residents can walk through the three-minute (250 meters) avenue to public spaces such as the Harbour, Harbour Park Greenland, Moore Park, Century Park or Sydney Park.

(10) The degree of community integration and social interaction will be enhanced dramatically, and at least 65% of people believe that most of them are trustworthy.

Under the framework of ten goals, Sydney has made a succeeding of plans, such as action plans centered on greenness for adaption of climate change, implementation of garbage circulation, energy conservation, urban green space systems, and environmental improvements; plans for developing economy, various service industries and upgrading the central city in the face of globalization; connective and interactive plans for the transportation system, slow-moving system, walking system, housing supply, barrier-free service facilities, community building, etc.; and deploy government funds, projects and policies based on various action plans. The year-by-year assessments, feedback on the achievement of indicators, reviews of the strategic vision proposed by the strategic plan shall be utilized to guide the formulation of the implementation plan for the next year. Thus, the systematic framework: strategic leadership—the implementation of specific actions—the evaluation and feedback has been constructed so as to ensure the fulfillment of the Sydney 2030 Strategic Plan.

## **2. Promote the implementation of the action plan for sustainable development in the form of government leadership, enterprise cooperation and win-win consultation**

Sydney combined with other parties participated in continued enhancement of all aspects of the urban function in the strategic framework of Sydney 2030. In response to climate change, reduce building carbon emissions, and improve resource utilization, in-depth cooperation between businessmen and the government plays a critical role in urban sustainable development.

Sydney has advanced the “Better Building Partnership” program chaired by Sydney municipal government to attract attention of Sydney’s biggest public and private building owners and universities. In order to meet the goals of energy and resource conservation, we will implement sustainable measures in the application of solar energy devices, waste treatment and water circulation under the guidance of experts in relevant fields. Through the application of sustainable measures, public and private building owners can comprehensively improve the energy-saving performance of buildings, substantially reduce the energy consumption and the cost of water resource utilization.

向能源、资源节约目标，在相关领域专家的指导下实践包括太阳能装置应用、垃圾处理、水循环等方面的可持续措施，通过可持续措施的应用，公私建筑业主可全面提升建筑的节能性能，大幅降低能耗、水资源使用费用。同时，政府联合专业机构为绿色建筑评定星级标准，商业办公楼的租赁费用标准与建筑星级挂钩，高星级的节能建筑成为高品质、低运行成本楼宇的表征，不断鼓励业主加入此项目。截止目前，悉尼CBD地区49%的商业建筑参与了BBP项目，极大地推动了悉尼市节能减排目标的达成。

另外，除了推动大型商业建筑节能的BBP项目外，悉尼还推动了促进水资源节约的“智慧绿色商业计划（Smart Green Business Program）”项目和促进垃圾回收利用的“城市转换绿色办公室（City Switch Green Office）”项目，其机制与BBP项目类似，均由政府牵头并提供专业支持，企业以会员制加入，践行资源节约、降低运行费用，获得政府的节能星级评定，实现共赢。

## → 成效与挑战

### 1. 项目成效

悉尼市政府建立了完善的城市碳排放审计系统和专项计划的实施评估机制来对战略规划制定的目标指标进行回顾与反馈。近年的实施评估结果显示了战略规划对城市各方面运行已带来了显著影响，以下为对应战略规划的指标达成情况：

温室气体排放量下降了17%；

可再生能源发电比例上升至14%；植被覆盖率上升了10.3%；

私人住房较2006年增加17931套；

公共住房总量达到9561套，占住房比例的8.9%；可负担住房为835套，占住房比例0.8%；

工作岗位达到437,000个，增加了69,000个；

通勤的公交出行率从73.3%增加到74.5%；

步行出行率从48.6%提高到49.2%；

经评估，绝大多数居民在步行范围内可达大部分服务设施；

城市绿网正在全面建设中；

75%的居民认为大部分人值得信赖。





Meanwhile, government joint professional institutions set star standards for green buildings and encourage owners to join this program. The rental fee of commercial office building is related to its rating, and high star-rated buildings characterized with energy saving represent high-quality and low-cost buildings. So far, 49% of commercial buildings in Sydney's CBD region have participated in the BBP program, which has greatly promoted the achievement of the city's energy conservation and emission reduction targets.

In addition, Sydney has promoted the "Smart Green Business Program" for water conservation and the "City Switch Green Office" program for waste recycling and reusing. The mechanism of the two programs is similar to the BBP Program, led and supported by the government with professional support. Enterprises join in it with membership to achieve win-win results through saving resources, reducing the operating cost, and gaining high star rating of energy-saving buildings from government.

## ➔ Effect and Challenge

To review and get feedback on the target indicators of strategic planning, the Sydney municipal government has set up a comprehensive urban carbon audit system and a special plan of evaluation mechanism on its implementation. The implementation evaluation results of recent





years show that strategic planning has exerted a significant impact on the operation of various aspects of the city. The following are the achieved indicators of corresponding strategic planning:

Emissions of Greenhouse gas fell 17%;

The share of renewable energy generation rose to 14%; and the vegetation coverage increased 10.3%;

Private housing increased by 17,931 units compared with that in 2006;

The total number of public housing reached 9,561, accounting for 8.9% of the housing proportion; and affordable housing was 835 units, 0.8% of the total;

437,000 jobs were found, of which 69,000 were added;

The bus travel rate increased from 73.3% to 74.5%;

The walking rate increased from 48.6% to 49.2%;

It has been assessed that most of the service facilities are accessible for the vast majority of residents within walking distance;

The urban green network is under construction;

75% of residents believe most people are trustworthy.

## 2. Challenge of the Initiative

(1) The municipal government has difficulty in implementing the program

Sydney municipal government plays a leading role in formulating long-term strategic planning, but it is merely the capital of New South Wales in Australia. Many important infrastructures and engineering managements are under the authority of state government, and the construction of infrastructures like electricity are mainly fulfilled by Australia grid companies, so Sydney municipal government has very limited power in events related to important decisions on urban energy development. The investment made by Sydney municipal government in urban upgrading each year is also limited. The problem of this city to be addressed is how to improve the cohesion of multilevel government and urban infrastructure vendors to promote sustainable urban renewal.

(2) Sustainable innovation measures need to be incorporated into the national standard system

Green building and sustainable urban renewal measures in Sydney have been in the top in Australia and even international fields, but applying advanced technology system to other engineering construction still needs to make further efforts on the cohesion of national standard. BASIX and NCC, made about 12 years ago, are the standards of new buildings energy and water

## → 项目创新

“永续发展的悉尼2030”是一项具有创新性的长远计划。该计划以城市可持续性与宜居发展为目标，由政府及企业共同参与推动，要求城市更新地区提高标准，优先应用可持续发展理念与建设要求，引导悉尼不断提高城市竞争力。

## → 项目亮点

### 1. 布朗格鲁项目

布朗格鲁项目位于悉尼CBD北部，面积22公顷，紧邻达令港，是利用旧港口工业地块棕地恢复与更新改造而成的新兴发展区，同时也是集CBD办公、居住、休闲、酒店、购物、公园为一体的综合社区。布朗格鲁地区开发的重要动因是为提升悉尼的国际竞争力，利用中心区港口的绝佳区位，打造新的国际金融中心。

有别于高楼林立的纯办公区，布朗格鲁地区建设充分考虑了原生态的保护以及居住、商业、办公、休闲游憩功能的混合开发，整体项目进程中高标准践行可持续发展理念，主要包括：

保障50%以上用地为公共开敞空间和水域；

通过步行系统串联整个区域，并连接市区和滨水区，保障步行可达性；

为10%的居民提供廉价保障房；

建筑布局提升日照率，提升风环境适宜性；

建筑设计与建造纳入绿色建筑星级评定的高标准要求。

其中较为创新的可持续措施可见于CBD中的自然公园建设和六星级的绿色建筑群：

港口前滨地区建成一个六公顷的布朗格鲁保护区，项目运用行业的先进技术和超过75,000种悉尼本地植物，将一个集装箱港口改建为自然公园。从该地挖掘出的10,000个砂岩海滩也被纳入设计的范围，形成了黄金CBD地区中的绿色公共空间。该保护区可持续技术应用的关键之处为建于停车公园地底下的水循环系统，该系统主要包括存储下渗水和暴雨径流的蓄水系统，蓄积的雨水全部用于植被浇灌和市政用水。



use planning and construction in Australia respectively. They are still used as minimum standards across the country, which may lead to the non-key engineering projects being constructed at a relatively high energy consumption level.

## ➔ Innovation of the Initiative

Delivering Sustainable Sydney 2030 is long-term plan full of innovation. The program, driven by the government and enterprises, aimed at sustainable development and enjoyable living conditions of cities. It is required to enhance the standards of new areas of the city and prioritize sustainable idea and construction requirements so as to make Sydney more competitive.

## ➔ Highlight of the Initiative

### 1. Barangaroo Program

Barangaroo is located in the north of Sydney CBD, covering the area of 22 hectares. Next to the Darling Harbor, it is not merely an emerging place which is restored and upgraded from the old industrial port, but also a comprehensive community with a combination of CBD office, residence, leisure, hotel, shopping, and park. The main motivation for the development of the Barangaroo is to improve Sydney's international competitiveness and build a new international financial center by taking advantage of the excellent location of the central port.

Different from skyscrapers with only offices, Barangaroo program gives full consideration to the ecological protection area and develop various functions such as residential and commercial use, office, leisure and recreation. Besides, it demonstrates its concept of sustainable development during the whole process. These measure mainly includes:

- Ensure that more than 50% of the land is in open areas and water areas;

- The walking system connects the whole area and connects the urban area and the waterfront area to ensure the walking accessibility;

- Affordable housing for 10% of residents;

- Building layout improves daily lighting rate and wind environment suitability.

The design and construction of buildings should be included in the high standard of star rating of green buildings.

Among them, some innovative sustainable measures can be seen in the construction of natural parks and six-star green buildings in CBD:







Harbor foreshore district built a six hectares of Barangaroo reservation area. The Barangaroo program rebuilt a container port as the natural park by taking advantages of advanced technology and more than 75,000 species of local plants in Sydney. The 10,000 sandstone beaches excavated from the site are also included in the design, creating a green public space in the golden CBD area. The key of the reserve lies in the water cycle system which is built in underground parking lot. The system mainly consists of the storage of influent seepage and the storage system of rainstorm runoff. All the rains accumulated will be used in watering vegetation and municipal use.

Sydney tower, the largest building in this area, was built according to the six-star international green building standard. Its three towers were integrated with sophisticated technology of energy saving, making it the most environmentally friendly buildings for commercial use in Australia. This program utilizes superior materials for environmental protection. For example, the solar photovoltaic panels of the rooftop cover the area of 6000 square meters. Each tower is equipped with 90000 liters of rainwater savings pool for the whole building of rainwater storage and recycling. In addition to the supplied air-conditioning, the sea water is used in cooling and circulation system. The disposal and recycling of sewage and wastes are handled respectively with corresponding systems. All mentioned-above measures are conducive to achieve the goal of carbon neutrality.

## 2. Green Square Program

Located in the old industrial zone in the south of Sydney, the renovation program named “Green Square” is by far the most important urban renewal programs in Sydney. The program, covering an area of about 14 hectares, is mainly industrial and storage land. This land will be renovated as a key cultural, commercial and residential centre of Sydney.

Taking advantage of the new area construction opportunity, the Sydney municipal government and the Australian green building commission have reached an agreement that the green square project will enter the green star community evaluation system. According to the demands of green star international community, “Green Square” program needs to conform to a series of sustainable planning and construction standards, including the management of residential rain flood and water treatment, energy efficiency standard of green buildings, the standard of water recycle, etc. Sydney municipal government has established a special working group docking “Green Square” program developers, guiding and supervising the implementation of the five aspects (management, livable degrees, economic dynamics, environment and

持续规划建设标准，包括居民区雨洪管理与水处理标准、绿色建筑节能标准、水循环利用标准等。悉尼市政府已成立专项工作组对接绿色广场项目开发商，指引并监督其落实五大方面（管理、宜居度、经济活力、环境和创新）绿色社区星级建设要求。

同时，绿色广场中心的图书馆与广场项目则按照最高的五星绿色公共建筑标准开展设计与施工，成为悉尼绿色公共建筑的典范之一，而面向整个社区的雨水循环利用和中水回用系统则完全利用了全区更新改造实现，最大程度地实现了水资源的节约利用。

## ➔ 经验与启示

### 1. 项目经验

#### （1）应对气候变化需从战略落实到行动

全球气候变化是当今世界以及今后长时期内人类共同面临的巨大挑战，城市人口密度大、经济集中度高，受气候变化的影响尤为明显。

近年来，建设气候适应性城市已成为各国战略发展框架中的重要议题，悉尼市政府早在2006年已开始以应对气候变化为核心形成未来城市发展的纲领性文件，面向提升城市的气候适应性要求既有目标和愿景，也有着着眼于实操的行动计划，其基于逐年行动对战略目标进行反馈验证，并以此制定阶段性目标和措施的做法，保障了城市远期战略的实施持续性，对于需要长远实施才能逐步呈现效应的气候变化领域，悉尼的实践值得全球城市借鉴。

#### （2）城市创新发展需看重了解民众需求

悉尼战略规划编制前期开展了两到三年的公众意见征询，编制过程全阶段针对不同专题也广泛征询市民意见，采取了多种形式的意见调查方式，包括社区访问、网络意见调查、利用公众人物影响力开展宣传等，通过针对不同人群的调研，了解社会各层次的需求，并深入调研悉尼土著人对城市发展的意见，在战略规划中落实了关于支持土著经济文化、就业发展等诉求。悉尼深入而广泛的公众参与，使得战略规划扎根民意，其具体的实施行动计划才能靶向准确，让城市创新发展结合民众鲜活的日常生活，从根本推动宜居城市建设。

#### （3）技术创新到机制创新是实现城市发展变革的重要路径

虽然悉尼市政府权限与财政支出能力有限，但其在政策引导、搭建平台引导多方参与





innovation) that the construction of star green community requires.

In the meanwhile, the library and square in the center of Green Square is in accordance

applied to the whole community, making the most use of water resources.

## ➔ Experience and Inspiration

(1) Tackling climate change requires turning strategies into actions

Sydney municipal government has begun to tackle climate change as the core to form guiding documents for the future urban development as early as in 2006. improving the adaptation of urban climate needs both the goals and visions, but also practical action plans. The government has verified the strategic target based on actions made each year, and developed some periodical goals and measures to ensure the ongoing implementation of the long-term strategy for urban development.



(2) Urban innovation and development needs to focus on understanding people's needs

The strategic planning of Sydney has carried out two to three years of the public consultation at the early stage. During the planning, citizens' ideas of different topics are widely collected. The government adopted various forms of opinion survey to know the needs of the society at all levels. In particular, it made an in-depth research of Sydney aborigines opinion of urban development, and met the needs of aborigines such as supporting the development of aborigines in economy, culture and employment.

(3) Changing from technological innovation to mechanism innovation is an important path to realize urban development

Internationally, the Sydney government has joined C40, 100 flexible cities and other global sustainable development organizations to assist the formulation of urban sustainable strategies with the international top expert database. In the field of enterprises, the mayor constructed platforms for political and business cooperation and adhered to win-win cooperation to mobilize big enterprises to engage in zero-carbon building construction. In addition, the community establish a platform named Green Villages and promoted activities such as green irrigation, green rooftop, vertical greening, waste recycling, environmental protection education and so forth in community workshops. The concept of sustainable development is also deeply connected with the practical measures the citizens can take in community.

## 2. Inspiration of the Initiative

(1) Public engagement in urban planning should be strengthened so as to hear the voices of different groups can be heard

Public engagement is not only an important part of urban development strategy and overall planning, but also a crucial means to coordinate various conflicts of interest distribution in planning and to seek solutions to them. Sydney's attention to the voices of different social groups, extensive and effective media publicity and planning meeting the public demands are worthy of reference.

(2) Measures for sustainable innovation should prioritize key pilot programs and sample promotion

It is worth learning from the practice and innovation of key programs in Sydney's urban development area to build green buildings and green communities with high standards. Urban renewal and transformation accompany with both opportunities and challenges. It is necessary to set up the platform for cooperation with domestic and international experts, lay down active



体规划作为公共政策的要求，搭建多元平台，为社会各界人士提供各种参与规划决策的路径，推动公众参与和规划编制工作全过程的深度融合，促进规划科学化和决策民主化，引导广州实现长远可持续发展。

### （2）可持续创新举措应积极践行重点项目试点先行与样本推广路线

悉尼城市更新发展地区高标准建设绿色建筑与绿色社区，其重点项目坚持实践创新措施的做法值得借鉴。广州目前正在推进珠江带提升改造、金融城、南沙新区等重点地区建设以及城市老旧社区微改造等工作，城市更新与转型升级的机遇与挑战并存，有必要加强搭建与国际国内专家合作的平台，制定可持续技术应用的鼓励政策，引导并支持包括社区水资源循环系统、星级绿色建筑以及社区智慧解决方案等创新技术与举措在重点项目中的优先实施，通过试点先行先试，形成从技术到政策的样本，逐步推广应用。

### （3）绿色低碳要求有必要纳入全过程的城市规划建设管理

悉尼在新区与旧区更新的土地开发标准中设立有绿色可持续的相关要求，土地开发商必须满足相关条件并落实绿色开发措施才能获得相关的建设许可。同时，悉尼也在推动更高标准的低碳可持续措施纳入到建设标准。





policies about the application of sustainable technology, prioritize innovative technology and measures in key projects including water circulation system, star green building and intelligent solutions. Pilot first and then if the sample in technical and political extent are all accessible, its application can be widely promoted step by step.

(3) Green and low-carbon requirements need to be incorporated into the whole process of urban planning and construction management

Sydney sets up green and low-carbon requirements in the new and renewed land standards. It is required that the land developers should meet the relevant conditions and carry out the green development measures to obtain relevant construction permits. Meanwhile, Sydney is on the way to bring some higher standards of low carbon sustainable measures into the construction standards.

## / 玛琅（印度尼西亚） / 河流筑堤运动

□ Luigi Cipolla / 国际城市与区域规划师学会

玛琅是2016年第三届广州国际城市创新奖入围城市。本次调研开展于2017年9月7日至9日。

印度尼西亚11个城市拥有多达100万人，其中有122多个城市拥有超过10万人口。印尼面临着众多的挑战，自然和人为压力巨大。例如快速的城市化进程、气候变化的影响、城市边缘地区大量移民涌入、碳足迹、对基础设施的过度需求、用水安全以及栖息地被破坏等，这一系列的问题影响着全球的投资价值。

通过集聚共识，印尼计划在可持续发展的理念下鼓励政府部门、城市社区、捐助者、投资者、基础设施提供者、政策制定者和私营部门齐心协力打造美好未来，而非简单地应对外部所带来的问题。

为积极迎接挑战，实现可持续发展的伟大目标，需要重构传统的城市规划，让规划更具综合性且绿色环保。

### ➔ 项目背景

“Glantung绿色计划”于印尼玛琅市实施。不同于其他类似的印度尼西亚城市，玛琅市的特点是在城市模式内出现了非正式定居区的扩展。



## / Malang (Indonesia) / Water Banking Movement

□ Luigi Cipolla / International Society of City and Regional Planners

Malang was shortlisted for the 3<sup>rd</sup> Guangzhou International Award for Urban Innovation in 2016. This study tour took place during September 7<sup>th</sup> and September 9<sup>th</sup>, 2017.

In Indonesia, cities are growing rapidly due to a current urbanization boom which is placing huge burdens on urban governance and infrastructure. Indonesia has over 11 cities with of 1 million inhabitants and more than 122 with over 100 thousand inhabitants, facing challenges from several natural and man-made pressures such as rapid urbanisation, the impacts of climate change and integrating migrants from the peripheral urban area, carbon footprints, overstretched infrastructures, and risks to water security and natural habitats which resulted in affecting the global value of the investment.

Bringing knowledge and integrating disciplines, an integrated sustainable development framework will support governments, urban communities, donors, investors, infrastructure providers, policymakers, and the private sector to develop effective shared vision to plan their own resilient future rather than simply reacting to external pressures.

Therefore, responding to this challenge and targeting to a sustainable future will require “Re-Tooling” the traditional urban planning assets to one more integrated green approach.

### ➔ Background of the Initiative

The “Glantung Go Green” project is located in Malang city (East Java - Indonesia). As for other similar Indonesian cities, Malang is characterized by the presence of the spread of informal



settlement areas inside the urban pattern.

Designed and planned by the Eng. Thomas Karsten, Malang resulted as a unique city with plenty of historical and cultural identity, a network of preserved parks like the 'Hutan Kota Malabar' and surrounded and protected by a 'Green Belt' that helped to integrate the city in a harmonious way with nature and the city's numerous cultural and education institutions and sprawling campuses in the city.

Malang is growing at a steady rate of 0.8-1.0 % per year (SMC, 2012). A symptom of this trend is due mainly to the flourishing of the Education Economy that attracts migrants from outside the region and across provinces, particularly from the Eastern provinces of Indonesia and Borneo Island. The economic base of a city is predominantly developed by the education and service sector, which account for 53%, construction sector 22% and food & manufacturing 25%. In so doing, residential and commercial areas have been growing quickly in different parts of the city following the new Campus and Educational centres.

With more than 303 Households and 1086 people inside the area (608HA), which account almost 5.5% of the whole urban area in Malang, "Glintung Go Green" is recognizable as the typical mark of an informal settlement. These marks include isolation, lack of networking, the presence of the informal economy, and vulnerable people facing daily risks like flooding, disease and unhealthy housing.

Due to the constant pressing problem of flooding and the consequent damages to the community and buildings, the "Glintung Go Green Community", with the support of Malang city and other stakeholders, they can tackle the environmental problems through a community participatory sustainable action. It is unlikely that the community itself could promote and develop such a sustainable initiative without the support of a strong leadership.

In fact, the trigger for this programme was led by its creator Mr. Bambang, who has the intuitive aspiration to solve all these natural problems in-house through community participation. In so doing, with his strong charisma and as the leader of the community, he overcomes the skepticism of people, by inspiring and training neighbourhoods, developing sustainable measures to transform the "Glintung Go Green" from a GREY settlement to one GREENER through a participative approach.

The project has been developed according to four main steps as follows:

The first step concerns the development of a few green technical solutions and community initiatives to the flooding problem such as tree planting in the neighborhood, building catchment areas in every house, building vertical sky gardens, producing organic food and integrating local cultural heritage. The technical solutions were provided by the Faculty of Engineering,

“Glintung绿色计划”在玛琅市等利益相关者的支持下，通过社区参与可持续行动计划以解决环境问题。倘若没有强有力的领导支持，该项计划将不可能得以推行并付诸实践。

事实上，这个项目的发起者是班邦（Bambang）先生，他通过社区参与项目来应对自然灾害。凭借自己的个人魅力以及社区领袖的身份，他鼓励并培训社区居民，赢得了居民的信任，通过广大居民的积极参与将可持续发展措施付诸行动，使“Glintung绿色计划”得以成功实施。

本项目按照以下四个主要步骤进行实施：

第一步是针对洪患采取绿色可持续发展措施，如在小区植树、在每户住宅建设集水区、建造垂直的空中花园、生产有机食品、整合当地文化遗产等。这些解决方案由玛琅市拉威查雅大学（Brawijaya University）工程学院提供。

第二步是在当地企业的支持下项目进行融资，比如有些餐馆购买从Kampung垃圾收集处和Kampung旅游生产的有机食品来融资。

第三步是玛琅市政府将该项目与试点项目“储水运动（Water Banking movement）”相结合，扩大该项目的影响力。

最后，该项目可以启迪市政府利用这种办法来振兴城市外被忽略的地方，通过借鉴城市间的共同之处，采取相应的城市发展规划以改善人们生活质量，促进城市经济发展，提高食品质量与营养。

## ➔ 项目实施

如前所述，该项目采用了一种“自下而上”的方式，涉及若干利益相关者，地方当局已看到在Kampung地区几乎整个社区都参与了“Glintung绿色计划”。然而，该项目的创建者班邦先生领导、推动该项目，而当地居民负责实施“Glintung 绿色计划”。

玛琅市政府通过引入“Glintung绿色计划”的理念，将项目与试点项目结合起来，以扩大项目在城市层面的规模，从而扩大了受益者的数量。其他重要的合作伙伴包括拉威查雅大学工程学院，他们在集水区和项目实施中实施可行的可持续解决方案。

帮助扩大项目规模的其他利益相关方包括当地的企业家，如从Kampung购买有机食品的餐馆以及当地居民等。其中包括国家Kampung网络“地球一小时”（Earth Hour）项目，这





Brawijaya University in Malang.

Secondly, the project growth in financing by the support of local businesses, like restaurants who buy organic food produced from the Kampung waste collection and tourism.

Thirdly, the Malang city government integrates this social movement with the pilot project—Water Banking movement—with the goal to scale-up this project at city level.

Lastly, the project has the potential to inspire City administrations that could use this approach as a planning tool to revitalize neglected outer urban areas, with similar urban characteristics, or as best practice to adopt an urban policy for new city development, to improve their living environment, engage in local economic development and improving food and nutrition.

## ➔ Implementation of the Initiative

As outlined previously the project adopted a “Bottom-Up” approach involving several stakeholders, the local authority has seen the participation of nearly the whole community of the “Glantung Go Green” Kampung Area. However, engineering the implementation of the project was led and promoted by its creator Mr. Bambang and developed by the residents of “Glantung Go Green”.

The Malang City Government instead, helped to scale up the project by bringing the initial idea of “Glantung Go Green” to be integrated with the pilot project, Water Banking Movement in order to scale up the project at city level and in so doing expended the number of beneficiaries. Other important partners included the Faculty of Engineering of Brawijaya University who helped “Glantung Go Green” through the researching, and implementing applicable and feasible sustainable solutions in the Water Catchment and project implementation.

Other stakeholders that helped scale up the project included local entrepreneurs such as restaurants that bought the organic food produced from the Kampung as well as local and national communities. These included the National Kampung Network, Earth Hour, which helped promote green initiatives and in turn attract green tourism. Cultural communities saw value and prospect in “Glantung Go Green” as a pilot project to integrate ecology, economy and social cultural empowerment as an example of sustainable area development to be replicated in other city contexts.

Under the main umbrella of the regional policy framework as “Minister of Environmental Regulation Number 19/2012 about Climate Kampung Program” and the “Medium Term City



Development Planning (Regional Regulation of Malang Municipal No. 7 Year 2014)”, the neighborhoods leaders developed the “Glantung Go Green Slums Upgrading” project led by a participative “Bottom-Up” approach with the goal to improve the living conditions of their inhabitants, tackle the flooding problems and implement sustainable initiatives.

The second step of initiatives concerned the creation of a sustainable roadmap that could involve a large part of the Kampung Community in order to achieve a large consensus and climate change measures for the whole area.

The resources and funds necessary for the project have been broke-down into two main phases. A first step for the development phase where the majority of the resources supported the initial process / project start-up, came out of the voluntary donations of residents through goods, and food to the community fund. In addition to this, the Malang City Government also contribute through the setup of an award via Green Kampung Competitions of Malang City which was won by “Glantung Go Green”.

Secondly, the implementation phase where the project could be scaled-up through auto-financing measures. This would be raised by funds through the business scheme between the community that sell the organic waste to the Malang Waste Bank. It could also be from funds collected via Green Tourism (Homestay, Organic Farm and Foods) and Event organized by the community.

External non-cash resources for the Water Banking Movement in “Glantung Go Green” arose from the knowledge and science that is supported by major Universities in Malang. These initiatives and technological know-how include the following which include: ground water recharge through infiltration holes, water catchment techniques, experts in hydroponic, horticulture, communication, economic development expert. All contribute voluntarily.

The processes that build the project have been inspired by the initial event; “Shining Kampung Competition” held by Malang City Government since 2010 where different Kampung could promote urban upgrading initiatives. But the trigger that lies behind its current success was led by the urgent community priorities of tackling the problems of personal and property damages from natural disaster.

However, the project was entirely delivered by the community, using local resources and in-house efforts while government and university only provided know-how and organizational structure. Since the project has been inspired, led and developed by its leader Mr. Bambang, through the development of green strategies, environmental measures and community partnership.

识。这些措施和技术内容包括：地下水通过渗透孔补给、集水技术、水培、园艺、通讯、经济发展专家等。以上所有皆自愿贡献。

构建项目的过程受到最初事件的启发；玛琅市政府自2010年开始举办“光辉的Kampung大赛”，不同的Kampung赛事可以加快城市优化升级。目前社区的当务之急是解决好自然灾害所造成的人身和财产损失。

然而，该项目完全由社区完成，利用当地资源和内部努力，而政府和大学只提供专门知识和组织结构。该项目由项目负责人班邦先生发起、领导和推行，通过制定绿色战略、环境保护措施和社区伙伴关系辅助实施。

## → 成效与挑战

### 1. 项目成效

Kampung “Glintung绿色计划” 是一个“自下而上”的社区项目，其内容包括采取一系列环境保护和可持续发展的措施，这些倡议是由布拉威加亚大学、当地协会和社区提供支持的。该项目自2015年开始，目前正在运行第二阶段，有效期为5年。主要发现可归纳如下：

#### （1）生态环境

Kampung的“Glintung绿色计划”创建的“储水运动”通过改进整个地区的渗透钻孔网络，成功地克服了洪水风险。

该项目包括增加绿化面积和种植面积，使当地整体气温降低2摄氏度，降低热岛效应，改善居住条件和生活质量。

玛琅市具有丰富的历史、文化和学术遗产。这里有许多绿色的遗产空间、花园、公园和各种动植物。然而，由于建筑建设分散、交通混乱、垃圾处理不当、不良的生活习惯等问题，这些都给城市带来了人为的风险。

在实施绿色城市计划的整个过程中，玛琅政府在强有力的利益相关者的支持下，领导并推动了可持续城市发展实践。企业社会责任计划的政府合作伙伴计划成功地促进了一些创新，例如与绿色开放空间(GOS)的私营部门合作，这些GOS包括Taman Merbabu, Taman Trunojoyo和Alun-Alun Merdeka。该项目被评为2015年东亚绿色城市模式的最佳实践。



## ➔ Effect and Challenge

### 1. Effect of the Initiative

The “Glantung Go Green” Kampung is considered a “Bottom-Up” community project development consisting of the adoption of a mix of environmental and sustainable initiatives taken from the support of the University of Brawijaya, local associations and community participation. The project itself started in the year 2015 and is currently running its second phase. With a duration of 5 years to completion, the main findings can be summarized as follow:

#### (1) Environment & Ecology

The Water Banking Movement created with the “Glantung Go Green” Kampung has successfully resulted in overcoming the flood risk by improving the network of infiltration boreholes to the whole kampung area.

The project, which included the increase of green areas and plantation led to a reduction of 2 degrees Celsius in the overall local temperature, reducing the Heat Island Effect, and improving housing conditions and healthy living.

The Malang city has resulted in a rich historical, cultural and academic heritage. There are plenty of Green Heritage spaces, gardens, parks and a variety of flora and fauna. However, this has been under several man-made risks due to unplanned and scattered growth in building construction, traffic, waste and bad human habits which threaten the city.

The Government of Malang, supported by a strong stakeholder partnership, led and promoted sustainable urban development practices throughout the implementation of the green city concept programme. The government corporate partnerships by CSR program successfully promoted several innovations like the revitalization in partnership with the private sector of the Green Open Space (GOS) named Taman Merbabu, Taman Trunojoyo, and Alun-Alun Merdeka. The work was awarded the best practice of an East Asian green city model in 2015.

In 2005, Indonesia estimated emitting at 2.3 Gt CO<sub>2</sub>, one of the largest emitters in the world (forest climate centre, 2009). Indonesia’s emissions are expected to grow by 2% annually reaching 2.8 Gt CO<sub>2</sub> in 2020 and 3.6 Gt CO<sub>2</sub> in 2030, unless implementation measures will be developed to mitigate the GHG emission parallel to the economic growth of the country.

In Malang, GHG emission by the year 2020, is predicted to a growth, influenced by urbanization, energy usage and waste products. This will become a principal problem faced by the Government of Malang. The common problems are: no separation at source, complicated collection processes, open dumped landfills, and no control of gas emissions and leachate in





2005年，印度尼西亚估计其二氧化碳排放量为2.3亿吨，是世界上最大的排放国之一（森林气候中心，2009）。预计到2020年，印尼的碳排放量将增长2%，到2020年达到2.8亿吨，到2030年达到3.6亿吨。除非制定措施，否则温室气体排放将与经济同步增长。

玛琅市受城市化、能源使用和废物产品的影响，预计到2020年温室气体排放量将会增长。这将成为玛琅政府面临的主要问题。常见的问题包括：没有源头隔离、复杂的收集过程、开放的垃圾填埋场、没有控制垃圾填埋场的气体排放和渗滤液。

关于通过玛琅市的可持续废物回收和处理管理系统减少温室气体排放的可能性，有相关研究表明，除非采取对策，否则固体废物管理部门的温室气体排放在未来10年将增加32.19%。

如报告(Sudharto P. 2017)所述，对比四种方案的模拟结果，玛琅政府每年可减少7.27%的温室气体排放。(192,291.19吨CO<sub>2</sub>排放量，比无减少回收垃圾少206,277.65吨CO<sub>2</sub>或减少温室气体排放总量的7.27%)。这将逐步改进废物回收计划，包括社区、废物转运站和垃圾填埋场Supit Urang。



landfill [Dhokhikah & Trihadiningrum, 2012].

A study regarding the opportunity to reduce GHG emission through a sustainable waste recycling and disposal management system in Malang, reported as the GHG emission from the Solid Waste Management sector could increase by 32,19% in the next 10 years unless countermeasures are taken.

As stated in the report (Sudharto P. 2017) comparing the simulation results of the four scenarios, the Malang government could reduce GHG emission of 7.27% each year. (192,291.19 ton CO<sub>2</sub>, lower than the total GHG emission on the condition where there is no waste reduction from recycling of 206,277.65 ton CO<sub>2</sub> or reduced by 7.27%). This would improve the waste recycling program gradually in all elements of waste management, both in the community, at the transfer station, and at landfill site Supit Urang.

#### (2) Culture & Social

The participatory approach resulted in being the key-success to implementing sustainable strategies in the Kampung. The voluntary participation of the community brought people together during day and even at night to meet, discuss and share ideas and put in practice green initiatives, like planting trees and building infiltration boreholes in every house, building vertical and sky gardens initiating a green tourist project to produce compost.

The “Glintung Go Green” Kampung was an innovative and participative example of achieving Sustainable Development Goals arising from the neighborhood to inspire lots of other kampungs in the city and even nationwide.

The provision of a new network of public urban spaces enhanced opportunities for socializing and increased personal interactions leading to community connectivity, good accessibility and crime reduction

#### (3) Government & Politics

The project was innovative due to its in-house organizational structure led by Mr. Bambang, the support of the Women’s Organization and the University in order to deliver green strategies and a green economy such as green tourism, homestay, organic food and workshops for visitors.

The project was implemented through the application of local regulations put in force by their leader Mr. Bambang, who exchanged the needs of administration documents (for marriage, births, etc) for planting a tree or build a biopores (water catchment pipe) in every neighbour’s house.

Even if, the strong urban governance between the local authority, university, neighborhood leaders and community participation paved the way towards a successful project implementation, the project could not necessarily be “scaled-up” and be replicated in another urban context

## （2）社会文化

集体参与是Kampung实现可持续战略的关键。社区居民的自愿参与使人们在白天甚至晚上聚集在一起，互相讨论和分享想法，并实施绿色倡议，比如在每户人家植树、挖井，在垂直和空中建造花园，启动绿色旅游项目，生产堆肥。

Kampung的“Glintang绿色计划”是实现社区可持续发展目标的创新和参与范例，激励了该市乃至全国的人们。

提供新的公共城市空间网络，不仅提供了社交机会，而且促进了人际交流，进而加深了社区间的联系，降低了城市犯罪率。

## （3）管理政策

该项目之所以具有创新性，是因为它的内部组织结构由班邦先生领导，由妇女组织和大学在绿色战略和绿色经济方面提供支持，如绿色旅游、住宿家庭、有机食品和为游客举办的工作坊。

该项目是当地领导人班邦先生运用当地法规将管理文件(如结婚、生育等)的需求转换成要求每个居民在其房子里种植树木或建造生物矿石(集水渠)。

虽然地方政府、大学、社区领袖和社区群众广泛参与城市管理活动中，这为项目的成功实施铺平了道路，但由于缺乏“自上而下”或“自下而上”的方法，该项目的影响力不一定会扩展，其借鉴意义也不大。事实上，前者缺乏强有力的城市管理、能力建设、国家政策支持，而后者缺乏强有力的领导力，无法利用“Kampung可持续的城市升级”战略。

玛琅市以印尼的国际绿色城市模式为基础，成为了一个高度现代化的城市，社会和谐，基础设施完备，人们生活幸福美好。当地政府致力于实施绿色城市模式，根据国家绿色城市发展计划(P2KH)制定绿色城市行动计划(Rencana Aksi Kota Hijau-RAKH)，该计划始于2011年的巴厘岛宣言。玛琅市长在第二届东盟市长论坛上被联合国城市和地方政府(UCLG)评为“东南亚最佳实践绿色城市”典范。

## （4）经济发展

项目内部资金从500万卢比增加到1亿卢比，其中大部分来自无机物垃圾的可持续管理以及玛琅垃圾库的销售收入增长。

Kampung的“Glintang绿色计划”是由当地政府领导的绿色城市行动计划(Rencana Aksi Kota Hijau-RAKH)制定的，该计划获得了私人 and 公共合作伙伴的支持，旨在振兴城市地区



because of the lack of both a “Top-Down” or a “Bottom-up” approach. In fact, the former lack of strong urban governance, capacity building, national policies, while the latter lack of strong leadership in leverage “Sustainable kampung urban upgrading” strategies that could overcome the scarce interests from community to participate.

The city of Malang was framed inside an International Green urban paradigm in Indonesia to modernizing and harmonizing lifestyle, society and infrastructure. The local government committed to implement the green city model to draw up the Green City Action Plan (Rencana Aksi Kota Hijau-RAKH) according to the National Green City Development Program (P2KH) which started in 2011 with the Bali declaration. The mayor of Malang was acknowledged by United Cities and Local Government (UCLG) as the “Best Practice Green City in South East Asia” in 2nd ASEAN Mayors Forum.

#### (4) Economic Development

The project raised in-house funds from 5 million rupiahs to 100 million rupiahs, much of this came from the sustainable management of inorganic waste and the increased revenue from selling to the Malang Waste Bank.

The “Glintung Go Green Kampung” is framed in an overall national and Green City Action Plan (Rencana Aksi Kota Hijau-RAKH) led by the Local Administration which gained of private and public partnership to revitalize urban areas and increase the business and environmental opportunities connected with this.

The project directly affected almost 1086 people, including local people and workers located in the “Glintung Go Green Kampung”. This is expected to create benefits for the whole projected population of 87,890 inhabitants by 2020. Some of the benefits include: a trickle-down effect due to the reduced cost of physical damage from flooding, the willingness to pay for the increased value of property and land due to the renovation of urban spaces and the provision of high quality open space.

经济，增加与之相关的商业机会。

该项目直接影响到近1086人，包括Kampung的“Glinton绿色计划”的当地居民和工人。预计到2020年，这将为874,890名居民创造福利。其中一些好处包括：洪水造成的物质损失减少产生了涓滴效应；由于城市空间的改造以及越来越多的高质量公共空间，购买增值房屋和土地的人也随之增多。

## 2. 项目挑战

生态		
子菜单	关键问题	你认为该城市应该在这些关键问题上做些什么？
水和空气	气候变化会加重洪患威胁。社区也会面临土地使用权频繁变动的问题。	提供一个类似湿地的绿色基础设施网络，如当地的污水处理厂有助于减少洪患的风险。 开发节水技术：收集雨水和洗涤用水。 提供一份关键绩效指标清单，有利于监测和评估其他可持续性kampung项目的绩效。 管理和评估水资源，整合新的数据来源，如卫星测量含水层水位、绘制洪水风险图。 发展水产业技术。
居住环境	Kampung的“Glinton绿色计划”项目已在其他洪水易发地区实施。温室气体的不断排放会造成进一步的全球变暖，导致气候系统各个部分发生变化。	测绘所有kampung易发洪水地区，并建立绿色缓冲带以减少自然灾害风险。 加强包括养鱼在内的可持续食品生产。 将试点项目的发现和设计最佳实践与当前的国家和地方规划框架交织在一起，通过学习借鉴这种方法，以振兴其他类似的“kampung地区”。 推广水敏性城市设计(WSUD)技术。 为扩大项目规模，玛琅政府应制定财务和政策策略。提供一种商业模式、工具和技术，以配合在建筑方案中对服务和城市规划的投资。 提供关键绩效指标的清单。
身体健康与饮食	干净的水可能在渗入地下之前被污染，或者被用于其他目的。	制定水质标准 加强洪水区城市农业建设，预留土地进行水渗透。
废物排放	垃圾场可能被污染，这对所有居民，特别是儿童和老人等弱势群体，都可能造成危险。	设置少量可以储存垃圾的保护区域，防止儿童接触有害废物。 通过开展能力建设项目，实现从“Glinton绿色计划”到全市边境的垃圾循环管理组织，在全市范围内减少温室气体排放。 达到城市细颗粒物(如PM2.5、PM10)年均水平。

## 2. Challenge of the Initiative

Ecology		
Subdomains	Themes of Primary Focus	Themes of Potential Impact
Water and Air	Water Stress Resiliency Water Sanitation Air pollution Groundwater and surface water quality. Flood control and stormwater management Water cycle management Water catchment	Access to water difficult to estimate for a community as part of a city. Reduced water flooding and increase the groundwater infiltration through the use of infiltration holes. Lack of monitoring and managing water resources. Lack of WASH programme Lack of financing and capacity for a building programme that delivers an infrastructure with upgrading programme possibilities.
Habitat and Settlements	Water resiliency Passive house Preservation of habitat and nature. Integration of landscape and built environment. Climate change measures Sustainable Food production	Increased production for hydroponic, and sustainable food production. Lowered risk of flooding and the impact for the population, goods and buildings through permeable areas and infiltrated bore holes. Green combined with water surfaces reduced urban heating (air humidity and temperature reduction) and flooding risks (buffering, water infiltration and flood speed reduction). Reduced cost for damages. Increased the integration of ecosystem and built environment Living Street – promoted low car organization and distribution in favour of more space for green, play and social gatherings. Increase the opportunity of carbon capture and storage through plantation and green areas.

经济		
子菜单	关键问题	针对这些关键问题，城市正在做什么或期望做什么。
劳工福利	农村地区的人们住在贫民窟/非正式的定居点。	提供贷款或教育资金。 提供金融服务，让每个人能够管理和提高他们的收入、资产和投资。 采取可持续的绿色战略和城市发展指导方针，避免贫困陷阱，为居住在贫民窟的城乡移民创造摆脱贫困的机会。
财富分配	缺乏住房保障可能导致社区失去参与升级项目的兴趣。	为了增强社区的灵活度，公共部门可以提供城市穷人无法负担的补贴，用于全面的基础设施投资。 增加有固定住房保障的家庭数量。由于居民得到充分保护，不受驱逐风险的影响，因此将对整体基础设施升级提供资金保障。 小额信贷有利于解决小型住房和基础设施不完善的问题。 降低交易成本。

管理（政策）		
子菜单	关键问题	针对这些关键问题，城市正在做什么或期望做什么。
组织与管理	缺乏强有力的城市治理和能力建设，不利于项目的实施。 许多城市都参与了这项具有不同优先级的计划。 从城市网络中“锁定”项目和社区的风险。	为避免Kampung的“Glintang绿色计划”受制于领导，该项目应该与其他部门和利益相关者合作，如私人部门、食品协会、印尼传统社会、创新技术、印尼绿色建筑委员会和文化组织。 促进投资升级，将贫民窟与初级、二级和三级城市基础设施网络相结合，将贫民窟融入城市主流。 鼓励公私伙伴关系在提供基础设施和服务方面发挥重要作用。 该项目与国家、地方项目(如国家经济适用房项目)和当地的绿色城市行动计划(Rencana Aksi Kota Hijau-RAKH)组织项目紧密联系。 为了实现可持续发展目标，项目应该有一个总体可持续的框架，在项目进行之前计划好目标和行动。将整个项目分解成小的组成部分，并逐个融资。





(Continued Table)

Physical Health and Food	Clean Water Healthy houses Air and pollution	Green filtered air and soil pollution, trees and vegetation reduced urban noise. Cleared urban spaces from wasted streets and green spaces, reduced health risks and increased playfulness. Public and green spaces for increased physical activity thus having positive effects on the health of everyone. Increased walkability, analysing the presence or absence of quality footpaths, sidewalks or other pedestrian rights-of-way.
Emission and Waste	Waste collection Reduces GHG emission from waste Sustainable production. Training and education.	Enhanced development of Solid Waste Management with sustainable consumption. Integrated waste collectors on doorsteps and specific spaces for unsafe waste collection with ground surface. Reduced access to polluted areas. Waste management developed hand in hand with awareness growing of the three Rs: reduce, reuse and recycle. Cleaned streets and collecting residential waste is key. Waste collection is fully segregated, to increase recycle and biological degradation, decreasing the need of polluted incineration.

Economics		
Subdomains	Themes of Primary Focus	Themes of Potential Impact
Labour and Welfare	More job opportunities Equal access to opportunities	Increased work and income generation possibilities in the urban agriculture and water management, tourism and waste collection. Increased tourism opportunity.
7. Wealth and Distribution	Equal access to opportunities for urban-rural migration Secure of Tenure	Created healthy places that support health programmes, helping children to grow healthy and strong. Prosperity: more local community and economic development along vibrant streets, more access to employment, schools and other urban amenities. Social: the “Gliting Go Green” programme increasing the resilience of poor and vulnerable people and the opportunities available to them Social assistance included micro-credit, training programmes and wage subsidies. Lack of secure of tenure.

文化与社会参与		
子菜单	关键问题	针对这些关键问题，城市正在做什么或期望做什么。
参与身份	人们不能平等地参与项目开发。	提供精心设计的公共空间，遵循基于社区规划的通用设计原则，人人皆可参与，无一例外。确保社区参与纳入项目设计、实施和监督。增加有住房保障的家庭数量。
探究学习	当地的环保意识很低。该领域需要对社交和商业网络开放。	城市必须与社区合作，特别是妇女协会和青年协会。利用公私结合的合作伙伴关系，提高环保意识，加强环保知识教育，收集垃圾并对垃圾进行分类。鼓励女性使用科技。

### 3. 项目创新

该项目的创新之处在于其良好的内部组织结构，该运作方式由班邦先生提出。例如，他为社区的每个成员制定了一套邻里环境规则，以处理他们的公共事务，如身份证、结婚证件等。一些环保措施包括提供证据，证明他们在自己的房子里种了一棵树和/或一个排水洞。因此，他赢得了居民们的信任与支持，让居民自愿为该项目付出自己的一份力，为项目提供资金支持。同时，这也与广大居民的积极参与息息相关。

另一创新之处在于科技的运用。在“Glantung绿色计划”中储水运动就是一个典型的例子。该项目不仅仅是通过一个普通的集水孔来实现的，而是通过一个注入井和一个综合的排水系统来实现的。它可以防止洪水，并且能够为地下水储备吸收更多的雨水。

在“项目开发”取得成功后，玛琅政府发起了一场“储水运动”，目的是将该项目推广到“Glantung绿色计划”社区的300户居民中。然而，该项目存在许多限制。由于Kampung的其他地区缺乏强有力的领导，故该项目的经验不一定完全适用于别的城市。

### ➔ 项目亮点

“Glantung绿色计划”项目是社区和政府相互协作的体现，其目的是概述如何规划、设计和建设一个可持续发展的城市。

“Glantung绿色计划”项目是许多利益相关者“自下而上”发起的行动。Glantung



Governance (Politics)		
Subdomains	Themes of Primary Focus	Themes of Potential Impact
Organization and Governance	Bottom-up approach. Strong leadership. Community Participation	<p>Lack of holistic approach between several players and stakeholders involved.</p> <p>Risk to make the “Glantung Go Green” an isolated project without scale-up and implementation measures to the city.</p> <p>The Water Banking Movement created with the “Glantung Go Green Kampung” resulted in successfully overcoming the flooding risk.</p> <p>The project was implemented through the application of local regulations put in force by the leader Mr. Bambang. However, the project could not be “scaled-up” and be replicable in another urban context due to the lack of “strong leadership.</p> <p>The project is not framed under the current sustainable national programme.</p>

Culture and Social Engagement		
Subdomain	Themes of Primary Focus	Themes of Potential Impact
Identity and Engagement	Community identity Community connectivity Reduce inequality and give good architecture for all.	<p>An increased sense of belonging.</p> <p>In public spaces children freely expressed opinions, participated in decision making and learning about all aspects of urban life.</p> <p>A created community, as a social space for individuals to meet and build their community.</p> <p>Public space that generates revenue for governments, as the property values and business activities increase around green spaces.</p> <p>Availability of green space surface/inhabitants/children that mentions 9m<sup>2</sup>/person as the standard for green space.</p>
Gender and Generations	Empowering women.	<p>Bridging the gender divide, and providing women with a voice in decision making and work opportunities close to home.</p> <p>Equal distribution of activities between women and men</p> <p>The women participatory approach resulted becoming the key-success in implementing sustainable strategies in the Kampung</p>



Inquiry and Learning	Learning opportunities for all.	People acquired new skills from the sustainable initiatives like water infiltration measures, community partnership and waste collection. External visitors trained with workshops and events organized by the community itself. Playful public and green spaces enabled the physical, cognitive and socio-emotional development of children. Outside living room - promotes public space to be well equipped (benches, lighting, play equipment) to be the central space of the neighbourhood to play, to socialize and to play with children.
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### 3. Innovation of the Initiative

The project itself was considered innovative in the modus operandi through a well-organized in-house structural organization led by Mr. Bambang. For example, he led a set of neighborhood environmental rules for every member of the community in order to process their public related administration, such as ID, marriage documents etc. Some of the environmental measures included providing evidence that they had planted a tree and/or a catchment hole in their house. In doing this he overcame the mindset, resistance and skepticism of the inhabitants in issuing funds from their personal savings towards the success of the project. This in turn would then be connected with the full participation of the people.

Innovation also applied to tools and technology, with help from the university research Water Banking Movement in “Glantung Go Green”. This was not just implemented with a common type of catchment hole, but an injection well and an integrated drainage system, which prevents flooding and is able to absorb more rain water for groundwater reserve.

Following the success of this “Project Development” the Malang Authority helped to create a Water Banking Movement in order to implement the project to the entire “Glantung Go Green” neighborhood of 300 households in every aspect. However, the project has found many constraints and in other sectors that could prove to be problematic in another urban context due to the lack of strong leadership to other areas of Kampung.

### ➔ Highlight of the Initiative

The “Glantung Go Green” project is the result of an integrated approach between community and government in order to outline how cities should be planned, designed, and built in a sustainable way.







Notwithstanding this, the “Glinting Go Green” project is considered an approach where many stakeholders act from the “Bottom-Up”. The residents of Glinting Go Green, along with other parties and partners including Malang City Government, led the initial idea to integrate the “Glintung Go Green” project into the Water Banking Movement. That was followed by the Faculty of Engineering of Brawijaya University who helped Glinting community with research on applicable and implementable water management measures.

## ➔ Experience and Inspiration

### 1. Experience of the Initiative

The “Glintung Go Green” approach should be followed as a vehicle for the planning or regeneration of informal areas. It stands out as the best model of environmental performance, as well as economic and social benefits. The Glinting kampung is an example of urban characteristics and problems that are found in other similar Indonesian and Asian cities. Therefore, the flexibility of this approach could be applicable and transferable to another city’s development.

### 2. Inspiration of the Initiative

(1) To avoid the risk of the “Glintung Go Green Kampung” to become “Locked-In” under strict regulations forced by its strong leadership, the project should take advantage of the opportunities offered by opening and connecting with other sectors and stakeholders, partnership with the private sectors, food association, Indonesian Heritage Society, innovation technology, Green Building Council of Indonesia and cultural organizations.

(2) To scale-up the project the Malang Administration should prepare and develop financial and policy strategies, providing a business model, tools and technology to accompany investment in a capacity building programme to service delivery and urban planning.

(3) To interweave the findings and the design, best practices are extracted from the pilot project of “Glintung Go Green” Kampung” with the current national and local planning framework encompassing the policy, urban planning guidelines, down to green strategies, in order to replicate this approach to the revitalizing of other similar “kampung areas”.

(4) To scale up the Waste Cycle Management Organization from “Glintung Go Green” kampung up to the whole city border, through the development of a capacity building programme, financial funds, and workshops. This could stand out, as the valuable resources in reducing GHG emission of 7-8% per year for one of the pressing problem in Malang. This supports the City Malang in the project delivery thereby fostering job opportunities and community participation.

(5) To provide financial resources to local governments to lead the design and implementation

(4) 通过加强能力建设、财政基金支持及工作坊培训,把废物循环管理组织由“Glantung绿色计划”扩展至整个城市边境。目前,玛琅市所面临的紧迫问题之一是每年减少温室气体排放量的7%-8%。因此,该项目为玛琅市增加了就业机会,也提高了居民社会活动参与度。

(5) 积极为当地政府提供财政资源,实现贫民窟改造计划的设计和实施。全国贫民窟升级项目主要有全国城市供水项目、全国经济适用住房项目和当地的绿色城市行动计划。这些项目为该市到2019年底消除贫民窟、普及安全用水和卫生设施提供了有力支持。

(6) 采取可持续的绿色战略和城市发展指导方针,避免再次陷入贫困,为居住在贫民窟的城乡移民创造摆脱贫困的机会。

(7) 为防止在洪水频发的地区、河边、重要公共场所、工业地区、斜坡的顶端出现新的贫民窟,规划部门应该制定全面的策略解决此问题。这将提高居民应对洪患的能力,同时也需要政府和所有社区付出更高的努力和代价。

(8) 为了增强社区的灵活度,公共部门可以提供城市穷人无法负担的补贴,用于全面的基础设施投资。这将为所有居民提高平等投资项目的机会,也为下一个改善居住条件的项目提供了资金支持。通过这种方式,所有受益人都可以参与到O&M的项目中,并在实施阶段无需政府组织的参与。

(9) 为了实现可持续发展目标,项目应该有一个总体可持续的框架,在项目进行之前计划好目标和行动。将整个项目分解成小的组成部分,并逐个融资。

(10) 增加有固定住房保障的家庭数量。由于居民得到充分保护,不受驱逐风险的影响,每人皆有权居住和租赁房屋,因此将对整体基础设施升级提供资金保障,也为整个社区的可持续发展打下了基础。

(11) 利用小额信贷解决小型住房和基础设施不完善的问题。住房融资提倡“渐进式建设”,指的是对现有住房的逐步改善,而不是建设项目的总成本。

(12) 印度尼西亚崇尚志愿与自助精神,许多居民致力于维护和清洁社会基础设施。积极参与社会活动是居民们的一致共识,提高了基础设施升级项目的效率,降低了项目成本。

(13) 提供一份关键绩效指标清单,有利于监测和评估其他可持续性Kampung项目的绩效。



of slum upgrading initiatives. One possible initiative could be framed in the National Slum Upgrading Project which is the main World Bank vehicle, along with the National Urban Water Supply Program, the Permendagri Nomor 1 Tahun 2007, the National Affordable Housing Project and the local Green City Action Plan (Rencana Aksi Kota Hijau-RAKH). This supports the government's ambitious target of eliminating slums and providing universal access to safe water and sanitation by 2019.

(6) The issuing of sustainable green strategies and urban guidelines ensuring that community participation is incorporated in program design, implementation and supervision and avoiding poverty traps or stepping stones for rural-urban migrants by living in slums.

(7) To prevent the arising of new slums located in flood prone areas, closer to river, in strategic public areas, industrial areas or at the top of the steep slopes, the planning department should create a government capacity to map slums and develop spatial plans through a comprehensive set of strategies and non-build up areas. This would avoid the increased vulnerability of the inhabitants whilst at the same time producing a higher cost for the government and all community.

(8) To enhance the community resiliency, the public sector can provide subsidies to those urban poor that cannot afford the full infrastructural investment. This will give the opportunity to all dwellers to contribute in equal parts to the project investment and through their future savings invest in the next shelter improvement programme. This way all beneficiaries can be involved in the project during the O&M and implementation stages unloading the presence of the upper government organization.

(9) To achieve goals and feasibility, the project should be framed in an overall sustainable framework with goals and actions implemented before the project begins itself. Breaking down the whole project in small components and financing each one individually.

(10) To increase the number of households with secure of tenure as they will then be fully protected from the risk of eviction. In doing so, they will contribute economically at the overall infrastructure upgrading investment as they will have the right to live and lease the property therefore enhancing the entire communities sustainability.

(11) To use the micro credit as an incentive to a valuable solution for small housing and infrastructure improvements. The concept of shelter finance values 'Progressive-build', meaning incremental improvements to existing housing rather than the total cost of the construction project.

(12) In Indonesia there is a cultural norm of volunteerism or self-help, and many residents contribute towards keeping social infrastructures maintained and clean. As an incentive, the community engagement and empowerment achieves a high percentage of consensus thus reducing cost-inefficiency due to the slow-down from citizens that are unwilling to participate in the project of infrastructure upgrading.

(13) To provide a list of key performance indicators that can easily monitor and evaluate the sustainability performance with other sustainable kampung project development.

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# 第三届广州国际城市创新奖 技术委员会工作报告

哥伦比亚，波哥大，2016年10月11日—14日

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## 一、会议简介

2016年10月11日—14日，第三届广州国际城市创新奖（简称“广州奖”）技术委员会会议与世界城市和地方政府组织（简称“城地组织”UCLG）第五届世界大会在波哥大召开。会议讨论并评选出城市发展中表现突出且具有借鉴意义的创新项目，通过启发与分享以促进可持续城市发展。此次评选以广州奖设立的目标为标准——在全球范围内的城市和地方政府中寻找促进社会、经济、环境可持续发展的创新举措，具体如下：

突出在贯彻可持续发展目标城市维度和《新城市议程》时的创新政策和措施的示范作用；

激励城市和地方当局进一步促进创新、相互学习；


优化城市治理。

此外，技术委员会还参照了广州市促进城市、地区、国家以及主题领域间城市创新经验共享的宗旨。

广州奖由广州市、城地组织以及世界大都市协会共同创立，技术委员会对此番远见卓识致以敬意。同时，技术委员会还对城市联盟、倡导地方可持续发展国际理事会、城地组织拉美分会以及萨拉戈萨大学的积极参与和支持表示感谢。

技术委员高度赞扬了广州奖办公室的协调处理及其高度透明的指导方针与操作过程。与2012年和2014年一致，2016年广州市邀请15个入围城市在国际城市创新大会上展示项目，并允许评审委员会在会后做出最终决定。技术委员会对这一创举表示赞赏。

技术委员会认真审阅了171个城市提交的301个有效项目，其中涵盖世界59个国家和地区。在这171个城市中，有45个城市被认定为优秀的创新城市。其中，15个成为入围城



# Report of the Technical Committee (TC) of 2016 Guangzhou International Award for Urban Innovation

BOGOTA, COLOMBIA, 11–14 October 2016

## I. INTRODUCTION

The Technical Committee (TC) met in Bogota from 11 to 14 October 2016 in parallel to the 5<sup>th</sup> UCLG World Congress. It met to select deserving and shortlisted initiatives with a view to enhancing the implementation of sustainable urban development through inspiration and knowledge sharing. It took into consideration the goal of the Guangzhou International Award for Urban Innovation (Guangzhou Award) to recognize innovations in improving the social, economic and environmental sustainability in cities and local governments worldwide and more specifically:

To highlight exemplary models of innovative policies and practices in implementing the urban dimension of the Sustainable Development Goals (SDGs) and the New Urban Agenda;

To motivate cities and local authorities to further promote innovation and to learn from each other;

To improve city governance.

The TC took also into consideration the objectives of the City of Guangzhou to promote the sharing of lessons learned from urban innovations between cities, regions, countries and thematic areas.

The TC wishes to express its appreciation to the City of Guangzhou, the United Cities and Local Governments (UCLG) and Metropolis for their vision in establishing the Guangzhou Award. The TC also wishes to express its appreciation to Cities Alliance, ICLEI, FLACMA and the University of Zaragoza for their active participation and support to the Award process.

The TC commends the Secretariat for the Guangzhou Award in the way it handled the call for submissions, the transparency in its guidelines and processes. It further commends the City

市，其入围项目以及技术委员会评选的原因见于附件。

## 二、评选过程

技术委员会依据广州奖《章程》评选标准考量每一个参评项目，具体如下：

一是创新性：该城市所报项目是否超越了传统，将信息和知识应用于制定新政策，开发新项目，或是采用了新的商业模式；

二是成效性：是否取得了预期成效，实现了社会满意的效果；

三是应用性：是否激励其他城市或地区采纳新思路、新政策或新做法，包括可供所在城市、区域及国家进行复制学习，以实现更大的影响力，并具有可持续性；

四是影响性：是否有战略影响和交叉意义；是否对解决公众关注问题产生了积极而深远的影响。

除了以上各项以及传统支柱和可持续领域（社会、经济、环境、政府和技术），技术委员会还会对每一个项目的整体性和变革性进行考量。

## 三、入围城市名单评选过程

在会议第一阶段，技术委员会集中审阅非洲项目。完成后，所有成员分为两组（A和B），各组审阅剩余约一半的申请项目，确定较有价值的项目。最后，两组汇总得到一份来自70个城市与地区90个项目组成的名单。

在会议第二阶段，技术委员会成员被重新分成两组（C和D），遴选出45个优秀城市。每组各提交一份名单。会议对两份名单进行比较，同时出现在两份名单中的项目直接被确定为优秀城市。剩余的由两组共同讨论直到达成一致，最终评选出45个优秀城市。

在会议第三阶段，技术委员会成员再度重新分成E和F两组，评选出15个入围城市。该过程与第二阶段相同，并由此得出结果。

技术委员会为每个入围项目撰写了评语，供评审委员会参考。

会议的第四阶段，技术委员会撰写报告，同时向城地组织第五届世界大会的与会者和领导展示评审结果，并向媒体公布。





of Guangzhou for its intention to invite all 15 shortlisted cities to present their initiatives to the International Conference on Urban Innovation as was the case in 2012 and 2014, and to allow the Jury to make its final decision after the conference.

The TC reviewed all initiatives among which 301 submitted from 171 cities and from 59 countries and regions were eligible. The TC would like to recognize all submissions for their commendable efforts in making their respective communities more sustainable. Of these 171 cities, 45 were identified as outstanding cities. It further shortlisted 15 cities of excellence from the 45. The 15 cities of excellence are presented in annex including the reasons behind the TC's choice.

## II. The Evaluation Process

The TC assessed each submission using the main criteria established by the Guangzhou International Award for Urban Innovation namely:

**Innovativeness:** the extent to which and the use of knowledge of information has been applied in developing new policies, practices and/or business models to address major urban issues and challenges;

**Effectiveness:** the extent to which the initiative has achieved or is well on its way to achieve its stated objective(s) and effective social impact;

**Replicability:** the positive demonstration effect and scalability of the initiative in inspiring others to adopt new ideas, policies or practices, including replication in other locations of the city, region or country for greater impact and sustainability;

**Significance:** strategic importance and cross-cutting nature of the initiative; the importance of the initiative in addressing problems of public concern.

In addition to the above and to the traditional pillars and domains of sustainability (social, economic, environmental, governance and technology), the TC considered the integrated and transformative nature of each initiative.

## III. Selection Procedure for the Short-listed Initiatives

In its first plenary session, the TC reviewed the African initiatives together and then divided into two groups (A and B). Each group reviewed about half of the submissions on a regional basis with a view to determining the qualifying initiatives. The work of the two groups resulted in a consolidated list of 90 initiatives from 70 cities and regions.

In its second plenary session, the members of the TC re-organized into two groups (C and

## 四、技术委员会对广州奖办公室的建议

技术委员会赞扬2016年广州奖高度透明的评估过程与严密的程序制定。为了提升广州奖的知名度与公信力，技术委员会提出以下建议。第三届广州奖有301个参评项目，同时此次参与的国家与地区数量有显著增加，广州奖应为未来制定一项计划，以备有更多国家和城市参与。确保高水准的参评项目则是一项关键的考量。以下的建议希望可以帮助实现这一目标：

评审过程分为两个阶段，在线提交两页参评材料并附带一页图片或者图表参与第一轮筛选（例如从300+到100）。成功通过第一轮筛选的参评方需提交一份完整的材料进入到第二轮评审。技术委员会将投入更多的时间在第二轮评估提交的参评材料，包括附加材料。同时那些有希望但在展示中略有不足的参评项目则可以获得反馈，并有时间作出改进。

理想情况下，第一轮评估应由具有地区和领域专业（规划，建筑，城市管理和治理等）的合作伙伴和机构来完成。这些机构还将被邀请派专家参加第二轮评估，但第二轮评估不完全由这些专家组成，每个阶段都有新人员和机构参与。使用合作伙伴和机构的优势还在于它们有进行背景调查的能力。

鼓励在线提交，要求参评方使用模板。这将有效进行字数限制。但不能只使用网上提交，因为技术问题会将一些国家排除在外，使它们无法参与。

参评方还需要提交一封由城市/地区的市长、州长、议员或其他高级官员签署的信函。

对申请表格式进行微调，以避免重复。

随着技术的快速发展，邀请城市/地区提交一份有限数量的图形资料（地图，图表和照片）作为申请材料的一部分（不排除其他额外的材料）。

## 五、技术委员会专家

1. 莫妮卡·泽尔曼女士（女），倡导地区可持续发展国际理事会世界秘书处副秘书长（德国）
2. 袁桂萍（女），特许城市规划师、新加坡科技设计大学李光耀创新城市中心研究总监、共和联邦城市规划师协会（东南亚）副主席、原新加坡规划师研究会主席（新加坡）
3. 亚杰·苏里，城市联盟亚洲地区顾问（印度）
4. 克里斯·约翰森，澳大利亚城市工作组首席执行官、原澳大利亚新南威尔士规划部门执

D) with the purpose of identifying 45 outstanding cities. Each group came up with a list. The two lists were compared in plenary. Those common to both lists were unanimously admitted to deserving initiatives list. Those remaining were discussed in plenary until consensus of the final list of 45 cities was reached.

In its third plenary session, the members of the TC were re-organized into Groups E and F with the purpose of identifying 15 short-listed cities. The same methodology was applied and resulted in the shortlist.

The TC prepared a brief for each short-listed initiative to inform the Jury of the rationale of its selection. These briefs are contained in Annex III.

At its fourth plenary session the TC finalized the current report. It also presented the results of its deliberations to participants and leaders attending the 5<sup>th</sup> UCLG World Congress and to the media.

#### IV. Recommendations of the TC to the Secretariat

The TC appreciates the transparent process and rigorous procedures undertaken for the evaluation of the submissions to the 2016 award. The Technical Committee has the following suggestions on how to improve the reputation and credibility of the Award. With 301 submissions and a notable increase in the number of countries and territories participating in the third cycle of the award, the Award will need to plan for the future and the likelihood that more countries and cities will participate. A critical consideration will be to ensure the highest possible quality of submissions. Processes and procedures that could help achieve this objective include:

A two stage technical review process whereby the first round of elimination (e.g. from 300+ to 100) is done on-line based on a two-page submission accompanied by one page of pictures or graphics. Those that are not eliminated are then invited

to submit a full dossier for the second round. This would allow the TC to spend more time in the second round to assess the submissions including additional materials. It would also allow for providing feedback to those promising submissions that were weak in their presentation and use the interim period to improve their submissions.

Ideally the first round assessment should be done by a network of partners and institutions representing regional expertise and experience as well as sectoral expertise (planning, architecture, urban management and governance, etc.). These institutions would also be invited to send experts to the 2nd round assessment, but not exclusively, so as to have new people and institutions participating in each cycle. The advantage of using a network of partner institutions

行主任、原澳大利亚新南威尔士政府建筑师、澳大利亚建筑师学会的终身会员（澳大利亚）

5. 林竹，中国城市运营联盟执行主席、中信改革发展研究基金会咨询委员（中国）

6. 弗朗西斯科·布雷特，欧洲建筑师、西班牙萨拉戈萨大学讲师、西班牙马德里技术大学城市可持续发展博士、BMASB建筑城市规划咨询办公室始创合作人（西班牙）

7. 贝希尔·卡努特，城镇规划师，第三世界国家环境发展行动（ENDA）生态学与人口执行主任，国际观察与参与式民主非洲地区办公室主任（塞内加尔）

8. 希拉·奥舒格博祖，肯尼亚基木苏政府革命性科学与城市弹性大使、联合国人居署全球城市青年情况报告（GSUYR 2015/2016）首席研究员、2013年至2016年全球创新大赛评委会主席（尼日利亚）

9. 艾丽莎·席尔瓦，建筑师、美国哈佛大学设计研究院硕士、委内瑞拉西蒙·玻利瓦尔大学建筑教授，安第斯拉美开发银行与玻利维亚首都苏克雷市顾问、委内瑞拉恩莱思建筑设计协会创始人兼主任（委内瑞拉）

10. 乔治·佩雷·嘉拉米洛，建筑师、独立顾问、原哥伦比亚FAUPB建筑学院院长、2004至2008年哥伦比亚麦德林阿布拉山谷大都市区副规划主管、2012至2015年哥伦比亚麦德林规划主管、2016年李光耀世界城市奖获奖城市麦德林项目团队负责人（哥伦比亚）

11. 奥古斯托·马赛厄斯，巴西全国城市联盟顾问、健康城市规划师、美国密歇根大学交通研究所助理研究员（巴西）

## 六、广州奖办公室成员

刘保春，广州市人民政府外事办公室主任

雷玮琚，广州市人民政府外事办公室副主任

杨泽亮，广州奖办公室主任

吴晓玲，广州奖办公室副主任

陈 明，工作人员

郭嘉琳，工作人员

罗 捷，工作人员



lays also with their ability to undertake background checks.

Encourage on-line submission that would oblige submitters to respect the submission template. This would avoid cities not respecting the word limitations. The use of on-line submission cannot be made exclusive as this would exclude some countries and cities from participating owing to the digital divide.

Include as part of the submission requirement a signed letter by the mayor, governor, councilor or other senior official of the city/region.

Minor adjustments to the reporting format to avoid repetition.

With rapidly evolving technology, invite cities/regions to submit a limited amount of graphic material (maps, graphics and photos) as part of the submission (this does not exclude other additional material).

## V. TC Members

1. Ms. Monika Zimmermann, TC Chair

Deputy Secretary General of ICLEI Local Governments for Sustainability, World Secretary

2. Ms. Belinda Yuen, TC Member

Chartered Town Planner; Research Director, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design; Vice President (Southeast Asia) Commonwealth Association of Planners; Former President, Singapore Institute of Planners

3. Mr. Ajay Suri, TC Member

Regional Adviser –Asia, Cities Alliance

4. Mr. Chris Johnson, TC Member

CEO of Urban Taskforce Australia; Former Executive Director in New South Wales Planning Department; Former NSW Government Architect, Life Fellow of Australian Institute of Architects

5. Mr. Lin Zhu, TC Member

Executive Chairman of China Urban Operation League; Consultative Committee Member of CITIC Foundation for Reform & Development Studies

6. Mr. Francisco Berruete, TC Member

European Architect, Lecturer at University of Zaragoza, Spain; PhD in Peripheries and Urban Sustainability at Technical University of Madrid; Founding Partner of BMASB Architecture, Urban Planning Consultant Office

7. Mr. Bachir Kanoute, TC Member

## 附件 1

### 第三届广州奖入围城市名单

序号	城市/地区	项目
1	亚的斯亚贝巴	可持续交通设施发展
2	亚松森	历史中心城区总体规划
3	波士顿	青年引领变化：青年参与预算
4	布鲁塞尔	绿色产业孵化器
		屠宰场 2020：屠宰场的改造
		城市营销：打造未来可持续的社区形象
5	哥本哈根	气候适应性社区
6	雅加达	参与规划与良好治理
7	拉巴斯	拉巴斯斑马—市民文化项目
8	吕莱布尔加兹	女性参与地方当局事务
9	玛琅	河流筑堤运动
10	梅纳什	教育促进以色列犹太人和阿拉伯人在区域政府与周边政府的共存
11	卡柳比亚	综合社区固体垃圾管理
12	拉马拉	智慧城市“以技术实现自由”
13	松坡区	太阳能共享发电厂
14	坦佩雷	面向城市、企业和市民的区域循环经济最佳范例
15	特拉霍穆尔科	环境法律诉讼地方办事处





Town planner, Executive Coordinator of Enda Ecopop. Focal Point and Head of office for Africa of the International Observatory of Participatory Democracy (IOPD)

8. Ms. Sheila Ochugboju, TC Member

Ambassador of Transformative Science and Urban Resilience, Government of Kisumu, Kenya; Head Researcher, UN-Habitat Global State of Urban Youth Report (GSUYR 2015/2016); Chair of Jury, Global Innovation Competition (2013-2016)

9. Ms. Elisa Silva, TC Member

Architect with a Master Degree from Harvard GSD; Professor at the Simón Bolívar University;

Consultant to CAF development bank of Latin American and Sucre Municipality; Director & Founder of Enlace Arquitectura

10. Mr. Jorge Pérez Jaramillo, TC Member

Architect, independent advisor; Former Dean School of Architecture FAUPB; Former Deputy Planning Director Area Metropolitana del Valle de Aburra 2004-08, Former Planning Director of Medellin 2012-15, Leader for Medellin's team awarded with Lee Kwan Yew World City Prize 2016

11. Mr. Augusto Mathias, TC Member

Advisor of the National Confederation of Municipalities of Brazil/FLACMA; Healthy City Planner; Research Associate, Smart- UMTRI University of Michigan Transportation Research Institute

12. Mr. Nicholas You , Moderator of the TC Meeting

Advisor to the Guangzhou Award

## VI. Members of the Secretariat

1. Mr. Liu Baochun, Director General of Guangzhou Foreign Affairs Office

2. Mr. Lei Weiju, Deputy Director General of Guangzhou Foreign Affairs Office

3. Mr. Yang Zeliang, Director of the Guangzhou Award Secretariat

4. Ms. Wu Xiaoling, Deputy Director of the Guangzhou Award Secretariat

5. Ms. Chen Ming, Staff Member of the Guangzhou Award Secretariat

6. Ms. Guo Jialin, Staff Member of the Guangzhou Award Secretariat

7. Mr. Luo Jie, Staff Member of the Guangzhou Award Secretariat

## 附件2

### 第三届广州奖专家推荐城市名单

序号	城市/地区	项目
1	巴塞罗那	从贫民窟到可持续社区
2	柏林	气候中的柏林（2050 年）
		移动多元的交通导航系统
3	波哥大	医院学堂:帮助瘫痪或住院的孩子和年轻人获得教育
		绿色医院
4	布宜诺斯艾利斯	我的投票，我的选举
5	釜山	加曼创意文化村
		可持续发展重建创新项目
6	开普敦	交通发展指数
		职业女性提升计划
7	加拉加斯	面向弱势群体和低收入人群的文化、娱乐、教育和提升网络中心
8	卡特赫纳	渔民学校—播种希望
9	库里达巴特	自然环境保护
10	达利福特	支持社区与协会可持续发展,推动青年就业
11	广州	如约巴士
12	危地马拉市	危险儿童发展中心
13	伊斯坦布尔	大城市灾难风险管理指数系统
14	占碑	通过社区努力大力发展街区
15	全州	创新的厨余垃圾降低方法与可循环科技计划
16	胡宁	以先祖智慧谋求和平
17	卡法萨巴	促进当地经济与社会发展,创新公共社区服务,提升对有特殊需求群体的社会包容性
18	戈公	联系环境保护与经济发展：戈公绿色长廊
19	马什哈德	青年顾问组
20	墨西哥城	政府公开采购
		Mapat ó n CDMX 政务服务项目

## Annex I

**List of 15 Shortlisted Cities (by Alphabetical Order)**

No.	City/Region	Initiative
1	Addis Ababa	Development of Sustainable Transport System
2	Asuncion	Master Plan of the Historic Downtown
3	Boston	Youth Lead the Change: Youth Participatory Budgeting
4	Brussels	Greenbiz Incubator
		Abattoir 2020: reconversion of the slaughter house site
		Urban marketing: for a farsighted and sustainable neighbourhood image
5	Copenhagen	Copenhagen Climate Resilient Neighbourhood
6	Jakarta	Jakarta Participatory Planning and Good Governance
7	La Paz	The La Paz Zebras: A Citizen Culture Project
8	Luleburgaz	Sex, egalitarian approach and directives
9	Malang	Water Banking Movement
10	Menashe	Education towards Coexistence between Israeli Jews and Arabs in our Regional Council and its Surrounding Councils
11	Qalyubeya	Integrated Community Based Solid Waste Management
12	Ramallah	Ramallah Smart City “Freedom through Technology”
13	Songpa-gu	Songpa Solar Nanum (Sharing) Power Plant
14	Tampere	Circular economy
15	Tlajomulco de Zuñiga	Environmental Law Prosecution Local Office

## Annex II

**List of 30 Deserving Cities (by Alphabetical Order)**

No.	City	Project
1	Barcelona	Trinitat Ex Nova. From vertical slum to sustainable neighborhood by community self-empowerment
2	Berlin	m4guide -an integrated communication and navigation system
		Climate-Neutral Berlin 2050
3	Bogota	School at Hospital
		Green Hospitals

21	米兰	共享交通
22	莫斯科	集体决策系统
23	麦德林	知识经济创新城区
24	南宁	餐厨废弃物资源化利用和无害化处理厂项目
25	罗萨里奥	绿色家园网络
26	塞费里希萨尔	公共金融卡资助系统
27	悉尼	2030 年实现永续发展的悉尼
28	新北	绿色新北:全民绿色生活
29	乌得勒支	进行普遍人权本地化,提高生活质量
30	瓦伦苏拉	360 度教育投资计划



4	Buenos Aires	My Vote, My Election
5	Busan	Gamman Creative Cultural Villages, a space for creative activities where residents and artists are working together
		Creative Urban Regeneration Project for the Establishment of a Sustainable City
6	Cape Town	A Transport Development Index:
		Women at Work Empowerment Program
7	Caracas	Cultural, Recreational, Educational and Empowering Network Centers for Vulnerable and Low Income People
8	Cartagena	Fishermen School- Sowing Hope
9	Curridabat	Ciudad Dulce
10	Dalifort Foirail	UrbaPEJ- Dalifort: Support to Sustainable Social Development of Neighbourhoods and Associations, and the Promotion of Youth Employment in Dalifort Outskirts of Dakar
11	Guangzhou	Real Bus
12	Guatemala City	Development Centre for the Municipal Program for Children at Risk
13	Istanbul	Megacity Indicator System for Disaster Risk Management in Istanbul
14	Jambi	Intensively Developing Sub-districts through Community Effort
15	Jeonju	Innovative Food Waste Reduce and Recycling Project Using RFID Technology
16	Junin	Ancestral Wisdom as a tool for peace
17	Kfar Saba	Innovative public and community services to better social inclusion of population with special needs, through local economic and social development
18	Koh Kong	Linking Environmental Preservation with Economic Development: The Green Corridor of Koh Kong
19	Mashhad	Young Consultants Group
20	Mexico City	Mexico City Open Contracting
		Mapatón CDMX
21	Milan	Sharing Mobility in Milan
22	Moscow	Collective decision-making system “VMESTE!” (“TOGETHER!”)
23	Medellin	Innovative District
24	Nanning	Kitchen Waste Resource Utilization and Harmless Treatment Plant Project of Nanning City
25	Rosario	Green Homes Network: Citizen Commitment Reduction of Energy, Water, Waste
26	Seferihisar	Public Card Financial Aid System aka Seferikart
27	Sydney	Delivering Sustainable Sydney 2030
28	New Taipei	Transformation through empowering people: A structural approach to pursue green life
29	Utrecht	Utrecht: Enhancing the quality of life by localizing universal human rights
30	Valenzuela	Education 360-Degrees Investment Program







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