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城镇化特刊

重塑中国城市形象
——可持续城市化发展之路

Reimagining China's cities
Towards a sustainable urbanisation

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Alongside a bi-monthly journal, chinadialogue's primary vehicle is our website (https://www.chinadialogue.net), a unique bilingual platform which promotes a global understanding of the environmental impact of China's rise by publishing informed articles, commentaries and analysis by writers from inside and outside of China. We aim to inform, educate, and contribute to building a global consensus on fair and workable solutions.

chinadialogue also organises annual press awards, in conjunction with the Guardian, SEE Foundation and Sina to recognise environmental journalists who have made outstanding contributions to the field in China.

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“中外对话”城镇化特刊得到“E3G”、德国马克特基金会、“德国观察”和“低碳未来城市”项目的支持。

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This journal was supported by E3G, Stiftung Mercator, Germanwatch and the Low Carbon Future Cities Project.

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中国城市困局

伊莎贝尔·希尔顿
中外对话总编

在经历了近20年的高速城镇化之后，中国城镇的正式和非正式居民总数一举超越了农村人口数量。过去30年中，超过4亿人迁入城市，2011年城镇人口占总人口比重首次超过50%。如今超过52%的人口居住在城市，到2025年这一比例预计将达到70%，这也就意味着接下来的12年城镇将迎来2.5亿新增人口。

中国的城镇化是人类历史上规模最大、发展最快的社会运动，它给中国社会带来了翻天覆地的变化，也给中国的政策制定者们带来了诸多的挑战，由此产生的许多问题都与资金有关。户口是当前中国面临的历史遗留问题之一，这个人手一份的身份证明决定了中国人的居住地。在毛泽东时代，户籍制度使得农民被土地绑住腿脚。然而，过去几十年中，大量农村人口涌入城市寻找工作机会，工程建设红火时期尤甚。但这些没有城市户口的农民成了弱势群体，虽然可以在城市工作，却不能享受与城里人同等的医疗、教育等福利。

户籍制度以极低的附加成本为城市带来了廉价的劳动力，但也被普遍认为不公平，需要改革。现行户籍制度下，农民工的生活充满不确定性，因此往往不得不撇下父母子女，只身进城赚取高于农业收成的收入。如果希望下一代城市居民成为新的消费者，带动中国经济挺进下一阶段的发展，那么他们就应当享受同等的权益。问题是，谁来推动这一改革？

中国大多数的地方城镇税收不足，几十年来财政主要依靠征用农业土地用作工业、商业和住宅的开发。这让许多地方政府背上了沉重的债务负担，想要进一步推进城镇化，地方政府的财政制度就必须进行改革。

现行财政制度的问题不止于此：它吞噬良田建起城市，与此同时，城镇的扩张加剧了居民对私家车和公共交通的依赖，上班族不得不长途通勤，进而导致碳排量的攀升，并带来了令人窒息的空气污染和严重的交通拥堵等一系列问题。城市必要的基础设施建设则不时被忽略，例如许多大城市在排水系统等方面仍存有隐患，令其无力应对未来的扩张和气候变化所带来的不确定性。

面对2025年恐将新增的2.5亿城镇人口，在接下来的10年里，中国要建造怎样的城市来容纳这些新城市人？新建10个2500万人的城市，3个7000万人的大城市，还是100个250万人的小城

市？这些新城市人将过着怎样的生活？他们将以何为生？他们每天要通勤多长的距离？他们能否住进高能效的房子？他们能否享受到城市生活所需的充足水源？他们产生的垃圾又能否得到回收利用？

中国未来城市的设计将不仅影响到中国城镇居民的健康和福利，还将影响到中国对不断飙升的碳排放的控制，这对中国人民乃至世界人民都有着重要的意义。中国如果要成为“十二五”规划中描述的那个可持续发展的国家，决策者们就应该更多地学习哥本哈根这样先进城市的经验，而不是效仿洛杉矶那种已经过时了的样板。

如果中国真的实现了城镇化目标，12年后的中国将是一个完全不同的社会。历史上任何一个社会的变革都产生了巨大的影响，中国城镇化将是一场长期的社会和经济转型。

过去5年中，中国的城镇中产阶级开始越来越积极地发出他们的声音。他们希望自己的产权得到保护，希望自己的孩子能在一个压力更小、环境更好的社会中成长。他们要求清洁的空气和安全的水源，要求免受有毒化工厂的侵害。这些诉求已经超越了某个特定议题的本身，他们抱怨政府的不作为、透明度的缺失，他们要求在那些影响他们生活的决策和规划中发挥更大的作用。

李克强总理将城镇化摆在中国经济和社会发展、以及建立可持续小康社会的核心地位。随着中国经济增速放缓，中产阶级城市居民将向拥有更高价值的工作岗位转移并成为推动经济发展的消费者，他们也会要求享受更高质量的生活。中国规划者今天的决策，将决定这些美好的愿景能否得以实现。

China's urban dilemma

Isabel Hilton
Editor, chinadialogue

After nearly three decades of rapid urbanisation, China's official and unofficial city dwellers outnumber its farmers. More than 400 million people have already moved into cities in the past thirty years; and in 2011 China crossed the threshold of a predominantly urban society. Today more than 52% of Chinese citizens live in cities, and by 2025 the government wants that figure to be 70%. To achieve this up to 250 million people will have to move in the next 12 years.

China's urbanisation counts as the biggest and fastest social movement in human history, a movement that has turned Chinese society on its head and raises many difficult questions for policy makers. Many of these questions revolve around money. One legacy of earlier times in China is the *hukou*, a permit held by every Chinese citizen that determines where he or she is domiciled. In Mao Zedong's time, the *hukou* tied farmers to the land. In recent decades those farmers have migrated to China's cities, seeking work, many of them in the construction boom. But with no right of abode they are locked into the status of a disadvantaged underclass, allowed to work in cities but not to enjoy the right of residence that would give them and their families access to health or education.

This system gives the cities the benefit of cheap labour with few of the associated costs, but it is widely recognised as unfair and in urgent need of reform. It makes for a precarious life for migrant workers, who often leave parents and children behind while they work in town for the higher cash wages that farming denies them. If China's new city dwellers are to become the consuming middle classes that China wants in its next stage of development, they will need the same privileges as existing urbanites, but who will pay?

Most of China's local towns and cities have too little in the way of tax revenue and have financed themselves in recent decades by requisitioning agricultural land for development into industrial, residential or commercial buildings. This has left a worrying debt overhang for many local authorities, and further urbanisation will demand reform of local government finance.

This model of financing has created other problems: it has swallowed up precious farmland and created sprawling cities whose inhabitants depend on cars and buses to get around. This means long commutes for workers and rapidly climbing carbon emissions, as well as the choking pollution and

congestion that bedevils many Chinese cities. Essential urban infrastructure has sometimes been neglected and many of China's major cities lack such basics as adequate sewerage systems, that will cope with future expansion and the uncertainties of climate change.

What kind of cities will China build in the next decade to house the further 250 million city dwellers planned for 2025? Will that be ten new cities of 25 million inhabitants? Three new mega-cities of 70 million? Or 100 smaller cities of 2.5 million? How will these people live? How will they earn their living? How far will they commute each day? Will they live in energy efficient buildings? Will their new homes have enough water to cope with urban life and will the waste they generate be recycled?

The design of China's future cities will not only affect the health and well-being of their residents; it will also be an important factor in the battle to contain China's soaring carbon emissions. These questions, therefore, are of high importance to all of humanity. If China is to become the sustainable society envisaged in the 12th Five Year Plan, it would be wise to look for models in such cities as Copenhagen, rather than such outdated models as Los Angeles.

If China does reach its urbanisation target, it will be a very different society in just 12 years. Few societies have undergone such rapid upheaval without consequences and the impacts in China will extend beyond the short-term social and economic shifts. In the past five years China's urban middle classes have become vocal in defence of their property interests and in their desire for a less stressful, less polluted environment in which to bring up their children.

Their demands for clean air, safe water and protection against noxious chemical plants have spilled over into complaints about lack of accountability and transparency in government. They are insisting on a greater role in the decision making and the planning that affects their lives.

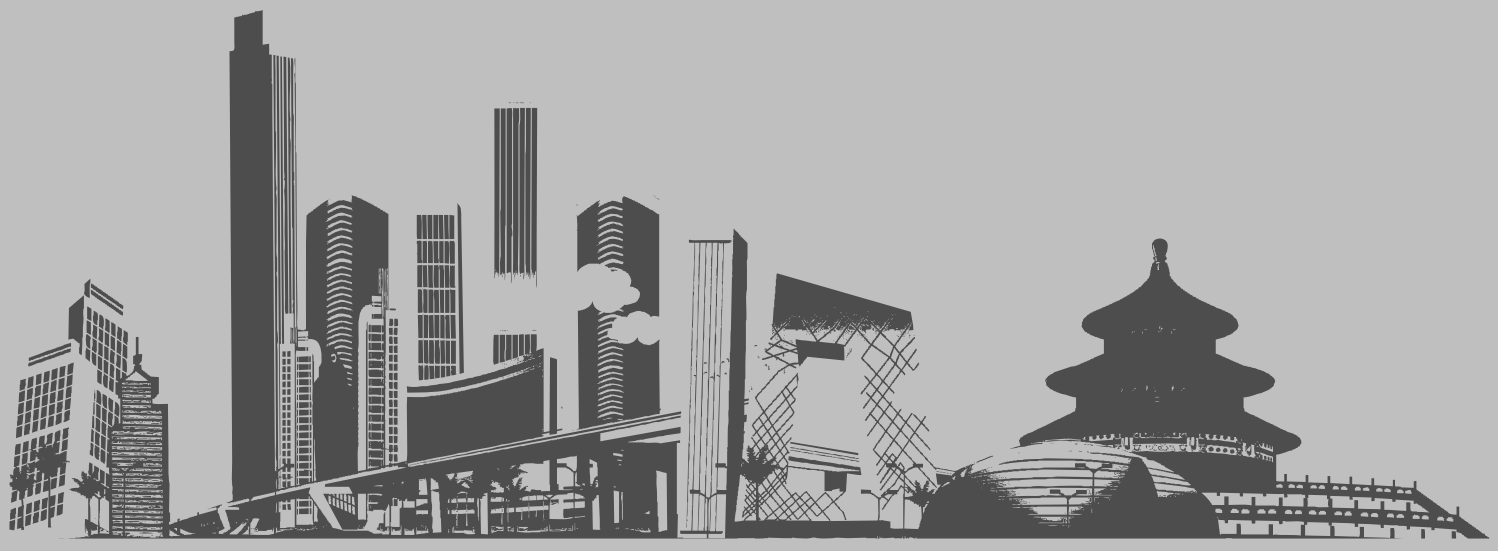
Prime minister Li Keqiang has put urbanisation at the heart of China's economic and social agenda as the country aims to become a modestly prosperous, more sustainable society. As China slows down its breakneck pace of growth, middle class city dwellers will move into higher value occupations and become consumers. They will also demand a better quality of life. The decisions that China's planners make today will determine whether those hopes are fulfilled.

重塑中国城市形象

——可持续城市化发展之路

Reimagining China's cities

Towards a sustainable urbanisation



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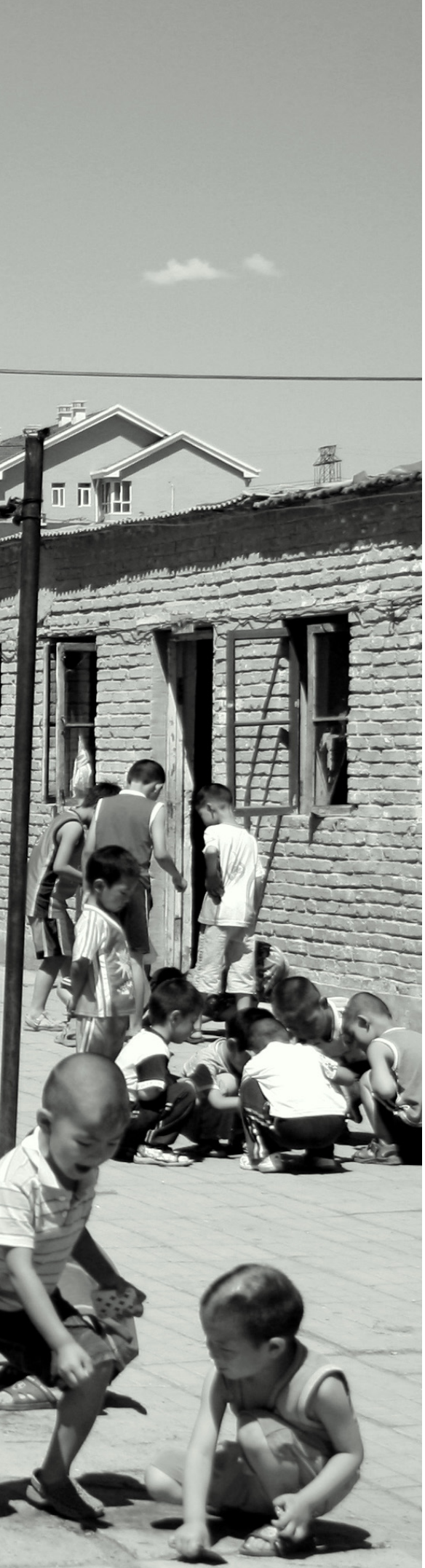

城市之梦

-KEY ISSUES-

中国城市化30年：得大于失

回顾中国过去30年的城市化进程，有得有失，得大于失。中国社会科学院城市发展与环境研究所所长、可持续发展研究中心主任潘家华接受了中外对话徐楠的专访。

徐 楠

徐楠：您如何看待中国过去30年城市化的得失?

潘家华：有很多成功的、具有创造性的经验，也有很多必须吸取的教训。总体来说，有得有失，得大于失。

应该看到中国在这30年城市化进程中的收获：

首先，工业化拉动城镇化，经济发展速度加快，经济体量迅速增加，收入水平迅速提高。正是因为城镇化，中国经济有了一个质的飞跃，这是靠农业、传统服务业不可能实现的。

第二，中国大规模的基础设施建设，包括污水处理、自来水、道路、电力等城市市政建设，还有机场、港口、高速公路等区域间基础设施，学校、医院等社会服务设施，光缆、通信网络等信息化基础设施，以及商业和环境基础设施，这五个方面的基础设施总体上改变了中国的面貌。

中国已经进入第四阶段——也就是工业化的后期，这一阶段的关键特征是转型。

第三，中国的资源集约程度在这一进程中得到大幅提高。只有相对的集中，才有竞争和效率的不断提高、产生新的规模效益。如果没有城镇化，中国今天的环境状况可能比现在更糟。以北京为例，同样的区域面积，水资源总量没有增加，但承载的经济活动规模相当于以前的几十倍。

第四，社会生活方式发生巨变。在基础设施的保障下，中国大量人口从传统的农业生活方式进入有文化、有品位的城市生活方式。

第五，中国的开放程度通过城市化这个载体得到提高。以前很多中国城市，基本无法开展国际交流，现在基础设施大为改善，基本每个省会城市都有国际机场，比起30年前全中国只有首都机场这唯一一个国际机场，已是天壤之别。

当然，这个城市化进程，其代价是很大的。

第一就是社会代价。农民工家庭的留守儿童、留守老人，生活在一种悲剧性的状态中。从上世纪80年代起，现在已经不止两代人在支

付这样的代价。身份歧视、社会服务不公、收入分配不公，城市化的收益没有惠及每一个为城市化作出贡献的人，弱势群体承担了成本。

第二是资源环境的污染和破坏。现在的水污染、大气污染、重金属污染、生态系统破坏，都不是短时间内能迅速治理见效、显著缓解的。中国600多个城市中，有400多个缺水。

第三，是历史文化的割裂和破坏。说拆就拆，整体搬迁，造成千城一面、没有特色。

徐楠：中国城市化进程有哪些独有的特性？

潘家华：第一是工业化拉动城市化，使城镇化的速度和规模得以快速提高。首先大批搞工业区、科技区、开发区、特区，深圳当时20万人口，现在 1000多万。工业拉动，劳动力高度稀缺，提供就业机会，形成人的流动。中国的圈地开发，在其他国家是难以想象的，动辄出现三千亩、五千亩的新区。

第二是社会二元体制使城镇化的成本相对较低。二元体制把相当一部分城市居民排斥在城市社会服务之外，应该支付的成本没有支付。这是一些历史原因的延续，从客观作用来看，有好的一面，降低了城市化的成本；也有坏的一面，比如造成身份歧视。

第三，中国的强势政府使城市治理得以避免一些其他国家的城市病。例如，不让贫民窟形成，强制改造老城区，对社会治安施以强势高压，需要治理环境时指令工厂停工，这在其他国家都是做不了的。

徐楠：城市化和工业化这两大进程，是现代化过程的基本特征。中国曾经经历工业化快于城市化的阶段，而目前是城市化驱动的特征更加明显。您认为如何划分中国城市化的阶段性特征，更有利于我们认识现状和挑战？

潘家华：城市化的第一阶段是封建时代以来的自然进程，主要以社会服务业驱动。

第二阶段应该称为工业化和城镇化的互动，以劳动力密集型的工业化为显著特征。在1998年以前，也就是改革开放的前20年，基本是劳动力密集型的工业化。劳动力大量转移，人口、产业向城市聚集，占地较少、资金投入较少，基础设施建设都还比较少，相对来说工业化和城市化的进程比较统一，当时的城市化速率不是特别高。在1998年以前，今天到处热议的这些城市化问题，都还不是问题——我们大体可以称这一时期为工业化前期。

之后进入重化工、资本密集型的工业化阶段。1998年后，资本的驱动作用替代劳动力，资本需要大量的土地。中国各地由此出现大量的园区建设，工业化快于城镇化。

中国今天已经进入第四阶段——也就是工业化的后期。这一阶段的关键特征是转型，工业扩张的规模放缓，人口城镇化加速，消化吸收前一阶段的强力扩张，服务业加速发展，从重化工转向品质提升、产业结构的调整。

随后的第五阶段，是后工业阶段，相对来讲工业稳定并萎缩，生产率进一步提高，服务业大规模发展，人口城镇化远远超过工业化。

徐楠：较之以劳动力和资本驱动的第二和第三阶段，中国今天实现转型的驱动力显得疲软。

潘家华：现在至少工业扩张的动力已经没有了。

徐楠：那么“新型城镇化”是“新”在哪里？

潘家华：“新”在怎样转型——从规模扩张到品质提升，产业结构从重变轻、从低附加值到高附加值，从依靠投资和外需，到依靠内需拉动。

如果大量人群都住在工棚里，能有什么内需？得让他们从工棚搬到房间里面去住，然后才能有更多消费需求。他们不愿意在城市花钱，挣了钱都攒着回农村老家盖房子养老，归根到底还是社会发展滞后、社会保障不完备。

现在的问题就是：资源垄断产生垄断暴利，又跟权力搅在一起。城市化的转型进程，更多是体现社会利益，通过立法、公开、透明，利益集团受到压制，社会利益自然就凸现出来了。在一些个人利益膨胀的情况下，社会利益得不到保证。

徐楠，中外对话北京办公室副总编

Three decades of urbanisation in China

China has gained more than it has lost over the last 30 years of urbanisation, says Pan Jiahua, director of the Chinese Academy of Social Sciences' Institute for Urban and Environmental Studies

Xu Nan

Xu Nan(XN): How do you view the record of urbanisation in China over the last 30 years?

Pan Jiahua (PJ): There's been a lot of success, we've innovated, and there's been a lot we've had to learn. Overall, there have been both successes and failures – but more success.

We should recognise the benefits this period of urbanisation has brought.

First, urbanisation has been driven by industrialisation, and that's meant faster economic development and growth, and rising incomes. Urbanisation has allowed for qualitative improvement in the Chinese economy, something that agriculture or the traditional service industry could not have provided.

Second, China has been transformed by huge amounts of new infrastructure: urban infrastructure such as water supplies, waste water treatment, roads and power; regional infrastructure such as airports, ports and expressways; social goods such as schools and hospitals; communications infrastructure such as fibre optic and other networks; as well as commercial and environmental infrastructure.

Third, urbanisation gathers resources together, allowing for greater efficiency, better competitiveness, and economies of scale. Without urbanisation China's environment might be in an even worse state. After urbanisation Beijing's economy is ten times larger than before – despite the fact that there hasn't been any increase in total water resources available.

Fourth, lifestyles have seen huge changes. New infrastructure has allowed large numbers of people to leave farming for better lives in the cities.

Fifth, urbanisation has made for a more open China. In the past many Chinese cities were effectively cut off from the outside world. Today almost every provincial capital has international flights, whereas 30 years ago Beijing was China's only international airport.

Of course, a high price has been paid for this progress.

First, there has been a social cost. The generations of children and elderly left behind in villages by migrant workers since the 1980s have a bleak existence. Discrimination, unequal access to social services, the income gap – the benefits of urbanisation have not accrued to all those who have contributed to it, and the vulnerable have borne most of the costs.

Second is the pollution and destruction of the environment. Now we have water pollution, air pollution,

Overall, there have been both successes and failures – but more success

pollution from heavy metals, damaged ecosystems – none of these can be dealt with quickly. Four hundred of China's six hundred cities lack water.

Third, we've damaged and become disconnected from our history and culture. We knock things down on a whim and relocate everyone – all our cities look the same, there's nothing unique about them.

XN: What unique characteristics has urbanisation in China had?

PJ: First, it has been driven by industrialisation, which has meant more rapid and wider-scale urbanisation. We set up lots of zones: industrial zones, high-tech zones, development zones, special zones… Shenzhen originally had a population of 200,000 – now it's 10 million. A scarcity of labour meant people moved to the cities to fill those jobs. It's hard to imagine the way we created those zones happening anywhere else.

Second, China's system of distinguishing urban and rural residents reduced the costs of urbanisation. Migrant workers from rural areas were not eligible for social services, and so money which should have been spent on them was saved. There are historical reasons for this system, and it did reduce the costs of urbanisation – but it also had disadvantages, such as creating discrimination.

Third, China's strong government meant problems which blight other cities were avoided. We have no slums as we were able to force through redevelopment of the older parts of our cities, public order was strictly enforced, and when necessary factories were shut down to improve the environment. Other countries can't do that.

XN: China went through a stage where industrialisation was happening faster than urbanisation, but now urbanisation is the driver. How would you divide China's urbanisation into stages, in order to better understand the current situation and our challenges?

PJ: The first stage is a natural process that has occurred since feudal times, as shopkeepers and tradesmen cluster together.

The second stage is when industrialisation and urbanisation interact, during labour-intensive industrialisation. In the 20 years of reform and opening up prior to 1998, industrialisation was powered by the expansion of labour-intensive sectors. Factories were built in cities, and workers moved to the cities for work. Comparatively little land or financial input was needed, and there wasn't much construction of infrastructure. Urbanisation and industrialisation went hand in hand, and urbanisation wasn't particularly fast. During that period the issues of urbanisation we argue about today weren't a problem. We could call this the early stage of industrialisation.

Then came industrialisation characterised by expansion of the heavy chemical and resource-intensive sectors. After 1998 capital replaced labour as the driving force, and capital requires more land. This led to the various types of zones I mentioned, and industrialisation proceeded more quickly than urbanisation.

China is now in a fourth stage, late industrialisation. This is characterised by shifts between sectors, with expansion slowing, more rapid population movement to the cities, assimilation of the rapid expansion of earlier stages, rapid growth of the service sector, a shift to value-added industries and restructuring.

The fifth stage, post-industrialisation, sees the industrial sector stabilise and then contract, further efficiency improvements, large service sector expansion, and urbanisation far outstripping industrialisation.

XN: So what's new about the "new urbanisation"?

PJ: It's about how you change – not by expanding, but by improving, shifting from heavy industry to light industry, from low added-value to high added-value, from depending on investment and overseas demand, to relying on domestic demand.

How are we going to generate domestic demand if we have huge numbers of people living in factory dormitories? We need to move them into houses to create consumer demand. If they prefer to save up their wages and go back to their villages to build a house and retire rather than live in the cities, then our social development and social security are failing.

The problem now is that resource monopolies are enjoying huge profits and are tied up with political power. But the changes in urbanisation bring about social benefits, and legislation, openness and transparency puts interest groups under pressure, while social benefits become more prominent. When some individual interests are too big, social interests may suffer.

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中国户籍制度改革：一张路线图

逐步向移入人口开放户口，将有助于经济繁荣和建立更加公平的社会，这也是实现“中国梦”道路上不可缺少的一环。

陈金永

随着中国进入城镇时代（城镇居民人数已经超过人口的一半），中国梦的一个关键部分就是“城镇梦”，即通过促进城镇化来提升居民消费，将经济置于一个可持续的基础之上。然而，在中国7亿城镇人口中，有1/3的居民并未实现真正的“城镇化”。他们只是迁移人口，或者说“流动人口”，因为他们并没有城镇户口。这个小红本子决定着他们是否能够完全享受到城镇居民的各项权利。

为了实现真正的城镇化，外来务工者要成为完全的城镇居民。这需要为他们提供城镇户口，以便最终实现户籍制度的改革。这绝非易事，只能逐步稳妥推进。2012年，中国流动人口数量为2.3亿。一项粗略预计显示，到2030年流动人口（主要是外来务工者）将超过3亿。

我的建议是在未来15年中逐步向所有移入人口敞开户口的大门，这意味着每年要向约2000万移入人口提供户口。

那么，这样一个年度配额应该如何分配呢？我认为应该在从2015年开始的15年中按照若干步骤来走：最优先的是大学毕业生，接下来是技术工人和稳定的个体劳动者，最后且最重要的是技能较低的外来务工者。我的这种办法是从容易的开始，建立广泛的支持、形成势头，向更困难的部分推进。这会更符合中国的经济和财政现实。

户籍改革的三个步骤

具有大学教育背景的人在许多国家都是重要的纳税者。在美国，许多州和产业都知道发展高价值地方经济的方法之一，就是汇集大量的大学毕业生，无论其来自何方。但是在中国的大城市，户籍制度仍然对来自其他地方的大学毕业生造成歧视。每年，在北京、上海等大城市数十万外地生源的毕业生中，能够获得户口的不过寥寥数百，或者一两千。深圳去年再次向大学毕业生移民扩大覆盖面。通过积分入户制度，该市向数十万名外地大学毕业生发放了常住户口。这个数字远远超过了许多其他大城市，是走向户籍改革正确方向的重要一步。

户籍制度改革的关键部分在第二个阶段：降低技术工人的落户门槛。中国要实现产业升级和提升产业链，亟需大量具有更好教育背景的技术工人和技术人员，他们可以操作高技术和精密设备。技术工人的工资也更高，可以支付其享受的城市服务。

我建议中国在头5年内解决前两个人群的户口问题。然后从2020年开始，集中力量解决其他外来务工者的户口。到那时，在更多几年的发展后，中国的国力将更强大，有更多的财政资源来提升社会公平。因此政府将更有力量来支持外来务工者。

户籍制度改革成本几何？

许多人对城镇化有很合理的担忧，即：允许外来人口利用城市社会服务功能的成本可能大得无法承受。主要的城市社会服务功能包括：公共教育、公共住房、社会保障和医疗卫生。近年来有好几个对

中国城镇化成本的估算，都是采取相当翔实、全面和公开的统计数据。估算结果表明，每个人的“城镇化”成本（平均的社会服务成本）在小城市大约是2万元，在大城市则是10万元。2010年，国务院发展研究中心在4个大中型城市进行了一项详尽的调查和分析，结果表明，为一名外来务工者（包括其子女）终生提供城市社会服务的成本平均为8万元。

下面我用比这个数字稍高（高25%）的10万元来对中国全部流动人口城镇化的总成本及其财政影响进行计算。要将现有的2.3亿流动人口全都城镇化，总成本将高达23万亿元，占中国2012年GDP的44%。这当然是一个天文数字。但是，如果按照我的15年框架进行，再考虑到流动人口数量到2030年将增加到3亿，这个数字将变成平均每年2000万人，年均总成本2万亿元，相当于2012年GDP的3.8%。当然，这个数额仍然太大，无法轻易消化。

但是，我们必须弄清楚，这10万元是外来务工者终生所需社会服务的成本，而非一年之内。外来务工者的平均年龄在27-30岁之间。假设他（她）能够再活40年，上述10万元就均摊到40年中，也就是每年2500元。换句话说，每年为2000万名外来务工者提供城镇户口的总成本为500亿元，占中国GDP的0.1%，完全在中国的承受范围之内。

一个更加有用的方式是把外来务工者的城镇化成本作为政府总收入的一部分来算。我算出上面的500亿在2012年的政府财政收入中的比例是0.4%。当然，这只是第一年的，之后的成本将逐年递增。到计划的最后一年（第15年），成本将增加到2012年财政收入的6%。即便如此，我认为这仍然在中国的承受范围之内。与近年来中国政府财政收入的增幅相比（2011年增加23%，2012年增加13%），最高的6%也只是小巫见大巫。

撇开数字不谈，我们也应该看到大多数外来务工者都很年轻，还不到30岁。在我所提议的计划早期，面对外来务工者的社会福利总支出会非常低。在定居城市的初期，由于年轻，他们很可能成为城市社会福利的净贡献者，即向系统缴纳的钱比动用的钱更多。随着现有城市人口的老龄化（尤其是在大城市），年轻外来务工者对社会保

一旦外来务工者获得户口，在城市中定居下来，就会对其城市生活有长远预期，加大对其自身人力资本的投资。

障的贡献将成为重要的资金来源，填补由于城市居民老龄化引起的城市社会保障体系的资金缺口。

如果从一个更广阔的视角来看成本和收益，就可以发现每个外来务工者的年综合生产率肯定会是其2500元年均社会服务成本以及其工资的好几倍，甚至几十倍。一旦外来务工者获得户口，在城市中定居下来，就会对其城市生活有长远预期，加大对其自身人力资本的投资，比如学习技能，还会对其居住的城市社区进行“投入”。

国家的作用

目前，在户籍改革上的权力主要被分散到地方政府手中。这样一来，迄今户籍改革措施都局限在地方范围内。在很多地方，城镇户口的自由化措施只适用于当地人，而将主要的目标人群——外来务工者排除在外。这样的措施相当错位，在推动真正的户籍改革上成果寥寥。因为户籍改革是中国整体发展战略的一个重要方面，任何改革都需要中央政府的有力领导和规划。我建议中国在中央建立一个户籍改革领导小组，专门负责户籍改革和各方协调。

近年来，中国国务院提出要落实一项政策，鼓励外来务工者到中小城市定居，而非40个最大的城市。一些评论家对这一政策抱有很高期望，称其为具有“中国特色”的城镇化道路，通过把移民安置到中小城市能够让中国避免“大城市病”。我认为这是显见的误解。

上述政策基本没有脱出上世纪80年代“控制大城市人口”老政策的窠臼。但现实中，中国的投资仍然是倾向于大城市的，而且大城市也发展得更快。大多数外来务工者为了找工作，都不会遵照上述政策，仍然流向大城市。由于目前地方政府收入系统仍然被“卖地”收入所主导，小城市的地方政府也没有办法进行城市发展，因为他们的土地卖不上好价钱。

我认为在目前中国经济仍然处在以聚集经济为主的发展阶段，不应该鼓励务工者流向较小城市。大城市拥有在多方面创造最高效率和生产力的资金和禀赋，中国必须通过让市场决定并成就上述经济集群来驾驭这一优势。政府官员并不、也不可能掌握具体信息，知道哪种产业在哪个类型的城市能够发展得最好，难以由此创造出最多的就业机会。因此，我认为户籍改革应该普及到中国所有大中小城市，而不仅限于中小型城市。尤其应该包括北京、上海、深圳和其他大城市，因为这里是就业机会集中的地方。

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原文载于财新网，2013年7月13日

How to reform China's hukou system

Gradually opening the urban hukou to migrants will boost the economy and establish a fairer society – an indispensable part of the path to fulfilling the "Chinese dream"

Kam Wing Chan

As the country enters the urban age (more than half its population now lives in urban areas), a critical part of the Chinese dream is the "urban dream" – the promotion of urbanisation to generate household consumption to put the economy on a sustainable footing. Yet a third of the 700 million Chinese urban dwellers today are not truly "urbanised". They are the migrant population or "floating population", who do not have an urban hukou, or household registration. The hukou is a little red booklet that entitles the bearers to enjoy the full rights of urban citizens.

To accomplish real urbanisation, migrant workers need to become full urban residents (i.e. each will require an urban hukou). It's no small task, to be sure, and can only be done gradually. In 2012, the size of the floating population was about 230 million. A rough projection shows that by 2030, the floating population, made up mostly of migrant workers from the countryside, will reach more than 300 million.

My proposal is to give all migrants an urban hukou within the next 15 years. This means granting hukou to about 20 million migrants per year. How should this annual quota be allocated? It could work in several steps over a period of 15 years from 2015: young college graduates would have first priority, followed by skilled workers and stable self-employed workers. Last but most important would be low-skilled workers. This will be more in line with the country's economic and fiscal reality.

The three steps for reforming hukou

People with a college education are important taxpayers in many countries. In the US, many states and businesses know that one way to develop a high-value local economy is by building a large pool of college graduates, regardless of their origin. But in big cities in China, the hukou system still discriminates against graduates who come from other localities. Each year, the numbers of migrant graduates who gain a local hukou in large cities like Shanghai and Beijing is very small, ranging from a few hundred to perhaps one or two thousand out of hundreds of thousands of college-educated migrants in each city. Shenzhen last year made an effort to open the hukou system to college-graduate migrants. Through a points system, the city admitted several hundred thousand college graduates as permanently registered residents. The number far exceeds any achieved by other large cities and represents an important step in the right direction.

A key part of hukou reform lies in the second stage: lowering the threshold for skilled workers to obtain an urban household registration. The country will urgently require large numbers of better-educated, skilled workers and technicians, to operate high-tech and sophisticated equipment, in order to upgrade its industry and move up the value chain. Skilled workers also earn higher wages, and they can afford to pay for the urban services they receive.

I propose that China resolve the hukou situation of these two groups in the first five years. That done, from 2020 onwards, the country should concentrate on resolving the situation of the remaining migrant workers. By then, after another few years of development, China will be economically stronger and able to devote more financial resources to improving social equality. The government will therefore be in a better position to support migrant workers.

How much will it all cost?

Many have legitimate concerns that the costs of allowing migrants to use urban social services may be overwhelming. The main urban social services are public education, public housing, social security, and medical care. In recent years, several estimates have used quite detailed, comprehensive and publicly available statistical data to show that the cost of "urbanising" each person (i.e. the average cost of social services) is approximately 20,000 yuan in a small city, and 100,000 yuan in a large one. In 2010, the State Council Research Development Centre conducted a detailed survey and analysis in four medium-sized and large cities. The results showed that average lifetime cost of providing urban social services to a typical migrant worker, including family members, is about 80,000 yuan (in 2010 prices).

Below, I use a slightly higher figure (25% more), 100,000 yuan, to calculate the overall cost of urbanising the entire floating population and its fiscal impact. To transfer the household registrations of all the 230 million floating migrants to urban household registrations in one year would cost an astronomical 23 trillion yuan, or 44% of China's 2012 GDP. However, over a 15-year time frame, assuming that the migrant population will reach 300million by 2030, the figure would come down to an average of 20 million people per year at an annual cost of 2 trillion yuan, or 3.8 % of the 2012 GDP. This is still a figure too high to be absorbed easily. However, this 100,000 yuan would not be spent in a single year, but over the remaining lifetime of a migrant. The average migrant worker is between 27 and 30 years old; assuming he or she lives for a further 40 years, the annual cost would be 2,500 yuan a year per person. In other words, offering urban hukou to 20 million people per year would cost 50 billion yuan, or 0.1 % of China's GDP instead, a figure well within the country's affordability.

A more useful approach would be to calculate the cost of urbanising migrant workers as a proportion of total government revenue. I computed that 50 billion yuan is 0.4 % of the government revenue in 2012. Of course, this is just the cost of the first year, and the cost would increase each year. By the last year of the plan (the 15th year), the cost would rise to the equivalent of 6 % of 2012 the government revenue. Even so, I think this is still within China's affordability. The highest (6 %) is only a fraction of the annual growth increase of the government revenue in the past two years (23 % in 2011 and 13 % in 2012).

Leaving the numbers aside, we can also see that the majority of migrant workers are young, with the average being less than 30. In the early phase of the proposed program, the expenses of social welfare for migrants will be very low. Indeed, they are likely net contributors to the urban social welfare system in the early phases of settling in the city, paying more into the welfare system than taking away from the system. With the current urban population (especially in large cities) rapidly aging, the social security contributions of young migrant workers will be an important source in filling the fiscal gap in the urban social welfare system caused by the aging of urban residents.

Taking a wider perspective of viewing costs and benefits, one can see that the annual aggregate productivity of each migrant worker is certainly far larger, several times – possibly even several dozen times – the sum of the 2,500 yuan average cost of urban social services and his or her wages. Once migrant workers settle in cities and have long-term expectations of life in the city, they will make more investments in their own human capital, such as learning skills, as well making "investments" in the urban community in which they live.

The role of the state

Currently, authority over the hukou reform has basically been decentralised to local governments. Thus, hukou reform measures so far are limited to a local scope. In many locales, measures liberalising the urban hukou apply to only the local population, and exclude the main group that should be the target: the outside migrant workers. This is rather misplaced and has achieved little in pressing forward real hukou reform. Because hukou reform is an important aspect of China's overall development strategy, any reform would require the strong leadership and planning of the central government. I suggest that China establish an authoritative hukou leading group at the central level to take charge of hukou reform and coordinate various parties.

In recent years, the State Council, the cabinet, has proposed implementing a policy encouraging migrant

workers to settle down in small and medium cities, but not in the largest 40 cities. Some commentators have high hopes for this policy, claiming that it is an urbanisation path with “Chinese characteristics,” which can help the country avoid the "big city disease" by channeling migrants to small and medium cities. I think it is a gross misunderstanding.

That policy basically follows the old policy of “controlling the population growth of large cities” in the 1980s. The reality, however, is that China’s investment is still tilted toward major cities, and large cities develop more quickly. Migrant workers have for the most part not followed policy to small cities but have moved to the large cities because of jobs. With the current local government revenue system dominated by land sales revenues, local governments of small cities do not have the means to develop the cities because the land there cannot be sold at a good price.

Instead of encouraging migrants to the smaller cities, I would argue that at this stage of development in China, agglomeration economies still play large. Big cities have the wherewithal and talents to be the most efficient and most productive in many respects. China needs to harness this advantage by letting the market decide and achieve these economies. Government officials do not and cannot have the precise information to know which businesses will do best in which type of cities, and thus where there will be most jobs. Therefore, I would argue that hukou reform must be rolled out in all cities, large, medium and small and should not be limited to the last two. Hukou reform should include Beijing, Shanghai, Shenzhen, and other large cities, because that’s where jobs are found.

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An earlier version of this article was published in Caixin online on June 13, 2013

应对城市盲目扩张 良好的财政体系必不可缺

要解决城市盲目扩张及规划问题，中国必须建立良好的财政体系，避免地方政府将耕地卖给开发商用于单一的用途。

谭晓梅

尽管中国很多城市的人口密度已排在世界前列，但新兴城市面积仍在飞速增长。城市扩张是个严峻的问题，其背后的原因多种多样，但最主要的一个原因是中国城市缺乏财力。

西方城市很大一部分收入来自财产税，而中国却没有这一税种：这意味着中国市级政府没有必需的税收来支持经常性支出和投资。政府募集资金的另一常用财政手段是发行公债。但在中国，只有中央政府能够通过债券募集资金，因此市级政府若要筹集资金困难重重。

中国市级财政既不能征收财产税，也无法发行公债，却要负担大量开支。基础设施建设、经济发展、公共服务、基础教育和环境保护等都是地方政府的主要职能。

收入来源有限但开支巨大，在这种情况下，城市如何为扩张提供资金？答案就是卖地。北京大学教授周其仁指出，中国地方政府收入的83%来自土地出让金。近期这一趋势也不会发生变化。今年上半年，上海、北京和广州三大城市土地出让收入再创新高。

2013年1至6月份，北京土地出让收入101.6亿美元，上海96.4亿美元，广州则为69.4亿美元，同比增长高达500%。搜房网数据显示，今年8月中国300个城市的新建住宅售价同比上涨了17%。

将土地出让金作为主要的收入来源，不仅会给中国稀缺的耕地造成巨大压力，还会导致城市的计划外扩张。市政府没有根据市民需求制定负责任的土地规划，而是极容易受土地买家需求的影响。政府考虑买方的需求，往往就会抛弃土地利用综合性规划。随后基础设施和交通开支增加，政府收入又用于为新售土地修建公路、提供各种服务。

规划对维持不同用途土地比例平衡至关重要，如绿地、工厂、商业、住宅、购物以及公园、游乐场等娱乐设施用地。好的规划一般要有社区和公众参与。

总而言之，上述问题的根源在于中国地方财政不能充分发挥作用。要解决城市盲目扩张及规划问题，中国必须建立良好、有效的财政体系，为地方政府提供募集资金的渠道，避免地方政府将耕地卖给开发商用于单一的用途。

谭晓梅，世界资源研究所高级研究员、中国区前副首席代表

“西方城市很大一部分收入来自财产税，而中国却没有这一税种：这意味着中国市级政府没有必需的税收来支持经常性支出和投资。”

China's urban sprawl needs fiscal reform

China's leaders must develop an effective fiscal system to give cities the means to raise funds without selling farmland to developers

Tan Xiaomei

Although China is home to some of the densest cities in the world, its newly developed urban areas are experiencing rapid geographic expansion. Urban sprawl is a serious issue. There are multiple reasons for the problem – a prominent one is fiscal weakness in Chinese cities.

In western countries, a significant portion of a city's revenue comes from property taxes. But in China, these taxes don't exist. This means Chinese cities don't have the necessary tax base with which to meet the needs of recurrent expenditure and investment. Another fiscal instrument often used to raise capital is the issuing of government bonds.

In China, only the central government can leverage bonds to raise capital, leaving China's cities in a difficult position when trying to raise funds.

While both levying property taxes and issuing government bonds are lacking in China's municipal fiscal system, local governments are responsible for a wide range of expenditures. Their main functions cover local infrastructure construction, economic growth, public services delivery, primary and secondary education, and environmental protection.

With limited revenue sources but enormous spending needs, how do Chinese cities finance their rapid geographic expansion? The answer is by selling land. According to Peking University's Professor Zou Qiren, 83% of Chinese local government revenue comes from land sales. And the trend is not changing anytime soon. In the first half of this year, the three largest Chinese cities – Shanghai, Beijing and Guangzhou – all saw breakneck growth in revenue from selling land.

From January until June of this year, Beijing raised $10.16 billion USD through land sales. Shanghai raised $9.64 billion. In Guangzhou, the $6.94 billion raised by the city reflected a whopping 500% growth in revenue from land sales from the year before. According to Chinese real-estate website SouFun, there was a 17% price increase in new residential sites available for sale in 300 Chinese cities in August from a year earlier.

Using land sales as a key source of revenue not only creates a tremendous amount of pressure on China's scarce arable land, but also leads to unplanned expansion of a city's footprint. Instead of responding to the needs of citizens with responsible land use planning, city governments find themselves vulnerable to the needs and requirements of land purchasers.

When cities respond to the needs of land purchasers, mixed-use planning is often abandoned. As a result, the cost of infrastructure and transport increase and government revenue is constantly redirected to building new roads and bringing services to the recently purchased land.

Planning is critical to ensuring a balance between green areas, factories, businesses, residential areas, shopping areas and recreational facilities such as parks and playgrounds. Good planning is often built on community engagement and public participation.

The issues discussed above are deeply rooted in China's dysfunctional local fiscal systems. To fight urban sprawl and tackle these issues of urban planning, China must develop sound and effective fiscal systems, giving their cities the means to raise funds without selling arable farming land to single-use developers and companies.

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外来务工者的都市生活

高昂的房租和漫长的通勤，难以减弱大都市生活对外来务工者的吸引力。但是，不少外来务工者仍对身处的城市缺乏归属感。

林 娜

李欣对自己初到北京的那天记忆深刻。那是二月里的一个阴冷的日子，空气中弥漫着春节里爆竹留下的二氧化硫气味，呛鼻气味使她咳嗽。她身上穿着父母送的新棉袄，虽然臃肿，却似乎不足以抵挡当天的严寒。她的父母多年前便离开了村子到大城市打工，因而和李欣并不常见面。

尽管感到冷，李欣却是异常地兴奋。“我不敢相信我竟然来到了伟大的首都，并且还要在这里开始新的生活。这是做梦都不敢想的事情啊。”多年后当她回忆起初到北京的情景，嘴角还带着一丝难以察觉的微笑。

这位来自山东的姑娘，正是中国数以亿万计离乡背井前往城市打工的外来务工者中的一员。中国第六次人口普查数据显示，目前生活在北京的流动人口逾700万人，占全市常住人口的比例超过35%。在全国范围内，流动人口总数达到2.36亿，占全国人口总数17%。

外来务工者向中国首都的流动始于上世纪70年代末，当时邓小平主导的农村改革政策将劳动力从农业生产活动中解放出来。在其后的20年里，北京流动人口的年均增长保持在超过20%的高速度。然而，由于劳动力需求下降及亚洲金融危机的影响，这种增长在上世纪90年代后期出现了逆转。进入新千年后，随着经济的好转，大量的外来务工者又回到了北京。

2005年，和许多生活在农村的同龄人一样，李欣放弃了学业到北京打工。据国家卫生计生委发布的《中国流动人口发展报告2013》中的数据，新生代流动人口已成为流动人口的主体，全国流动人口的平均年龄是28岁，75%的外来务工者在20岁前便离乡打工。

这些对大都市生活心怀憧憬的年轻外来务工者并不知道，大都市的生活绝非表面看上去的光鲜。由于他们当中的大多数在离家的时候并未完成高中学业，在找工作的时候，需要更高学历的白领工作便显得高不可攀。卫计委的报告显示，

高昂的房租和漫长的通勤这类都市生活的烦扰，没有太影响外来务工者们对大城市工作生活的憧憬。

约65%的外来务工者从事制造、批发零售、餐饮住宿等行业。

由于难以承受北京的高房租，许多外来务工者住进了群租房或地下室以节省在房租方面的开支。23岁的快餐送餐员梁明来自河北张家口，他现在与一个同事在市区里合租了一套三居中的小房间。房东将这套三居里的客厅又隔出了两个房间，目前有10个租客住在这套群租房里。为了这个不足10平方米的小单间，梁明和他的同事每月需各自支付房租750元。

“北京的房租对于我们这些打工的来说太高了。我每个月有1/4的收入直接交房租。在我老家，花这么多钱，能租到一整套房子了，而不仅仅是小单间。房租是我最大的开销。”梁明说。

尽管目前房租方面的支出已经占了普通外来务工者生活支出的1/4，但这个比例仍可能上升。今年7月，有数据显示北京的房租已连续52个月增长，合租比例也从2011年的45%上升到60%。

“房租涨得比工资快。”梁明说，如果再涨下去，他就该认真考虑搬到郊外去住了。

事实上，不少外来务工者已经搬出了北京市区。北京的地产分析师张磊在接受《中国经济周刊》采访时说，五环外已成为了“租赁市场的主战场”。

对于已经搬离北京市中心的外来务工者而言，通勤是件头疼的事。52岁的停车员秦阿姨在人民大学附近工作，她和家人租住在北五环地区的一间小单间里，为了上班不迟到，她每天早上六点前就需要出门，途中搭乘两趟公交，每天大约3小时花在通勤上。秦阿姨说“时间花在路上很烦人”，但考虑到同样的房间在市区里的租金至少是现在的两倍，通勤时间长也是可以接受的。

高昂的房租和漫长的通勤这类都市生活烦恼，极少会影响外来务工者们对在大城市工作生活的憧憬，有意落户城市的新生代外来务工者中超过七成希望能落户大城市。

然而在经济上对劳动力有巨大需求的都市，却并未准备好长久接纳外来务工者。

一方面，外来务工者的市民化公共成本高昂。据最新的《中国城市发展报告》预测，主要由政府承担的，包括城镇化建设维护、公共服务管理、社会保障、随迁子女教育、保障性住房投入在内的，全国人均公共成本为13.1万元，而在北京等大城市，此类公共成本更是高约20万元。本已债务缠身的地方政府多难以承担该公共成本，因而在大城市的外来务工者极少能获得平等的社会服务。

另一方面，城市社会对外来务工者存在偏见。《人口与经济》刊载的一篇关于流动人口身份认同的研究显示：“在全国流动人口雇员中，近三成的人感到受到过本地人歧视，而北京市的这个比例更远远超过全国的平均水平。”

最近清华大学教授引发争议的，“全国人民的，但不是全国人民都来居住、工作的地方”的观点，更是此类偏见的集中体现。清华大学建筑学院教授、城市规划专家文国玮在接受《北京晚报》采访时表示：“外来人口想要取得北京户口，可以考虑进行考试审核。”

边缘化所导致的外来务工者归属感缺失，让都市生活魅力大减。虽然秦阿姨和家人已经在北京生活超过15年，但她却始终认为自己只是这个城市的局外人并随时准备回安徽老家。

“我退休了就会离开。老家里至少还有房子，不用一家老小挤在小房间里。我们的户口不是这里的，不管生活工作多久，北京也不是我们的家。”

但对于李欣这样的新生代外来务工者而言，要决心离开城市生活相当不易。

“我已经习惯了城市的生活，回去又能干什么呢？”她说。

林娜，中外对话北京办公室记者

Chinese migrants struggle to find urban dream

High rents and long commutes seldom discourage migrant workers from living in big cities, but many lack a sense of belonging

Luna Lin

Li Xin remembers her first day in Beijing vividly. It was a bleak day in February. The acrid smell of sulphur from firecrackers burnt during the Spring Festival made her cough. Her bulky cotton padded coat, a gift from her rarely seen parents who left their village a few years ago to work in big cities, still wasn't warm enough.

Despite that, she was thrilled. "I couldn't believe that I was in our great capital city and starting a new life here. It was like a dream that I'd never dared to dream," she said, wearing an almost unnoticeable smile.

Li, a village girl from Shandong, is one of the millions of migrant workers who have been lured to big cities, hundreds or even thousands miles away from their hometowns. Statistics from China's 6th census shows that more than 7 million migrants now live in Beijing, meaning that about 35% of Beijing's residents are migrants. Nationwide, the number is 236 million, 17% of the country's entire population.

The influx of migrant workers into the Chinese capital started in the late 1970s, when Deng Xiaoping's reform policy freed up workers from agricultural activities. In the following two decades the average annual growth of Beijing's migrant population exceeded 20%. However, the influx reversed in the late 1990s, when migrant labour demand decreased and the last financial crisis severely hit Asian countries. As the economy picked up in the new millennium, migrant workers came back to look for work in Beijing.

Like many other young people living in rural areas, Li left school to try and make a living in the metropolis in 2005. According to a report on China's migrant population development, published by the National Heatlh and Family Planning Commission this year, young people now make up the biggest group of migrant workers. The average age of migrant workers is 28 and about 75% of them left their homes to find work before they were 20.

But little do these young migrant workers eager to start life in big cities know that to live in the metropolis is anything but glamorous. Having barely finished their high school education, most find themselves unable to apply for jobs that require higher education qualifications. Nearly 65% of migrant workers work in manufacturing, retail, catering or the hotel industries, the same report has found.

Unable to afford the high rents in Beijing, many live in group-leased flats or in basement flats to save housing costs. Liang Ming, a 23-year-old fast-food delivery driver from Hebei Zhangjiakou, now shares a small room with a colleague in a three-bedroom-flat in downtown Beijing. The landlord has turned the flat's living room into two extra bedrooms and 10 people live in the flatshare. Liang's room, less than 10 metres square, costs him and his colleague 750 yuan a month each.

"The rent in Beijing is too high for us migrant workers. About a quarter of my monthly income goes to rent. In my hometown, for that much money, you can rent a whole flat instead of just sharing a small room. The rent is the biggest item of all my expenses," Liang said.

Though housing costs already account for 25% of an average migrant worker's living expenses, they are likely to increase. In July, statistics showed that rents in the capital

had been rising for 52 months in a row and the percentage of flatsharing had gone up to 60% from 45% in 2011.

"Rents go up much faster than pay increases do," Liang Ming joked. He said that if the rent kept going up he would seriously have to consider moving further from the centre.

In fact, a very significant number of migrant workers have already moved out of the capital's downtown area. In an interview with the China Economic Weekly Zhang Lei, a Beijing real estate analyst, said that the outer Fifth Ring area had become "the main battlefield of the housing rental market."

For migrant workers living outside downtown Beijing, commuting becomes a bigger headache. 52-year-old parking officer Aunt Qin, lives with her family in the North Fifth Ring area, and works near the Renmin University of China. To get to her workplace on time, she has to set out from home before 6am and take two buses. Everyday she spends roughly three hours on commuting. She said "commuting is tiresome" but given that the rent of a similar room near her workplace in downtown Beijing would have cost at least twice as much of her current one, the long commuting hours seem more tolerable.

The burden of city living, high rents and commuting, are not dissuading people from working and living in big cities. In fact, more than 70% of young migrant workers who have the intention of permanently settling in urban areas see big cities as their preferred choices.

However, big cities themselves have yet to truely embrace their migrant population. According to a report on urban development in China, published in July this year by the Institute for Urban and Environmental Studies at the Chinese Academy of Social Sciences, the public cost of citizenisation, including the costs of maintaining public buildings, services, social security, education and housing, is about 131,000 yuan per capita. In Beijing and other metropolises, the cost of citizenisation roughly amounts to 200,000 yuan. Local governments already burdened by fiscal deficit are not likely to be able to afford such public cost, and hence migrant workers rarely have access to equal social service.

What's more, prejudice against migrant workers plagues urban society. The recent row around one Tsinghua professor's controversial argument that "while Beijing belongs to the whole nation, it's not a place for everyone to live and work" exemplifies the deep-rooted prejudice. "If migrants want to get Beijing hukou, we can consider give them a test first," said Wen Guowei, a city planning expert and professor at Tsinghua University, in an interview with Beijing Evening News.

Marginalisation has left many migrants disenchanted. Despite living in Beijing with her family for more than 15 years, Aunt Qin said she still thought of herself as an outsider and was ready to return to her hometown in Anhui.

"When I retire, I will leave. Back home at least I have a cottage and don't have to cram the whole family into a small room," she said. "Our hukou's do not belong here. No matter how long we live and work here, Beijing could never be our home."

But for young migrant workers like Li Xin, to give up urban living is anything but easy. "I have grown used to the life in cities. What else can I do if I return home?" she said, briskly.

Luna Lin is a reporter with chinadialogue's Beijing office

城市之困

-CITIES UNDER PRESSURE-

廉价房短缺 中国梦难圆

若城市居民中还有三分之一是没有合法居住权的移民，中国的城市化进程就不是完满的。

黄友琴

中国正处于城镇化革命之中，每年都有数百万人涌入城市。2011年，中国13亿人口中城镇人口首次超过半数（6.9亿）。未来15-20年，预计城市居民还将增加3-4亿人。新任总理李克强近期提出要加快中国城镇化进程，指出城镇化是中国未来经济增长的“主要动力”。

然而，城市贫困人口和即将涌入的移民能够负担的廉价住房匮乏，可能会阻碍中国实现城市梦。

在近50年的时间里，中国的城市住房主要是由政府和公共机构提供的福利性公租房。住房严重短缺、拥挤及居住条件恶劣是城市中普遍存在的问题。过去20年中，中国政府以极优惠的价格出售公租房、鼓励开发商新建私有住房、不再提供公有住房，中国城市部分住房首次实现了私有化。大量国内外资金随之涌入，城市住房市场空前繁荣。2000-2010年，经济学人智库的数据表明，中国新建住房几乎是英国住房总数的两倍，与日本住房数量相当。

与此同时，中国城市居住环境得到显著改善。2010年城市人均住房面积由1980年43平方英尺（约4平方米）增长到340平方英尺（约31.6平方米），不过依然小于美国的700平方英尺（约65平方米）/人。2010年，城镇人口中75%（全国人口中85%）拥有私人住宅，而在20世纪80年代这一比例仅为20%。由于补贴问题，一些房主仅拥有部分产权，但中国拥有住房的人口比率依然高于很多发达国家。例如，在美国这一数字仅为65%。

但是，城市房价也迅速上涨，2000-2010年全国房价平均水平增长了250%。房价收入比表明中国很多地区的房价已“极难承担”。在北京、上海等大城市，一套普通住房的价格为数百万元，月租金几千元，能否买得起房已成为多数中低收入家庭关心的首要问题。

所以说，并不是所有群体都享受到了住房条件的显著改善。2010最新人口普查发现，约17%的城市家庭“住房困难”（根据政府规定，人均住房面积低于13平方米则属于“住房困难”）。但这还未包括居住条件最恶劣的群体，即那些住在宿舍里的“集体户”。由于廉价住房不足，城市中的穷人只能住在不合常规甚至非法的住房中，如位于地下室、防空洞的宿舍（这些人被称为“鼠族”），废弃的集装箱、阁楼、临时住房、群租房、城郊村，从而形成了各种贫民窟式的社区。过去城市贫困人口主要为移民和老、病、残群体，现在大学毕业生和年轻职场人士在大城市也买不起房了。比如，在北京，几万名大学毕业生居住在唐家岭（北京城

> “由于城镇化发展迅速以及政府追求现代化，随着移民村拆除或重建、地下室清空、老居民区改造等，移民可承担的有限住房也受到了影响。”

外一个尘土飞扬的村庄）狭小的房子里，每天都要花好几个小时乘车上下班（他们被称为“蚁族”）。

最近据《60分钟》报道，有大量新建住宅空置，形成“鬼城”。然而，这些“空”房不是为穷人准备的。由于投资机会较少、没有财产税、房价又不断上涨，中高层收入群体都投身于投机性的住房投资，开发商为获取高额利润则专注于高档住宅而非适宜租赁的廉价住房。中国的二套住宅拥有率要高于很多发达国家。

显然，尽管住房市场空前繁荣，但目前中国城市并没有给穷人提供充足的、体面且价格适中的住房。这是政府的失败：一方面，政府自身没能为城市中的穷人提供经济适用房，另一方面，它也未能调动市场做到这一点。政府一直专注于经济增长，至于经济适用房，中央政府没有明确的政策议程，地方政府未给予资金和政策支持。目前的土地制度也使市场不愿提供价格适中的住房。

面对日益加剧的不满情绪和潜在的社会不稳定问题，近年来中央政府承诺建设保障性住房，制定了宏大的目标，投入数十亿元开发建设。2010年是转折点，该年590万套保障性住房开工建设，其中370万套于2010年底基本完工。按计划2011-2015年将再建3600万套保障性住房。政府目标是2015年保障性住房可覆盖20%的城市家庭，低收入群体人均住房面积不低于13平方米。

目标鼓舞人心，但能否完成还有待检验。有报道称，一些地方政府为完成指标将现有房屋说成是新建廉价住房；有些廉价住房质量较差，位置偏僻，缺少基本服务，对

高昂的房价，是许多家庭无法承担的。图为住房中介的价目墙。

低收入群体缺乏吸引力。更糟糕的是，一些保障性住房，尤其是地理位置优越、质量较好的住房，经常会落入不符合条件的人手中，比如在高校、政府部门及其他机构工作且拥有多套住房的中等收入家庭。

另外，这些措施主要针对拥有城镇户口的贫困人口，而数百万移民并非政策的目标群体。根据歧视性的户口体制的规定，尽管有些人长期在城市生活、工作，但依然不算“合法”居民，也不能享受保障性住房等福利。即使是在深圳这个移民城市，也要有当地户口才能购买保障性住房。而在北京等城市，则需持有当地户口几年后才能申请保障性住房。无论什么样的保障性住房政策，只要将移民这个人数众多的贫困群体排除在外，就违背了该政策的最终目的——社会公平，就是失败的政策。

由于制度因素和普遍较低的社会经济地位，数百万移民被排除在人人有房住的“中国梦”之外。没有政府补贴，即使只是在正规市场上租一套像样的公寓也超出了移民的能力范围，更不要说买房了。因此，多数移民都只能寻找临时住房，如工厂宿舍、地下室、城郊村民违规建造的住房等。

其中城郊村为移民提供的廉价住房最多，形成了所谓的“移民区”。由于土地归集体所有，城郊村民仅能建造房屋供自己居住，但他们常违规建造多余的住房出租，以获得额外收入。珠三角地区50%的移民都在城郊租房居住，而深圳则有48%的住房属于原来的村民。这些“移民区”严格说来是违法的，随时可能被政府取缔。此外，这些住房建筑原本质量很差，其唯一目的是尽可能住更多的人，因此经济条件较差的移民不得不住在城市边缘这些贫民窟一样的地方。

然而，由于城镇化发展迅速以及政府追求现代化，随着移民村拆除或重建、地下室清空、老居民区改造等，移民可承担的有限住房也受到了影响。中国政府面临着前所未有的挑战：如何为目前在城市居

住以及即将到来的大量移民寻找安身之所。

目前政府还未采取相关措施。

2010年，住房和城乡建设部建议向符合条件的移民出售公租房。然而，由于条件限制严格，仅有一小部分技术移民可以购买，大部分移民境遇没有改观。

只要城市居民中还有1/3是没有合法居住权的移民，中国的城镇化就是“不完整”的。要想成功推行城镇化，中国政府必须把为移民及不断增长的城镇人口提供廉价住房作为首要工作。

中央政府应承认移民在城市的居住权，此外还必须确保地方政府投入移民住房工作，进行彻底的改革，提供经济激励。例如，改革公共金融体系，允许地方政府保留更多的预算收入，使收入来源多样化，以长期、稳定的税收取代一次性的土地收入。中央政府还应为地方政府划拨专项资金以帮助其资助移民住房，同时创建机制保证地方政府负起责任。

同时，中央、地方政府还应相互合作，采取低息贷款、低价土地、减税等激励措施，改革土地和住房制度，以鼓励开发商、雇主及城郊村提供价格适中的廉价住房。政府应特别注意充分承认城郊村民的土地权利，允许其归集体所有的土地直接进入土地和住房市场。

由于目前中国实行二元土地制度，只有地方政府才能将农村用地转为城市用地，用于城市开发。应当废除地方政府这一垄断性的农地城市流转权利，使城郊村提供住房的行为合法化、正规化，这不仅能增加住房供应，还能极大地改善住房环境。另外，由于多数工业用地并未进行深度开发，因此可鼓励雇主在条件允许的情况下、利用闲置的工业用地进行住房建设。另外，还应要求开发商通过包含性分区制住房，为移民等城市贫困群体提供价格适中的廉价住房。

这些改革将带来大量体面、价格适中的公共和私有廉价住房。只有到那时，数百万移民才能实现在城市中的住房梦，而中国才可能实现城市梦想。过去几十年中，政府一直受益于移民的廉价劳动力，现在政府应该提高城市移民的福利，把经济适用房建设提上日程了。否则，大量无法购买经济适用房的人口将影响政府进一步推行城镇化，引起社会和政治动荡。

黄友琴，美国纽约大学阿尔巴尼分校地理系副教授

Lack of affordable housing threatens urban dream

So long as one-third of urban residents are migrants without legal resident rights, urbanisation in China will remain incomplete

Huang Youqin

China is in the midst of an urban revolution, with millions of migrants moving into cities every year. Since 2011, for the first time in history, more than half of China's 1.3 billion population (690 million people) are living in cities. Another 300-400 million are expected to be added to China's cities in the next 15-20 years. New Premier Li Keqiang recently proposed accelerating urbanisation in China and said it was the "main driver" of China's future economic growth.

Yet, China's urban dream may be derailed by the lack of affordable housing in cities for the existing urban poor and the massive influx of migrants.

Until the 1990s, Chinese cities were dominated by welfare-oriented public rental housing provided by either the government or public employers. Severe housing shortages, residential crowding, and poor housing conditions were common problems in cities. Over the last two decades, Chinese cities have experienced an unprecedented housing privatisation, as the Chinese government has sold public rental housing at deeply discounted prices, encouraged developers to provide new private housing and ended public housing provisions.

With the influx of both domestic and international investment, there has been an unprecedented housing boom in Chinese cities. Between 2000 and 2010, according to the Economist Intelligence Unit, China constructed roughly twice the total number of houses in the UK, or about the same amount of houses that are in Japan.

As a result, housing conditions in Chinese cities have improved significantly. Residential floor space per capita in cities increased from 43 square foot in 1980 to 340 square foot in 2010, although this is still much smaller than in the US (700 square foot per person). Three-quarters of households in cities/towns (85% of all households nationwide) were homeowners in 2010, compared to about 20% in the 1980s. Even though some apartments are owned with partial property rights due to subsidies, the rate of homeownership in China is much higher than in many developed countries. For example, the comparable figure in the US is just 65%.

Unaffordable house prices

Meanwhile, house prices have skyrocketed in cities, with the national average house price increasing by 250% in the decade between 2000 and 2010. The house price-income ratio classifies much of China as "severely unaffordable". In big cities like Beijing and Shanghai, a modest apartment can cost multiple millions of yuan to purchase, and thousands of yuan to rent, making housing affordability the top concern of most low- and middle- income households.

According to the latest 2010 census, there were still about 17% of urban family households living with "housing difficulty", defined by the government as less than 13 metres square living space per person. This measure did not even include those with the worst housing condition, often people living in dorms in so-called "collective households". With the lack of affordable housing, the urban poor has to live in unconventional, illegal housing, such as dorms in

basements and bomb shelters (tenants are called “mouse tribe”, shu zhu), abandoned containers, roof top apartments, make-shift rooms, group rented apartments, and rooms in suburban villages, forming various types of slum-like communities.

In addition to the typical urban poor such as migrants and the old/sick/disabled urban residents, college graduates and young professionals cannot afford decent housing in big cities either. For example, in Beijing, tens of thousands of college graduates live in cramped, boxy rooms in Tangjialing, a dusty village outside of Beijing, and spend hours commuting to work each day (known as “ant tribe”, yi zu).

Meanwhile, there are many “ghost cities”, with a large number of brand new apartments unoccupied. Yet these “empty” apartments are not for the urban poor. With few investment options, the lack of property tax, and ever rising house prices, the middle- and upper- class have plunged into speculative house purchases. Developers have focused on upscale housing for sale with high profit margins, instead of affordable housing for rent. The rate of second homeownership in China is higher than that in many developed countries.

Faced with increasing discontent and potential social instability, the central government has renewed its commitment to low-income housing in recent years, pumping billions of yuan into the low-income housing development and setting ambitious targets. The year 2010 marked a turning point, with the building of 5.9 million units of subsidised housing, of which 3.7 million units were basically completed by the end of the year. Another 36 million units of subsidised housing has been planned between 2011 and 2015. The goal is to cover 20% of urban households with subsidised housing, and low-income households should enjoy at least 13 metres square per capita floor space by 2015.

While these targets are encouraging, the implementation of these housing targets is still to be seen. There have been reports about local governments relabeling existing housing as new affordable housing to meet the target, as well as affordable housing being poorly constructed, located in remote places with poor services, thus unattractive to low income households. To make things worse, subsidised housing, especially places in good locations and of good quality, often ends up in the hands of undeserving households such as middle class households working for large universities, ministries, and other government agencies, who often own multiple homes.

Migrants left out of the Chinese dream

What's more, these new efforts focus mainly on the poor with urban household registration, while millions of poor migrants are still not the policy's target. With the discriminatory Household Registration System, or hukou system (often called an internal passport system), migrants are not considered "legal" residents despite their living and working in cities long term, and they are not entitled to welfare benefits such as subsidised housing.

Even in Shenzhen, a city of migrants, a local hukou is required to access low-income housing. In others cities like Beijing, several years of local hukou is required before applying for low-income housing. Any low-income housing policy leaving out such a large segment of the poor as migrants defies the ultimate purpose of low-income housing policy – social justice, and thus is a failed one.

Due to this institutional exclusion, as well as their generally low socioeconomic status, millions of migrants have been completely left out of the "Chinese Dream" of a decent home for all. Without government subsidies, even just renting a decent apartment in the formal market is beyond most migrants' means, let alone purchasing one. As a result, most migrants are forced to find temporary housing such as factory dorms, basements, and illegal housing built by suburban villagers.

In particular, suburban villages have been the largest provider of affordable housing for migrants forming so called "migrant enclaves". Around 50% of migrants in the Pearl River Delta live in rental housing in suburban villages; in Shenzhen 48% of all housing in the city belongs to original village residents. Because these "migrant enclaves" are technically illegal, and therefore could be demolished by the government at any time, they are often of extremely poor quality and built with the sole aim of maximising the amount of occupants they can house. Thus, migrants are forced to live in slum-like settlements at the fringe of urban society.

> “House prices have skyrocketed in cities, with the national average housing price increasing by 250% in the decade between 2000 and 2010.”

With rapid urbanisation/urban renewal and the government's pursuit of modernity, the limited affordable housing for migrants is under threat, with migrant enclaves being demolished/redeveloped, basements being evacuated, and old neighborhoods being gentrified. An unprecedented challenge facing the Chinese government is finding a way to shelter the massive numbers of migrants currently living in Chinese cities, as well as those who will arrive in the coming years.

The government response

So far the government's efforts have been lacking. In 2010 the Ministry of Housing and Urban Rural Development (MOHURD) suggested that the latest rent controlled housing – Public Rental Housing (gong zu fang) – may be accessed by qualified migrants. Yet, strict qualifications make it accessible only to a very small proportion of skilled migrants, leaving the majority of migrants in the same boat as before.

So long as one-third of urban residents are migrants without legal resident rights, urbanisation in China will remain "incomplete". To succeed, the Chinese government must make affordable housing for migrants and the growing urban population a top priority.

The central government has to ensure local governments' commitment to migrant housing through both profound reforms and financial incentives. For example, the public finance system should be reformed to allow local governments to keep a larger share of their budgetary revenue and diversify their revenue sources with more long-term, stable tax revenues replacing the lump-sum land-based revenues.

At the same time, the central and the local government should work together to mobilise developers, employers and urban villages to provide affordable housing through incentives such as low-interest loans, cheap land and tax breaks, and reforms in the land and housing system.

In particular, the government should fully recognise suburban villagers' land rights, and allow their collectively owned land to enter the land and housing market directly. With the existing dual land system in China, only local municipal governments can convert rural land into urban land for urban development. This monopolised rural-urban land conversion by the local government needs to be abolished, and housing provision by urban villages should be legalised/formalised.

In addition, as most industrial land is not used very intensively in China, employers should be encouraged to use vacant industrial land for housing development where appropriate; and developers should be required to provide affordable housing to migrants and other urban poor through inclusionary housing.

These reforms will result in a large supply of decent, affordable housing in both the public and private sector. Only then will millions of migrants achieve their housing dream in cities.

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中国城市水患治理前景预期

迅猛的城市化进程及其利益机制，形成了中国城市“先地上，后地下”的营建特征，中国城镇化进程加重城市洪涝风险的程度还将加剧。

程晓陶

2013年10月初，浙江余姚的洪灾再次为城市洪水防御与治理敲响了警钟。2008年以来，中国每年洪涝成灾的城市都在130座以上，2010年达到258座，其中大多数为暴雨山洪与内涝所引起。城市洪涝频发，与气候变化导致的局部强降雨增多有关，但更多是城镇化迅猛进程中洪涝风险增大的体现。

至上世纪80年代初，中国城市人口占总人口的比例不到20%，“10亿人口，8亿农民搞饭吃”，相当程度上还是农业社会的形态。改革开放加速了中国农业社会向现代社会的过渡。2001年，中国人口城市化率达到37.7%，20年间提高了17.5个百分点；而至2011年达到51.27%, 10年间又增长了13.5%，城镇化进程明显加速。由于中国人口基数大，30年间城市人口规模空前净增4.6亿，这对城市基础设施建设构成了前所未有的压力。

在城镇化进程中，人们急于解决的是住房、供水、供电、供气、交通、通信、污水与垃圾处理等基础设施，因为这些设施直接关系到日常生活与城市功能的运转，其投资还能以“收费”的形式得以收回，可以引入市场化机制来加快发展。而排涝系统发展滞后原因有二：一是其公益性质，决定了只能采取政府主导的规划建设模式，所需投资巨大，却不能向老天爷去讨钱；二是决策者并不重视，因为其作用唯在汛期显露，且未必在本届任期内受益。

欧美等发达国家，工业化、城镇化经历了较长的时期，城市新区的开发有较充分的规划、论证阶段，政府只有通过融资、贷款，先建好了地下的基础设施，土地才能卖得出好价钱，这是促成“先地下、后地上”开发模式的利益机制。而中国在迅猛异常的城镇化进程中，政府亟需通过“卖地”来满足城市发展与运行的财政需求。同时，对于开发商来说，越是低洼易涝的地块越有人抢，因为拆迁负担相对较轻，开发投入回报较快。结果一座座城市的发展都是“先地上、后地下”，城市表面光鲜，但面对暴雨洪涝备显脆弱。

> 排涝系统发展滞后原因：一是其公益性质，决定了只能采取政府主导的规划建设模式；二是决策者并不重视，因为其作用唯在汛期显露。

中国的人口城镇化率在跨过50%之后，速度虽有所放缓，但仍处于高速城镇化的阶段。尤其是在城镇化浪潮从沿海向内地蔓延的进程中，其加重洪涝风险的趋势更为显现：受灾范围内人口资产密度大增，在同样降雨条件下，由于城市扩张导致不透水面积增加、蓄滞水功能降低等，城市洪涝的危害也会更为严重。城市排水防涝系统在自身负担倍增的同时，另一个矛盾也

洪水灾害亦随着城市化进程从沿海城市移动到了内陆城市。

将更为突出，就是城区及外围河湖水系调蓄与行洪功能不足。因此，中国城市洪涝灾害仍将持续恶化。只有当城市防洪治涝系统建设能力的增加大于城镇化加重洪涝风险的作用时，这一趋势才可能走出谷底，得以逆转。这里，笔者选用“治涝”来替代“排涝”与“防涝”，是希望更好体现出应对城市涝灾需要更新观念、采取综合治理手段的特点。

洪水治理“持久战”

日本、韩国等亚洲国家更早经历了迅猛的城镇化阶段，他们也未能避免“先地上、后地下”的发展模式，同样曾面临城市洪涝风险上升的困境。他们最初的思路也是尽力提高排水能力，但随后发现，当雨水被集中排向河道后，同样降雨条件下，洪峰流量倍增，峰现时间提前，防汛形势变得更为严峻。从上世纪70年代中期起，日本就开始调整“将雨水尽快排向河道”的思路，针对快速、高度城镇化流域水害激增的问题，积极推进“综合治水对策 特定河川计划”，其主要对策包括：

（1）设定积水易涝预想区，公布洪涝实际受淹区域图；

（2）在流域中划分出水土保持区、分滞洪区与低洼易涝区，分别采取不同的治水对策；

（3）维持流域滞水、蓄水的机能，措施包括设置治水绿地与多目的分滞洪区，设置防灾调节池与雨水储蓄设施，采用透水性铺装，改造下水道以增加其蓄留机能，城市新建区中固有蓄滞水机能的维持，以及鼓励居民采取各户储存雨水、抬高房基的措施；

（4）设定与治水设施建设状况相对应的、安全的土地利用方式与建筑方式，包括划定灾害危险区域，在土地利用中考虑治水安全度，寻求居民的理解与协力等等。

以后又陆续增加了蓄水池与输水管的渗透功能，既回补地下水，又减轻了排水系统的负担。

近年来网络上备受赞扬的东京都“地下宫殿”式深隧排水系统，是所有招数都使过之后，为解决局部地区、中小河流洪水漫溢问题而设置的，全长仅6.3公里，1992年动工，2006年建成，总投资约合人民币190亿元，末端靠水泵从60米深地下水库提升排入江户川，可见建设、运行与维护成本之高昂。

经过至少持续30年的努力，日本和韩国城市的情况，才有了明显好转。

目前，城市洪涝加剧问题已经引起了中国政府的高度重视。国务院要求“到2015年，重要防洪城市达到国家规定的防洪标准。全面提高城市排水防涝、防洪减灾能力，用10年左右时间建成较完善的城市排水防涝、防洪工程体系”。

为了这样的目标，必须做好“打持久战”的充分准备。未来10年中国仍将处于城镇化的高速发展阶段，洪涝风险本身呈加重的态势，而洪涝防治工程体系在建成发挥作用之前，其标准甚至会有所降低，无法抑制洪涝风险的增长。

必须编制出先进合理、能经数届政府持续推进的规划；要通过体制机制的创新，促进相关部门之间、政府与民众之间的良性互动，使支撑发展与保障安全的城市基础设施建设能够有机地结合起来；通过完善城市防汛应急预案编制，强化应急预警与全民应急响应的体制，以减轻城市暴雨洪涝的伤亡与损失；要让小型分散的雨水蓄滞设施尽快遍地开花，促进雨洪资源的利用，减轻排水系统的负担。

程晓陶，中国水利水电工程研究院副总工程师

Chinese cities decades behind on flood risk

The threat of urban flooding will increase unless construction starts to pay more attention to drainage

Cheng Xiaotao

The recent floods in Yuyao, Zhejiang province, are an urgent reminder of the need for effective flood control in China. Every year since 2008 at least 130 Chinese cities have suffered flooding. Most cases are due to flood waters running off hillsides after downpours, or poor drainage. A rising incidence of urban flooding is linked to localised increases in precipitation caused by climate change – but more important are the increased risks of flooding brought by urbanisation.

Housing, water supply, electricity, gas, transportation, communications and sewage are the most urgent issues during urbanisation. And as these can be charged for, market mechanisms can be used to pay for them, which means faster development. But rainwater drainage lags behind: it is very costly and as it is a public good the government has to take the lead. The problem is that it cannot recover costs, and decision-makers will not spend money to mitigate floods that may not happen while they are in power.

In developed nations with greater experience of urbanisation and industrialisation there are better rules and procedures for building new city districts: land can only be sold once the government has put sub-surface infrastructure in place. This creates an "underground first" approach.

But China's extraordinary pace of urbanisation means that local governments have to sell land to fund development and their own operations – and low-lying flood-prone land is the most popular with developers. Given that it's usually more sparsely populated, the costs of resettling existing residents are lower, and so the return on investment is faster.

The risks of flooding are particularly apparent as the wave of urbanisation moves inland from the coastal cities: the density of people and property in at risk areas is increasing. Expanding cities mean more run-off from impermeable surfaces, and a higher risk of flooding, even if precipitation does not increase.

With drainage systems placed under much higher burdens, the inability of urban waterways to absorb floodwaters becomes more apparent. For these reasons, China will see worsening urban floods. Only when improvements in measures to prevent floods and reduce waterlogging outstrip the increase in flood risks of urbanisation will this trend stop.

Chinese cities face wait for improvement

Other Asian countries, such as Japan and Korea, have already seen rapid urbanisation and suffered the same problems. Their first response was also to increase drainage, but they found that when rainwater was collected and channelled to the rivers flood peaks came higher and earlier, making flood prevention more difficult.

> "It took 30 years of sustained effort to improve things in Japanese and Korean cities. But at least the Chinese government is starting to work on urban flooding."

In the mid-1970s Japan stopped trying to immediately channel rainwater to the rivers, formulating instead a comprehensive plan including:

1) Identifying and publishing maps of flood-prone areas;

2) Identifying soil and water conservation areas, retention basins, and low-lying areas likely to flood, with different control measures to be taken for each;

3) Using open land and retention basins, flood control ponds, rainwater storage and permeable surfaces; rebuilding sewers to allow for more water retention, protecting natural water retention during urban expansion, and encouraging residents to store rainwater and use raised-floor foundations;

4) Methods of land use and construction which take flood safety into account, including identifying areas at risk and working with residents. Subsequently flood control ponds and pipes were made more permeable, reducing the burden on the system and also helping to replenish groundwater.

Despite the huge construction, operation and maintenance costs, Tokyo has also built a 6.3km-long system of tunnels as a last resort to deal with localised flooding – a project which cost the equivalent of 19 billion yuan and took from 1992 to 2006 to complete. The pumps at the outlet bring water from a tank 60 meters below ground and dump it into the Edo River.

All of this will take a long time – it took 30 years of sustained effort to improve things in Japanese and Korean cities. But at least the Chinese government is starting to work on urban flooding. The State Council has ordered that by 2015 flood prevention measures in key cities must be up to national standards, and that over the next ten years there will be a comprehensive upgrade of urban drainage and flood prevention.

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中国城市：应对气候变化为GDP让路

气候变化在中国似乎正日益受到重视。但是，这一切不过是纸上谈兵。受监管不力、利益冲突的影响，中国应对气候变化的进展非常有限。

李秉勤

越来越多的证据表明，中国正在遭受气候变化的影响，不仅气候带边界发生移动，季节的特点出现变化，飓风、暴风雪、洪水等自然灾害也更加频发。这一趋势造成水和能源的供给出现缺口，给城市基础设施造成压力，给人们的健康带来困扰，还使经济蒙受严重损失。

为了应对这些挑战，中国政府制订了政策框架，并颁布政策解决气候变化造成的岌岌可危的局面，2008年还成立了隶属于国家发改委的中央政府部门来专门负责这方面的事务（应对气候变化司）。

2008年以来，政府每年发布应对气候变化的政策与行动白皮书，对已有政策进行审查，并且制定新的目标。

最新公布的是2011年的《中国应对气候变化的政策与行动》白皮书。报告制订了2011 -2016年的工作

在应对气候变化的过程中，各级地方政府应当是立法和执法的核心力量。

计划，并以专门的篇幅对适应气候变化的问题进行了阐述。

政府专门划拨款项用于二氧化碳减排及气候变化问题的研究。“十一五”期间（2006-2010年）拨款达70亿元人民币（1100万美元），共有288个研究中心和91个研究室获得资助。

然而，人们逐渐意识到，在应对气候变化的过程中，各级地方政府才应当是立法和执法的核心力量，中央政府发挥的作用只是提供指导。因此，2008年起，有关部门开展工作，促使（省、市）各级地方政府参与应对气候变化的工作。2010年底，各省均制订了气候变化应对方案，并且将对一些好的地方措施进行试点，取得成功的试点项目将在全国推广。

采取的具体措施有：

为保证水源供给，贵州、云南等缺水区地方政府开展了地下水资源勘查工作。针对中西部地区一些因为干旱频发而不适宜居住的省份，开展了包括安置、再就业、基础设施及基本社会服务等在内的移民项目。

为了降低极端气候的影响，政府还投资加强天气预报服务，帮助群众了解气候变化，宣传极端气候的预防及自我保护信息。

为了降低城市地区的高温并改善空气质量，有关方面开展宣传活动，呼吁增加城市绿色植被面积。一些危房在城市的发展和更新过程中被拆除，如易受暴雨洪水侵袭的危旧房屋等。另外，还有人提议建设屋顶花园以缓解城市热岛效应。北京、上海、杭州、深圳、长沙、广州等地政府都已出台相关政策规划，修建屋顶花园。

政府为巩固政策框架、加强地方参与下了很多功夫。可是，现有体制下，这些政策却得不到很好的落实。虽然看起来地方政府似乎更加重视气候变化问题，但实际上，地方决策往往会打着中央决议的幌子为本地方谋取私利。因此，这些项目有可能会被地方政府挟持，用来谋求商业利益或促进本地区的GDP增长。

理论上而言，政策的制定应以事实为依据（先试验，再推广），实际却是唯成败而论。人们往往会忽视失败的试点项目，对于出现的问题不去反思解决之道。项目如果未能取得成功，其下场通常就是被简单地弃之一旁。

决策者需要更好地了解气候变化给人类、社会、经济造成的损失，而不是简单地从GDP损失及政策给人们带来的影响进行衡量。城市地区采取的某些气候变化适应性政策，如对市区环境进行更新改造以降低热岛效应等，有可能会给当地群众的生活带来影响。政策的制定在很大程度上并未考虑可能对当地居民和小型企业产生的影响。

加强社会学者、非政府组织、公众对决策过程及项目实施后评价工作的参与，是能否以事实为依据进行决策及政策调整能否取得成功的关键所在。有了他们的参与或许还能制订出成本更低、更加行之有效的方法。

体制内的各个地方政府之间也存在巨大的差异，再加上不同地区的规模和繁荣程度千差万别，对相关问题的理解也有所不同。这些就意味着地方政府在能力和参与性方面存在很大差异。

因此，重要的是找到能够将地方利益与中央利益统一起来的方法，这样才能使政策框架得到完善。一个办法就是对政府部门评估体系进行改革，将气候变化适应的需要内源化，使其不再专注于GDP的增长。然而，与GDP增长不同的是，气候变化适应很难用单一指标衡量。因此，中央的监管能力将会不可避免地受到挑战。

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China's cities focused on GDP not adaptation

Though it looks on paper as if climate change is rising higher up the agenda, in reality progress is limited by poor oversight and conflicts of interest

Li Bingqin

There is increasing evidence that China is undergoing climate change. The boundaries of climate zones are shifting, as are the pattern of the seasons. These phenomena are accompanied by more frequent natural disasters, such as cyclones, snowstorms and floods. This causes water and energy shortages, puts pressure on urban infrastructure, generating health concerns and leading to serious economic losses.

To cope with these challenges, the Chinese government set up a policy framework and adopted policies to tackle vulnerability caused by climate change. In 2008, a specialised central government department (the Department of Climate Change) was set up under the National Development and Reform Commission.

Since 2008, an annual White Paper on policies and actions has been published, reviewing policies and setting new goals. The most recent document is the 2011 Chinese Climate Change Policy and Action, which laid out the plan for 2011−2016 and in which there is a section on adaptation to climate change.

Dedicated funding has been allocated for research on reducing carbon dioxide emissions and understanding climate change. In the Eleventh Five-Year Plan period (2006−2010) seven billion yuan (US$ 11 million) was allocated, funding 288 research centres and 91 research labs.

Efforts to get local governments (provincial and municipal levels) involved started in 2008, and by the end of 2010, each province had drawn up its own climate change adaptation plan. Good local initiatives are supposed to be piloted, and the successful ones rolled out nationwide.

Some specific measures include:

In areas of water shortage, such as Guizhou and Yunnan provinces, the local government took the initiative to explore groundwater sources to maintain water supply. In some western and central provinces where areas have become uninhabitable because of frequent droughts, migration projects have been introduced, including housing, re-employment, infrastructure and basic services.

To reduce the impact of extreme weather, the government has also invested in weather forecasting services to help people understand climate change and is distributing information on preventive methods and self-protection against extreme weather conditions.

To reduce high temperatures in urban areas, campaigns were introduced with the aim of increasing green space in

> Despite these efforts to strengthen the policy framework and increase local participation, the current system automatically leads to poor implementation of policies.

cities (and also to improve air quality). Urban development and regeneration removed some properties at risk, such as old dilapidated houses in areas at risk of flooding during storms. In addition, roof gardens have been proposed as a way of reducing the urban heat island effect in cities. Local governments, such as those of Beijing, Shanghai, Hangzhou, Shenzhen, Changsha and Guangzhou, have also introduced their own planning policies to build roof gardens.

GDP takes priority

Despite these efforts to strengthen the policy framework and increase local participation, the current system automatically leads to poor implementation of policies. Whilst it might seem as if climate change is moving higher up the local government agenda, in reality localised policy-making tends to treat central government mandates as guidelines to be manipulated to serve their own interests. As a result, projects can be hijacked by local governments for business interests or in pursuit of increasing their GDP.

A policy process that is in theory evidence-based ("experiment first – scale up later") is in fact limited by a focus on success. Failed pilots are generally ignored; little effort is made to examine what could be done to fix the problems. Unsuccessful projects are often simply dropped.

Policy-makers need to understand better the human, social and economic costs of climate change, beyond simple measures of GDP loss and the human impact of the policies adopted.

The policy-making process largely excludes local residents and smaller businesses that might be affected.

Greater efforts to engage social scientists, NGOs and the general public in decision-making and post-project assessment is crucial to the viability of genuinely evidence-based policy-making and adjustment.

Within the government system, there are also large differences between local governments. This reality, along with large variations in the scale and prosperity of different localities and different understandings of the relevant issues, means that local governments' capacity and incentive to engage can vary greatly.

To improve the framework, it is important to find ways of aligning local and central interests. One frequently called for approach would be to reform the assessment of local governments' achievements so that they would not be inclined to focus climate change adaptation on GDP growth only. However, unlike GDP growth, climate change adaptation can hardly be measured by a single indicator.

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中国“鬼城”忧虑几何

**大城市的城郊新区经历数年时间，最终焕然一新人丁兴旺；
但小城市的新区恐怕还有很长的路要走，才能摆脱“鬼城”的称号。**

汤姆·米勒

20世纪90年代，中国国有住房私有化开启了建设热潮，房地产商的原则是“建房人自来”。很多市级政府则更进一步，秉持“建房让人来”的原则，规划新区，建设气派的政府大楼和大学校园。

在北京、上海等大城市，这项政策效果良好。这些地方有无数的工作机会，吸引了数百万来自小城镇的农民工和白领。中国大城市的需求总是远大于供应，这也是那些地区房价高得离谱的原因。但小城市情况则不同，那里经济增长乏力，工作机会也比较少。

很多人批评中国的建设热潮浪费严重，却没有看到中国巨大的人口压力。每年，中国城市都要吸纳2000万新居民，几乎与澳大利亚人口总数相当。另外，中国现有城市居民财富不断增加，也需要更大、更好的住房。但目前，中国现代化的住房（即拥有独立卫生间和厨房）只有1.8亿套左右，远低于城市家庭总数2.2亿户。

因此，还有4000万家庭面临住房质量低、条件差的问题——这部分人口超过了1亿。其中很多是农民工，住在贫民区或是建筑工地的帐篷里。另有1亿左右的农民工则住在工厂宿舍。但随着收入增长，越来越多的人希望搬进属于自己的公寓。未来10年，中国要为这些人建造数百万套经济适用房。

目前的核心问题是住房供求矛盾。中国的小城市住房供应过剩，无人问津，大城市经济适用房供应不足。2010年以来，政府开始抑制豪华住宅需求、建造更多福利住房以解决大城市经济适用房短缺问题。直到最近，政府才将注意力转向小城市难以持续的建筑热潮，但这中国已经到处都是无人的新区，即所谓的“鬼城”。

《人民日报》最近一篇社论批评了全国上下建设新城这一浪费严重的热潮，“空城、鬼城都是重复性建设，不会产生较大的经济效益。浪费了大量资源，也给地方政府带来债务压力。”数据显示，12省144市计划建设200余座新城镇，社论批评官员只追求GDP增长。

住房、建筑方面的数据也证实了这一分析。近期政府调查表明，中国70个大城市房价基本都在上涨——这似乎无法证明供应已超过需求。但研究机构龙洲经讯的分析显示，供应过剩的问题主要集中在218个县级城市。过去10年，尤其是在2008年中国实施经济刺激措施后，这些城市建筑业的增长远高于其他城市。

“很多人批评中国的建设热潮浪费严重，却没有看到中国巨大的人口压力。每年，中国城市都要吸纳2000万新居民，几乎与澳大利亚人口总数相当。”

人口数据可以解释这为什么构成了一个问题。2000至2008年期间，由于人口迁移和自然增长，这些小城市平均每年增加1200万新居民。2008至2012年，这一数据下降为400万。最主要的原因是来自其他城市的移民减少——特别是那些能在城市买房的人。以城市住房的价位，大多数农民工是买不起的，小城市的新建房屋就闲置了。

大城市需要建设新区以容纳不断增长的人口，满足人们对更好居住环境的要求，小城市也随之效仿。最早的“鬼城”是上海浦东。1998年，邓小平逝世一年后，美国经济学家米尔顿·弗里德曼参观浦东，批评这个引人注目的经济新区是“为金字塔中已故法老树立的纪念碑”。当时这个说法似乎并没有错——浦东新竣工的写字楼入住率仅为35%。

然而不到10年时间，浦东就有了数百万居民，摩天大楼鲜有空置。上海市政府曾要求所有国有银行将市分行迁入空旷的浦东，指示其延长那些处境艰难的开发商的贷款期限。当商户、劳动力集聚到一定程度时，浦东便迈开了飞速发展的步伐。

相似的发展模式逐渐扩散到全国各地。在大城市，这一逻辑行得通。再以郑州为例，这个河南的省会城市，其下辖的郑东新区常被称为中国最大的鬼城。郑东新区占地面积115平方公里，包括一个商业区、省级政府办公楼、高铁站和15个大学校区。

2010年，卫星图片显示郑东新区数百个住宅区、公共建筑内空无一人，新区建设受到猛烈的抨击，但这个项目其实并没有批评所说的那样糟糕。郑东新区的建设初衷是为了给郑州这个拥有9500万人口的商业中心提供扩张所需的现代化基础设施。

3年过去了，郑州面临的压力开始显现。如今，学生来到了大学校园，政府工作人员入主了办公区，数千户居民迁入新居。新建的地铁载着居民往返于郑东与老城之间。

郑东以及中国其他大城市的经验表明，只要时间充足，空荡的新区就能获得发展。中国的政权体制允许政府超前于需求进行建设。

但这样的发展模型显然并不适用小城市。像内蒙古鄂尔多斯，没有郑州等大城市那样的人口压力，也不具备经济潜力，它在戈壁滩上建设的新城就变为一座空城。

汤姆·米勒，《中国经济季刊》主编，曾任职于《南华早报》，著有《中国十亿城民》一书

内蒙古自治区的鄂尔多斯市被称为中国最大的“鬼城”。

Time for a reality check on ghost towns

Gleaming new suburbs in China's larger cities will fill up in time, but many empty developments in small cities will remain deserted for years

Tom Miller

Since China privatised its state-owned housing stock in the 1990s, setting off a building boom, property developers have worked on the principle of "build it and they will come". Many city governments took that a step further, erecting new districts with government offices and university campuses on the principle of "build it and make them come".

In many big cities, like Beijing and Shanghai, that policy has worked well. Such places have lots of jobs and attract millions of migrants, both rural workers and white-collar workers, from smaller towns and cities. Demand in China's largest cities outstrips supply, which is why house prices there can be incredibly high. But the situation is quite different in smaller cities, which have weaker economies and fewer jobs.

Many critics of China's construction boom fail to appreciate the enormous population pressures it is facing. Every year, China's cities are projected to absorb more than 20 million new inhabitants – roughly the population of Australia. And as China's existing urbanites grow richer, they are demanding bigger and better apartments. Unfortunately, China's current modern housing stock – defined as homes with individual bathrooms and kitchens – is only around 180 million units, well below the existing 220 million urban households.

The result is that around 40 million households still live in shoddy, substandard residences – well over 100 million people. Many of these are migrant workers living in slum housing or sleeping in tents on the building site. Another 100 million or so migrant workers live in factory dormitories. But as wages rise, more and more will want to move into their own flats. Over the coming decades, China will need to build millions of affordable homes for these people.

The central problem is the mismatch between housing demand and supply. China's small cities have an oversupply of housing that no one wants, whereas big cities have a lack of affordable homes. Since 2010, the government has addressed the shortage of affordable homes in big cities by regulating demand for luxury flats and by building more social housing. But it has only recently begun turned its attention to the unsustainable building boom in small cities, which has left China littered with empty developments – the so-called "ghost cities."

Ghost cities: the debt burden

In a recent editorial, the People's Daily newspaper railed against the wasteful national trend for building new cities: "Empty towns and ghost cities are redundant constructions that don't generate much economic benefit ...They are a huge waste of resources which pile debt

> "The lesson from Zhengdong and any number of other big cities across China is that, given time, empty districts can take off."

pressure onto local governments." Citing data showing that 144 cities in only 12 provinces are planning to build over 200 new towns, it blamed officials for chasing GDP growth.

Housing and construction data support this analysis. Recent government surveys show house prices rising in virtually all of China's 70 major cities – hardly an obvious sign that supply has exceeded demand. Instead, the oversupply problem is concentrated in 218 prefecture-level cities, according to analysis by research firm GaveKal Dragonomics. These experienced much stronger construction growth than other cities over the past decade, especially after the launch of China's economic stimulus in 2008.

Population data explain why this is a problem. Between 2000 and 2008, these small cities gained an average of 12 million new inhabitants per year, thanks to natural population increases and migration. But that slowed to just 4 million per year in 2008-2012. The biggest cause was a fall in migrants arriving from other cities – precisely the people who can afford to buy urban housing, which is beyond the reach of most rural migrants.

Ghost cities filling up

Many small cities took their lead from big cities, which need to build new districts to accommodate swelling populations and demand for better housing. Their model is China's original "ghost city": Shanghai's Pudong area. When the US economist Milton Friedman visited in 1998, a year after the death of Deng Xiaoping, he slammed Shanghai's glittering new business district as "a statist monument for a dead pharaoh on the level of the pyramids". At the time this seemed a fair point – the occupancy rate in its new office towers was just 35%.

Yet within a decade Pudong's skyscrapers were full and it had millions of residents. Shanghai's government forced all the big state-owned banks to move their city headquarters into the empty district and instructed them to roll over loans made to the struggling property developers. Once the numbers of businesses and workers reached a critical mass, Pudong flourished.

A similar logic has filtered down to officials nationwide. In big cities, it can work. Take Zhengzhou, the capital of Henan province and home to what is often called China's largest ghost city. Zhengzhou's new district, Zhengdong New Area, covers 115 square kilometres and contains a business district, new headquarters for the provincial government, a high-speed rail transport hub and 15 university campuses.

Since 2010, when satellite photographs were published showing hundreds of empty new apartment blocks and public buildings, Zhengdong has received a barrage of criticism. But the project is not as ill-conceived as its critics maintain. Zhengdong was designed to give Zhengzhou – the congested, commercial centre of a teeming province of 95 million people – the modern infrastructure it needs to expand effectively. Three years later there are signs of life in Zhengdong: the university campuses are filling up, government officials are behind their desks, and thousands of families have moved into new homes. A new subway system takes residents from Zhengdong into the old city.

The lesson from Zhengdong and any number of other big cities across China is that, given time, empty districts can take off. But in small cities, this development model is simply inappropriate. Places like Ordos in Inner Mongolia – home to an empty city in the Gobi desert – do not have the same population pressures or economic potential as big cities like Zhengzhou.

Tom Miller is managing editor of the Chinese Economic Quarterly and a former Beijing correspondent of the South China Morning Post. He is also the author of China's Urban Billion

中国新兴中产阶级的环保诉求

中产阶级对环保现状的不满情绪或能迫使政府加强其环境政策的变革。

汤姆·约翰逊

1980年，中国实行改革开放政策初期，71%的人口生活在农村。而到2011年，官方数据显示，中国城镇化率达到51.3%，城镇人口首次超过了农村人口。

在这个过程中涌现了很多新兴大都市。比如，30年前深圳还是一个只有3万人的小城镇。如今深圳人口已超过1千万。中国其他地区城市的面貌也焕然一新。

上海前任市长韩正曾把上海的扩张比作街边小贩卖的摊大饼，面糊逐渐摊开，饼也越来越大。

新建居民区是城市扩张的重要组成部分，一些新兴社区甚至有数千套住宅。这背后有着更为深刻的原因：住房商品化以及城市中产阶级的诞生。

20世纪90年代，多数城市居民还住在单位提供的房子里。但如今这种状况发生了巨变。毛泽东时代的城市住房已被拆除，数百万居民不得不加入买房大军，亦或是拆迁的补贴性住房，又或是拿着新赚的钱进入自由市场。

这些购房者中很大一部分构成了新兴的城市中产阶级。尽管目前对这个群体的规模说法不一，但多数评论者都认为：中国的中产阶级正在形成。

中产阶级与国家间关系的基础，是一种基于社会繁荣稳定的不成文社会契约。国家允许中产阶级在改革开放中积累财富，很多人选择投资房地产，国家则努力维护社会稳定。这种状态使城市中产阶级获得巨大收益，因此，他们多数都支持现行政策。国家也支持中产阶级发展，从而拉动消费，并将其作为自身和贫困阶层之间的缓冲带。

同时，学者李成认为，中国的中产阶级拥有“政治潜力”。他指出，中产阶级对“维权”活动的参与度要高于其他群体，更倾向于通过法律途径解决争端，而且对官员违法行为的容忍限度更低。

中产阶级拥有更好的资源，如关系、互联网、稳定的收入等，基于这些因素，在维护自身权益的持

这些活动的一个共同特点是，人们要求的参与权和透明度超过了法律限定。

久战中他们处于有利的位置。涉及中产阶级的纠纷多数与房产有关，包括威胁或可能威胁其生活质量、居住环境的破坏性（有时甚至是非法的）改变。

近年来，相关的维权运动引起了国内外媒体的广泛关注。城市化进程加快给电信、垃圾处理厂等各种基础设施都造成巨大压力，因此设施的新建被提上日程。地方政府努力进行招商引资，但有时会引进污染型企业，这些企业则与房地产商争夺宝贵的城市用地。最终，可能导致污染的项目会建在那些标榜环境清洁的居民区旁，厦门反对PX项目游行便是其中一例。

反对垃圾焚烧项目也是较为突出的维权表现。城市化造成垃圾大量增长，为解决这一问题，政府计划在“十二五”期间建设300多座焚烧炉。反对者指出，垃圾焚烧会产生二恶英等物质，严重危害人体健康。另外，还可能影响周边地区的房价。环境律师张兢兢指出：“人们开始思考，我花掉所有积蓄买的房子，隐含着什么危险？”

在一定程度上，影响人们日常生活的垃圾焚烧项目规划，或是其他危害健康和损害经济利益的不受欢迎的项目，都破坏了繁荣稳定的社会契约。如今人们不再隐藏不满情绪或将其归于社会契约，而是大声表达出来。

例如，很多反对项目选址的维权活动都聚焦在一个问题上，即业主在相关决策中是否有权参与，有多大的参与权？2002年的《环境影响评价法》规定了公众有权参与其中，但只是在一定限度内。除此之外，居民还要求政府提高透明度。

这些活动的一个共同特点是，人们要求的参与权和透明度超过了法律限定。越来越多的人要求在这些项目中拥有发言权。

这些不满情绪能否转变为政治变革，还没有定论。在维持一党执政的前提下，政府允许公众参与且提高其工作透明度。同时，中产阶级也在向政府施压，要求其遵守这一原则。

中国的官员可能会像之前的美国同僚一样，将污染型项目设立在不会或是无力反抗的社区以控制反对声音。这样的决策也许能符合大多数中产阶级的利益。

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China's emerging urban middle class

Pressure from China's urban middle classes could force officials to commit more strongly to upholding environmental principles

Tom Johnson

In 1980, with China having just embarked on its reform and opening up period, 71% of the country's population lived in rural areas. In 2011, official data revealed that, for the first time in its history, China had become a predominantly urban society.

During that time, new metropolises have appeared almost out of nowhere. For example, little over 30 years ago Shenzhen was a relative backwater with 30,000 residents. Its population now exceeds 10 million. Elsewhere, China's older cities have changed beyond all recognition.

Former mayor of Shanghai Han Zheng once compared his city's outward expansion with Chinese pancakes (tan da bing) commonly sold by street vendors, which get bigger and bigger as the batter spreads out in an ever-increasing circle .

Newly constructed housing communities, some of which contain thousands of residential units, have contributed to this urban sprawl. Their appearance is part of a bigger story – the commercialisation of the housing sector and the emergence of an urban middle class.

As recently as the 1990s, most urban dwellers lived in accommodation provided by their work units (danwei). But this has all changed. Vast swathes of Maoist-era urban accommodation have been demolished. Millions of residents have been propelled onto the housing ladder through government subsidised replacement apartments, and through newly earned wealth that has enabled them to purchase real estate on the free market.

A sizeable proportion of these homeowners form part of a new urban middle class. Although estimates of the size of this social group vary considerably, most commentators agree that a Chinese middle class is beginning to form.

Middle class discontent

In China the relationship between the middle class and the state is arguably underpinned by an implicit social contract based on prosperity and social stability. The former have been allowed to accumulate wealth under the reform and opening-up policy. Many people have chosen to invest their money in real estate. In return, the Chinese Communist Party (CCP) has worked hard to uphold social stability. As a result, the urban middle classes have generally remained politically docile supporters of the status quo from which they have derived considerable benefit. For its part, the CCP has actively encouraged the development of a middle class

> "Chinese officials may decide – like their American counterparts before them – to pre-empt societal opposition by locating polluting projects in communities that are less likely, or able, to resist."

to drive consumption and serve as a buffer between it and relatively deprived groups.

At the same time, scholar Cheng Li has argued that middle class citizens have a higher rate of participation in "rights-upholding" activities than other groups, are more likely to pursue legal action to resolve disputes, and display lower tolerance towards official malfeasance.

Given their superior resources, including personal connections (guanxi), internet access, and financial stability, the middle classes are well placed to wage protracted campaigns to protect their rights and interests. Most disputes involving middle class citizens are related to housing issues, including unfavorable (and sometimes illegal) changes to the surrounding environment that undermine – or threaten to undermine – homeowners' quality of life.

Recently, some of these disputes have gained considerable domestic and international media coverage. Rapid urbanisation has placed strain on existing infrastructure, from telecommunications to waste treatment facilities, thus requiring construction of new facilities. Urban governments have also tried to attract external investment, sometimes in the form of polluting factories that end up competing with real estate for precious urban land. The result – as seen, for example, in the Xiamen anti-PX campaign – can be the construction of potentially polluting projects next to residential developments that have been marketed as clean places to live.

Opposition to waste incinerators is a case in point. To cope with growing quantities of waste, which is linked to urbanisation, the Chinese authorities plan to have over 300 incinerators by the conclusion of the current 12th Five Year Plan. Incinerator opponents point out that burning waste produces pollutants such as dioxins that could have deleterious health consequences. And it also potentially affects house prices in nearby communities. As environmental lawyer Zhang Jingjing put it, "People started to think, I've spent all of this money myself to buy this home. What are the dangers around me?"

Relocating pollution

In one sense, disruption to people's everyday lives by planned waste incinerators, and other unwelcome projects that affect their health and financial interests, undermines the prosperity/stability social contract. Grievances that have previously remained dormant, subsumed within the social contract, are increasingly voiced.

For example, the issue of whether, or to what extent, homeowners should be allowed to participate in decisions about where projects are sited has featured prominently in many campaigns. The 2002 Environmental Impact Assessment Law allows for public participation, but only to a limited degree.

However, people are calling for participation and transparency above and beyond the limited provisions provided by law. Whether or not this dissatisfaction will translate into policy change remains an open question. However, pressure from the middle classes could force officials to commit more strongly to these principles.

Chinese officials may decide – like their American counterparts before them – to pre-empt societal opposition by locating polluting projects in communities that are less likely, or able, to resist. This policy may serve the interests of the middle class residents just fine.

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新加坡治水对中国的启示

早在40年前，新加坡领导人就意识到：一个社会在污染环境中的生活成本，要比在清洁环境中高得多。中国也能认识到这一点吗？

塞西莉亚·托塔哈达
阿希特·彼斯瓦斯

当新加坡这个袖珍城市国家在1965年获得独立时，其在社会、经济、政治和环境等各方面的巨大限制，让许多外部人士都预言其未来会一片惨淡。

然而，40年过去了，现实似乎与这个预言截然不同。在短短几十年里，这个国土面积只有714平方公里、自然资源十分有限的小国，已经成为一个发展的榜样。新加坡拥有不断增长的人均GDP、清洁的环境和生机勃勃的创新力，从中国到缅甸，“学习新加坡”已经成为一句老生常谈。

今天的新兴国家挑选新加坡作为学习榜样是非常正确的，而且应该尤其注意该国水管理的历史。尽管面临着多重挑战——迅速的经济发展带来用水需求高涨，GDP增长30倍，通过填海造地增加23%国土面积，人口增加了两倍，工业蓬勃发展——40年中新加坡的水安全状况得到了切实改善。虽然目前新加坡仍然依赖进口水源，但它正努力争取在50内实现用水自给。

水消费量暴涨

从1965年到2011年，新加坡每天的用水量从7000万加仑增长到3.1亿加仑。

为了迎接这个增长带来的挑战，新加坡的汇水（通过下水道、沟渠和河流以及地表水收集池网络收集雨水）面积占到国土的67%，大大超过了独立初期的11%。

尽管今天新加坡仍然从毗邻的马来西亚柔佛州大量买水，但同时随着其用水需求的增长，该国一直在努力降低自身对进口的严重依赖。新马间有两个重要的用水协议，其中一个已经于2011年到期，另一个规定新加坡每天最多从马来西亚进口2.5亿加仑的水。但实际进口量只有大约1.5亿加仑，相当于新加坡每天用水量的一半，该国的目标是在50年内将进口水量变成零。

> “新加坡国土狭小、资源贫乏的小岛国只有找到长远的、创造性的解决办法，才能保证经济的增长和宜居的环境。”

新加坡采用最先进的技术来扩大水源供应基地、进行水质管理以及减少用水活动中的能源消耗，比如被称为NEWater的新加坡特有的高质量污水处理和海水淡化等非常规水源的开发。

NEWater已经满足了新加坡30%的用水需求，这一比例到2060年有望达到50%。这已经成为新加坡日益增长的工业部门用水的主要水源，减轻了饮用水的压力。与此同时，到2060年海水淡化的比例有望从用水总需求的10%增加到30%。

新加坡鼓励私营部门参与基础设施发展，2000年以来水价一直都在边际成本的基础上制定。而公共部门的参与方式则是长达数十年的努力沟通和宣传。

作为增加供应量和保持高水质必不可少的要素之一，技术进步已

经被融入了新加坡的水政策，不同的部门之间实现了用水战略的协调。对中国来说尤为值得注意的是，新加坡关于水的法律法规得到了严格执行，单是从1968年到1971年的32个月，新加坡有关环境违法的起诉就达到2.9万起，这标志着它在环境法律的落实上比其他亚洲国家足足早了10年。

中国这样的新兴经济大国应该好好学习新加坡的上述经验。在这些国家，快速增长及其带来的污染已经引发了严重的经济、社会和环境问题。

新加坡目前还需要从其他国家买水，政府的目标是在50年内实现供水自给自足。

新加坡河的治理

为期10年的新加坡河治理工程是一个协调规划的典范，尽管花了较长时间才取得成果。通过对新加坡中部地区的大规模再开发，消除并控制了排进新加坡河的污染，治理工程取得成功，河水可以安全并经济地作为饮用水使用。

这不是一个一蹴而就的过程，新加坡也在其中总结出许多经验，其中包括：要永久地解决污染问题，必须得到最高政治层的支持。

由于新加坡河是该国的贸易主动脉，沿岸日益活跃的经济活动吸引了越来越多的人，大量的自建房、小贩、小作坊出现在这里，但问题被一再回避。最终的结果就是越来越多的生活和工业废水以及固体废物被排入新加坡河，严重影响了其水质。

这种情形一直持续到1977年，时任总理的李光耀给各部委和机构下了最后通牒，情况才开始改变。政府机构被勒令通力合作，改善新加坡河的水质、确定损害河流的生活、商业和工业污染源、制定相关法律，并最终对新加坡整个中部地区进行再开发。

超过2.6万户居民搬进了政府组屋，大大改善了其生活条件。大约5000名街头小贩、4.6万多名自建房主以及800名驳船船主也都被迁到别处。大约 2800个小作坊和家庭手工业被迁到工业园。最后，还有600座养猪场和500座养鸭场被逐渐取缔，它们曾经将未经处理的废弃物直接排进河中。

新加坡河的治理工程耗资不菲，总共花去了2.4亿美元。但其巨大的效益（包括直接的和间接的）很清楚地表明这是一笔绝好的投资。这项工程使新加坡焕然一新，沿河两岸的地价飚升，用来开发旅游和商业。

在一次与我们的私下探讨中，李光耀指出新加坡长期战略规划的主要驱动力就是水安全。在他当政期间，水被放在了无可比拟的首要地位，就连经济发展也要从属于其对水源的影响。这种来自最高政府层面的强大政治支持，一直对新加坡的发展至关重要。

有人说，新加坡之所以能够繁荣发展，是因为规模很小，因此其经验对其他国家的参考性不大。但事实恰恰相反，这个国土狭小、资源贫乏的小岛国只有找到长远的、创造性的解决办法，才能保证经济的增长和宜居的环境。

早在上世纪60年代末，李光耀就意识到：一个社会在污染环境中的生活成本，要比在清洁环境中高得多。半个世纪之后，大多数国家的领导人还没有认清这个事实。

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两位作者的最新著作为《新加坡水故事：一个城市国家的可持续发展》，Routledge出版公司2013年出版

Water consumption and cities

Singapore's leaders realised 40 years ago that it is much more expensive for a society to live in a polluted environment than a clean one

Cecilia Tortajada
Asit K. Biswas

When the tiny city-state of Singapore gained independence in 1965, its social, economic, political and environmental constraints appeared so formidable that many of those looking in from outside predicted a dismal future.

Forty years on, the reality looks very different. Within a few decades, the state – just 714 square kilometres and with very limited natural resources – has turned itself into a country with increasing per capita GDP, a clean environment and vibrant innovation. From China to Myanmar, "learn from Singapore" has become a common refrain.

Today's emerging economies are right to single out Singapore for study, and they should pay particular attention to its history of water management. In the face of multiple challenges – surging water demands due to rapid economic development; a 30-fold rise in GDP; a 23%-plus increase in land area through reclamation; a tripling of population; thriving industry – water security has actually improved. Though Singapore is still dependent on imported water, it aims to become self-sufficient within 50 years.

Boom in water consumption

Between 1965 and 2011, total water consumption in Singapore increased from 70 to 310 million gallons per day.

To meet the challenge of this increase, the state has expanded its water catchment – the area from which rainwater is collected through a network of drains, canals, rivers and stormwater collection ponds – to 67% of the area of the island, compared to only 11% when it became independent.

Singapore still buys a lot of its water from Johor in neighbouring Malaysia, but at the same time as water demands have grown, the city-state has worked to reduced its heavy reliance on imports. One of two key water agreements with Malaysia expired in 2011. Under the second, a maximum of 250 million gallons per day can still flow to Singapore. The state aims to cut this figure to zero within 50 years.

The latest available technology has been used to expand Singapore's water supply base, manage water quality and reduce the energy consumption of its water activities. Examples include the development of non-conventional water sources, such as very high-quality treated wastewater known as NEWater and desalinated water.

NEWater already meets 30% of the national water demand, a figure expected to rise to 50% by 2060. It has become the chief alternative for the growing industrial sector and reduced pressure on potable water. Desalinated

> "Technological advances have been integrated into water policies as one of the many elements necessary both to increase available supply and maintain high water quality."

water meanwhile satisfies 10% of total water demand and is expected to cover 30% by the year 2060.

Participation of the private sector in infrastructural development has also been encouraged: water pricing has been set at a marginal cost since 2000, while the public has been involved through decades-long communication and information efforts.

Technological advances have been integrated into water policies as one of the many elements necessary both to increase available supply and maintain high water quality, while different ministries proved able to coordinate their water strategies. Notably for China, laws and regulations have been stringently enforced: there were more than 29,000 prosecutions relating to environmental offences in Singapore between 1968 and 1971 alone, marking a move by the state to enforce environmental law decades ahead of its Asian peers.

These are lessons that could be considered by emerging economic powers like China, where fast growth and its associated pollution have triggered serious economic, social and environmental concerns.

Cleaning up the Singapore River

The 10-year clean-up of the Singapore River is one example of coordinated planning, though it took time to come to fruition. Success was made possible by the large scale redevelopment of central Singapore and the elimination and control of the sources of pollution entering the river so that water could be used safely and cost-effectively for potable use.

It was not a quick process, and Singapore learned lessons along the way, including the need for support at the highest political levels to permanently solve pollution problems.

Since the river was the main trade artery of the island and growing economic activity along its banks attracted increasing numbers of people – squatter colonies, hawkers, backyard industries – the problem was repeatedly sidestepped. The net result was that increasing quantities of domestic and industrial wastewater and solid waste was discharged into the river, seriously affecting its quality.

It wasn't until former prime minister Lee Kuan Yew gave an ultimatum to ministries and agencies in 1977 that things started to change. They were instructed to work together to improve the water quality of the river, identify the domestic, commercial and industrial pollution sources blighting the waterway, create relevant legislation and, ultimately, redevelop Singapore's entire central area.

More than 26,000 families were resettled into public housing, significantly improving their living conditions. Almost 5,000 street hawkers, more than 46,000 squatters and some 800 lighters – barges used to transport goods along the river – were relocated. Around 2,800 industrial cases of backyard trades and cottage industries were also moved, most of them into newly developed industrial estates. Finally, some 610 pig farms and 500 duck farms, which used to discharge untreated wastes into the river, were phased out.

At US$240 million, the clean-up of the Singapore River wasn't cheap. But a tally of the benefits – both direct and indirect – makes clear it was a sound investment. The programme transformed the face of Singapore. Land values along the river banks soared, as did tourism and business.

Lee Kuan Yew noted during a personal discussion with us that the main driver for long-term strategic planning was the search for water security. During his premiership, water was prioritised to the extent that economic development was subordinate to the impacts it could have on water resources. This strong political support from the highest levels of government has been instrumental to the state's development.

It is said that Singapore has been able to thrive because of its small size and that its experiences are therefore not relevant to other countries. On the contrary, without a hinterland and almost no natural resources, the tiny island has had to formulate long-term, creative solutions to ensure economic growth and a liveable environment.

Lee Kuan Yew realised as early as the late 1960s that, in the long-term, it is much more expensive for a society to live in a polluted environment than a clean one. Almost half a century later, most of the world's leaders are still to grasp this fact.

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Cecilia Tortajada and Asit K. Biswas are authors of The Singapore Water Story: Sustainable Development in an Urban City State (Routledge, 2013)

中国人正在丧失街巷和社区生活

美国建筑师彼得·卡尔索普指出，由于规划不当，城市、住房和道路正在毁坏传统的中国社区，这些社区需要的并不是美国式的郊区佳境，而是精心构思的良好都市环境。

汤姆·莱维特

卡尔索普规划设计事务所（Calthorpe Associates）在昆明和重庆有项目，并出版了一套名为《以人为本规划城市》的丛书，讨论中国城市设计原理。

汤姆·莱维特：在美国，小汽车曾一度被视为是城市交通的救星。现在，尤其是从可持续发展的角度来讲，您是否认为小汽车可能是有害的?

彼得·卡尔索普：我想，不管什么事，只要不过度利用就好。在美国，85%的出行依赖小汽车。这种过度利用带来了沉重的经济负担，使得中产阶级无力偿付抵押贷款。今天，在美国拥有和使用一辆小汽车的成本每年超过5000美元。如果年收入只有区区5万美元，那么每年5000美元是一个非常大的数字。如果一个家庭有两辆或三辆车，养车成本在预算中占去很大一块。

除了巨大的经济成本，还有巨大的环境成本，表现在空气质量和气候变化、能源进口及其他方方面面。另外，还有社会成本——汽车似乎在把人分开，结果社区里的人互动越来越少。这种现象正在中国出现，他们正在建设的这种把人分隔开来的超级街区，在美国也有。只不过中国分隔的人口密度高，而美国的密度低。无论在中国还是美国，分隔意味着你要去任何地方都得依赖汽车。

曾几何时，中国城市居民可以步行、骑自行车或乘公交车。即使现在，很多买不起汽车的人仍然这样出行。但是随着汽车拥有率的增长，交通拥堵已经到了不能承受的程度。

一个人口密度很高的城市不可能靠小汽车运转起来，完全不可能。即便在美国人口密度低的城市，我们也为此吃尽了苦头，不论怎样还是会堵车。因此，从长远来看，中国依靠小汽车的发展之路不会成功。

莱维特：你认为这种理念在中国已经被理解和接受了吗?

卡尔索普：这是一场拉锯战。但是，中国人认识到，街道上的汽车不能再增加了。在北京，由于不能建设足够的道路，政府已经通过年度配额来限制新购汽车的数量。

他们必须回归到公交和步行，这有助于城市社区更健康，坦率地说，也会使社区居民更健康。但是也存在渴望发展汽车工业的反对势力，此外，社会上还存在“汽车是中产阶级的代名词”这种理念。

莱维特：中国发展速度很快，

> “这些城市必须是庞大的，但不能只是与各种街巷生活、当地社区和市民活动场所相隔离的一片片公寓。”

“我认为在大城市空气质量和交通拥挤的影响下，中国人似乎感到必须采取截然不同的行动。”

现在是否受困于汽车经济？解决这个问题或出现逆转是否更加困难？

卡尔索普：我认为问题在于他们如何塑造城市，因为我是一个城市设计师，所以更倾向于从这个角度看问题。城市既可以让小汽车畅通无阻，又是供人步行、骑自行车和乘公交的理想场所。重要的是建立一种充满活力的平衡状态。

我认为我们不需要放弃使用小汽车，而是需要减少汽车数量、降低其利用率。如果能够建设复合用途的环境和人性化的街道，人们面前就可以呈现这样一个舒适的环境：既可以步行、骑自行车，或乘公交车，也可以乘坐自己的小汽车。人们可以真正地做出选择。

不知道为什么中国人非常喜欢复制长安街。这条东西横贯北京、8至10车道宽的大街虽然是举行盛大阅兵的理想场所，但对行人来说，步行横穿长安街简直就是在挑战死亡。具有讽刺意味的是，尽管长安街车道很多，汽车仍然不能顺利行进。我们发现，很多平行小街道的结构比几条大街的通行效果好。如能增添一个更智能的街道网络，并将其与复合用途的环境相结合，居民不必为日常所需走很远的路，这样就可以创建一个更健康的城市。

莱维特：您认为中国是不是能从其他国家借鉴一些经验呢？

卡尔索普：是的。现在可以轻松证明的是：这个星球上最有价值的不动产是“适宜步行的都市生活”——大城市的市中心，这里密度很高，人们可以欢快地步行。我们似乎认为美国高价值的房地产常常在郊区。然而，按平方英尺计算，在具有复合功能、适于步行的旧金山的一所房子，比在郊区封闭式社区内的一所房子更值钱。在许多情况下，几乎贵一倍。

因此，市场已经开始重视大城市的环境。这些城市必须是庞大的，但不能只是与各种街巷生活、当地社区和市民活动场所相隔离的一片片公寓。这个问题并不简单，不仅与密度有关，也与城市生活的质量有关。

莱维特：这方面的经验有多少可以移植到中国？

卡尔索普：我认为有很多。并不是因为这些经验可以移植，而是因为其效果显著。在最近一轮超级

街区建设之前，历史文化名城的生活传统中就包含了步行和骑自行车、 当地的社区服务、沿街开设的复合用途小商店，非常人性化的社区集会场所。只是在过去10年中，他们才着手实施这个大规模城市扩建计划。

1949年前，中国的城市设计受欧洲人影响，市中心建得非常好。例如，上海与曼哈顿完全一样，是人们生活和漫步的好地方。解放后的苏联模式使人们整个一生都在一个超级街区内度过。工厂、学校、住宅、公园、诊所都在同一街区内，可以说你差不多是住在这个公社里。这样建立起来的城市形态，与中国城市的历史完全不搭界。

复合用途是这个阶段最吸引人的地方。人们并非必须这样做，他们确实没有汽车，但他们并不需要汽车，因为在家门口就可以满足一切需求。他们继续建设这些超级街区，但其用途却由复合改为单一。这样，整个超级街区用来建一座办公楼，或者建一片片住宅、工业楼宇，全部分隔开来，而且会分隔成越来越多的街区，导致通勤距离越来越长。这正是他们现在的处境。在这些高密度的单一用途的超级街区，有大量的人需要出行，即便是公共交通也满足不了。

看看集中了大量工作岗位的北京中央商务区（CBD）吧，因为每个人都在同一时间奔向同一个方向，即使有三四条地铁线路，仍然是人满为患。更健康的模式，无疑是将工作岗位分散设置在公交沿线，以便通勤者朝各个方向出行。

莱维特：您认为既有城市该怎么办，可以重新设计吗？

卡尔索普：一切重建的地方，都可以而且应该是复合用途的，使当地人出行的目的地近在咫尺。在城市一切重建的地方，都应建设新的地铁线路——如果投资不成问题的话。

如何防止他们一再创建这些大型商业中心，是我们面临的一大难题。创建商业中心看起来是在发展经济，似乎很有政绩，然而越是把工作岗位集中在少数几个中心，面临的交通问题就越大。

重新开发一座城市需要很好地平衡就业与住房的关系。要么重新分配工作地点，要么将新的就业岗位设置在更人性化的住宅围绕的集群中，这样，在城市的每个子区域都实现了健全的就业住房平衡，人们就不需要从城市的一端跑到另一端去上班。

莱维特：中国人追求的是怎样一种生活方式？

卡尔索普：人的梦想和生活很复杂。在生活的不同阶段你会有不同的梦想。当你年轻、单身或事业刚起步时，住在城市无疑是个好主意。随着年龄增长并且有了孩子，你真正牵挂的就是社区安全、适于步行的地方和优等学校。当上了年纪的时候，你也不想离群索居。

我认为，在整个生命周期，人的梦想是变化的，这点需要牢记。其次，庞大的城市形态可以满足所有这些梦想。换言之，谈到家庭生活，所有人都认为你必须去郊区居住。但是，在城市我们也可以拥有非常好的公园、学校和社区。在某种程度上，这些比在郊区独居更合人意。

我不认为选择“美国梦”并移植到中国是合适之举，甚至这完全行不通。中国人的街巷生活传统非常深厚，他们喜欢在街道上消磨时光。这里有大量的自发的演出，人们在咖啡馆里玩游戏。街巷生活传统是中国人幸福生活的一个重要组成部分，这让他们自然而然地偏好良好的城市环境，而非乡村环境。

莱维特：既然中国人的梦想独具特色，您认为中国会出现人口流动的新时代么？

卡尔索普：是的，我认为会这样。我在中国各地推介这些观点和计划时，所有人都立即表示赞同，这让人很着迷。他们确实感到缺少街巷生活和地方社区是很大的损失。当人们了解到城市形态要么促进、要么损害发展潜力时，他们就会说“天呐，我们就这么办吧”。

重庆就是一个显著的案例：当我们阐明利弊得失之后，市长让我们彻底修改他们已经在建的计划。同样的开发和同样的投入可以产生两种完全不同的环境。毫无疑问，他们似乎更愿意采用能够让人性化和街道活力回归社区的计划。

同样，我认为在大城市空气质量和交通拥挤的影响下，中国人似乎感到必须采取截然不同的行动。他们已经陷入僵局，确实有必要重新思考，他们明白这一点。对他们来说，既能解决交通问题，又能重新建立更有生机的社区，是好事。

汤姆·莱维特，中外对话伦敦办公室执行编辑

Chinese cities feel loss of streetlife and community

Badly planned urban sprawl is cutting up traditional Chinese communities, which want better-connected cities and not the American suburban dream, says US architect Peter Calthorpe

Tom Levitt

Calthorpe Associates have projects in Kunming and Chongqing and jointly published, "Planning cities for people" a set of design principles for Chinese cities.

Tom Levitt (TL): In the US, the car was once seen as a saviour of urban transportation. Would you now say it is more likely to be the enemy, particularly in terms of more sustainable development?

Peter Calthorpe (PC): Well I think everything is fine until it is used too much. In the US, 85% of all trips are in cars – it's too much. It has a huge economic burden, the middle class can't afford to pay their mortgage. To own and operate a car in the US today costs more than US$5,000 per year. If you have a two or three-car household, it's a bigger chunk of the household budget.

So there are big economic costs and then big environmental costs, which is obvious in terms of air quality and climate change, imported energy and all sorts of other things. But then there is also a social cost, which is the degree to which it seems to isolate people. You end up in communities where people have less and less interaction. And you can see that happening in China, where they are building these super blocks, which isolate people in very high density and in America's case very low density. In both cases the isolation means you have to get into a car to get anywhere.

It used to be in Chinese cities that people could walk or bike, use buses; and they still do to a very high extent because many can't afford it. But as car ownership grows, the congestion levels are getting to be unsustainable.

You cannot build a high-density city and run it on cars – it is just physically impossible. We have a hard time making it work for low-density cities and we still have congestion anyway. So the path of China, focusing on circulation system of cars is really not going to succeed on the long run.

TL: Do you think this is understood and accepted within China?

PC: There is a real push and pull on the whole thing. On the other hand they know that they cannot dump more cars on the streets. In Beijing, they have gone to annual quotas to limit the number of cars that can be sold in the city each year because they know that they cannot build enough roads to handle it all.

They have to shift back to transit and walking. And

The Chinese have a strong tradition of street life

that makes for a healthier community and quite frankly a healthier population. But there is this counter force, which is the desire to have an auto industry and also this notion that somehow automobiles and being middle-class is synonymous.

TL: Has the speed of development in China now locked them into the car economy and made it more difficult to fix or switch?

PC: I think the problem, and because I'm an urban designer I tend to see things this way, is the way they are shaping their cities. You can have cities that work fairly well for cars but are also really great places to walk, bike and use a transit system. It is about creating a balance that is healthy.

I don't think we're going to get no cars but it's the quantity of cars, and the quantity of car usage that has to be mitigated. And if you build mixed-use environments with human scale streets, all of a sudden, you can get environments where people are just as comfortable walking, biking or using transit as they are in getting in their cars. They have a real choice.

Somehow China got off on to this thing of replicating Chang'an, which is the grand boulevard that runs east-west through Beijing, 8 to 10 lanes wide. Why? Because it is a great grand place for military parades but it's death defying for a pedestrian to get across. And ironically, even though it has all those lanes it doesn't move automobiles very effectively. What we have discovered is that a fine grain of lots of parallel small streets always works better than a few large streets. You add a more intelligent street network and put that together with mixed-use environments, where people don't have to go great distances for their daily needs and you create a healthier city.

TL: Do you think there is anything China can learn from other countries?

PC: Yes, I think it is now really easy to document that the most valuable real estate on the planet is "walkable urbanism" – great city centres that are very convivial to walk in and are very high density. We seem to think in the US that the high-value real estate is always in the suburbs, but on a per square foot basis people will spend more money to have a house in San Francisco where it is mixed use and is walkable than they will spend in a gated community out in the suburbs. In many cases it is almost 2:1.

So the marketplace already values great urban environments. They have to be great, they can't just be slabs of apartments, isolated from any kind of street life, local community and civic destinations. It is a complex matter, it is not just about density but, about the quality of city life.

TL: How much of this experience is transferable to china?

PC: I think a lot of it is, not because it's transferable but because it is apparent. Before this latest round of super block construction, the historic city tradition was very much about walking and biking, local community services, mixed use small shops always along the way everywhere and very human scale community-gathering places. It's only in the last 10 years they have embarked on this massive growth programme.

Prior to the revolution, China was influenced in its urban design by Europeans and they built great urban centers. Shanghai, for example, is exactly like Manhattan – they are great places to live and walk. Then, after the revolution, came the soviet model in which your whole life existed in one super block. So the factories, the schools, the housing, the parks, the clinic was within this one block and you kind of lived in this commune, as it were. And that established an urban form that was quite foreign to the history of cities in China.

What was fascinating about that stage is that it was very mixed use. People didn't have to, well they didn't own cars, but they didn't need them because everything was at their doorstep. They kept on with these super blocks, but instead of mixed use within the super block they had single uses. So you have a whole super block as an office building or slabs of residential or industrial buildings that were all separated and then they became more and more separated, which led to greater and greater commute lengths. And that's the situation they are in now. High-density isolated super blocks, generating travel needs that are unsustainable even by transit.

When you look at the central business district in

"Before this latest round of super block construction, the historic city tradition was very much about walking and biking, local community services."

Beijing, they put so many jobs in one place that even with three or four subway lines, those are overloaded because everyone is going in the same direction at the same time. A much healthier pattern, of course, would be to decentralise jobs along the transit systems so that the travel is in all directions.

TL: What do you think can be done in existing cities, can they be re-engineered?

PC: Everything they rebuild, can and should be mixed use, so that local destinations are close at hand. Everything they rebuild in the cities should be served by new subway lines which, given their capital investments isn't difficult.

One of the biggest battles that we have is against their impulse to create these big commercial centres over and over again. It looks good politically, looks like they are growing the economy etc but, the more you concentrate jobs in a few major centres, the more transportation problems you have.

They need to get a good jobs-housing balance as they re-develop a city. Redistribute the jobs or build the new jobs in more human-scale clusters and surrounded by housing, so that in every sub-regional part of the city you have good healthy jobs-housing balance and people aren't travelling from one end of the city to another to get to work.

TL: What kind of lifestyle do people aspire to in China?

PC: People's dreams and lives are complex. In different phases of life you have different dreams. When you are young, single or just starting out you love the idea of being in a city. As you get older and get kids you are really concerned with safe communities, walkable places and good schools. And as you are older you also don't want to be isolated.

I think the dream changes over the life-cycle, so that's one thing to keep in mind. The second is there are great urban forms that satisfy all those. In other words, family life is where everybody thinks you have to go to the suburbs. But you can have great parks, schools and communities in cities in a way that can become much more desirable than being isolated in the suburbs.

I don't think that just picking the American dream and transferring it to China is appropriate or is even going to work. The Chinese have a much stronger tradition of street life, they love to spend time on the street. There are lots of spontaneous performances and people playing games in cafes. The tradition of street life is a very important component of well-being in China. I think that gives them a natural bias towards good urban environments as opposed to suburban environments.

TL: Given that it has its own unique characteristics, do you think a new era of mobility could emerge in China?

PC: Yes, I do. It's fascinating when I go and present these ideas and these plans around China, everybody seems to immediately agree. They do feel that a loss of street life and local community is a big loss. Once people understand that urban form either contributes or damages those possibilities, they say: "oh my god, lets do this".

For example, in Chongqing the mayor asked us to completely change the plan that they had under construction. And that was a manifestation of how obvious it is when you explain what the trade offs really are. The same amount of development and the same amount of investment can produce two profoundly different physical environments. There is no question that they always seem to prefer the one that re-engages human scale and street vitality.

Also, I think with the air quality impacts and congestion levels in the big cities, they seem to understand that they have to do something dramatically different. They are already at gridlock. So they really have to re-think and they understand that. For them it is good news that at the same time that you solve the traffic problem you also re-establish communities.

Tom Levitt is managing editor in chinadialogue's London office

城市之光

-REIMAGINING THE CITY-

城市发展必须牺牲环境吗?

中国不应该盲目地把城镇化作为一个刺激经济增长的办法来强调，而是应该问一问“能增长多久”、“增长让谁受益”以及“增长的目的何在”这些问题。

薛 瑾

2012年，中国的城市人口占总人口的比例突破50%大关。2013年早些时候，李克强总理指出：进一步城镇化是中国未来经济增长的巨大引擎。这个论断强调的经济战略是：通过城镇化来拉动消费和基础设施投资。关于这一论断是否正确的讨论还在继续，但人们却很少关注迅速城镇化的环境后果。

所谓城市，就是由能够容纳广泛的社会和经济活动的建筑和基础设施构成的建成环境。城市化很难避免这些构成要素的大量增长，因此城市扩展也就与材料和能源消耗、污染物排放（尤其是二氧化碳排放），以及对自然区域和耕地的侵占密不可分。这可能会造成生物多样性的丧失、景观破碎化以及食品生产用地的流失。

过去20年，大多数中国城市都经历了迅速的扩张。上世纪90年代，中国城市用地的面积增加了30%，其中80%占用的都是耕地。根据中国国家统计局的统计，从2000年到2009年全国流失的耕地面积达1000万公顷，换言之，每年减少100万公顷。随着进一步城镇化的发展，可以预见保护农业用地与城市扩展需求之间的矛盾将会加剧。

绿色增长的幻影：杭州的案例

中国解决环境问题的战略是符合生态现代化理论的，将避免经济发展中的负面环境影响作为一个关键因素。浙江省会杭州是一个环境声望颇佳的城市。自上世纪90年代以来，杭州的经济增长和城镇化都非常迅速，其城镇住房存量从1991年的2580万平方米猛增到2008年的1.073亿平方米，2008年的人均住房使用面积是1991年的两倍多。提高土地利用效率是杭州各级规划工作以及土地利用和城市发展相关政策的一项重要的长期努力。自从进入21世纪以来，该市关于住宅建筑节能的法规不断收紧。但是，如此迅速的住房存量增长在多大程度上能够避免负面环境影响呢？

一项研究表明，杭州住房存量增长与住宅能源消耗只是稍稍脱钩，城市经济增长与土地消费也是一样。这意味着城市扩展带来的住宅能源消耗和土地消费的绝对值都有所增加。杭州市的建成区面积从1991年的327平方公里增加到2008年

> 未来的增长不能再是单一的经济增长，而是必须进行仔细地评估。只有当它对社会公平、教育和医疗改善、社会稳定和人类发展的其他方面都有利的时候，这个增长才可以被接受。

的868平方公里。与此同时，2008年的住宅能源消耗量也增加到1991年的两倍多。生态效率技术和政策带来的环境收益被住房存量的体量增长所抵消。

可再生能源被当作一个满足不断增长的住宅能源需求的解决之道。目前，无论在杭州还是整个中国，可再生能源还都只占建筑所需能源的一小部分。可能还没等到太阳能等可再生能源在社会上广泛应用，化石燃料就已经耗尽了。可以说，这给能源消耗的持续增长设置了一个上限。

此外，可再生能源发展还要求进行相关的设备生产和基础设施建设。可再生能源和其他能效技术应用引发的“回弹效应”，可能会导致家庭消耗的居住空间和能源反而比不使用它们的时候更大。

尽管中国城市的平均土地利用效率比美欧城市都要高，但杭州的土地利用效率从90年代以来一直在下降。面对着不断增长的住房存量的挑战，当密集化的机会都用光时，无论土地利用的效率有多高，都不可避免地要把未开发的土地用来容纳建筑的增长。

“去增长”在中国有明天吗?

去增长范式的出发点就是认为人类的经济增长不能超过生态系统的“承载能力”。尽管去增长范式建议减少经济总量，但不能把它理解为一个仅在数量上与“增长”对称的概念。人类发展的目标是对福利、生态可持续性和社会公平的追求，GDP的相关变化是次要的。

中国面临着一个巨大的挑战，即要通过建设更多的建筑和基础设施来提高不断增长的城镇人口的生活水平。因此，我们很容易得出结论说中国仍然有发展的道德权利。但是，支持这个不断增长的需求的有限自然资源给它设置了上限。中国不应该盲目地把城镇化作为一个刺激经济增长的办法来强调，而是应该问一问“能增长多久”、“增长让谁受益”以及“增长的目的何在”这些问题。

过去20年，大多数中国城市都经历了迅速的扩张。图为杭州雾霾天。

首先，必须明白中国的经济增长不可能永远持续。如果按照目前的增长速度发展下去，中国在几十年内就会达到经合组织国家（OECD）的消费水平。但有限的自然资源无法支撑这样一个全球性的富裕水准。

其次，中国最富裕的地区将比其他地方更快达到OECD国家的经济水平。如果要把中国的资源消耗总量控制在一个生态可持续限度以下，增长的优先权应该赋予中国内陆的贫困地区和低收入人群。中国各地的富裕水平差距要求实施不同的区域发展战略。中国需要协调的发展战略，即在富裕城市和地区追求经济去增长，同时挖掘中西部的增长潜力。

在中国的语境下，富裕城市的去增长指的是“选择性去增长”与“选择性改善”的综合体。前者包括人口规模、城市扩张、高速交通基础设施、汽车及住房消费以及其他物质方面的去增长。而选择性去增长应该可以说与城市中贫困人群的社会服务和福利的选择性改善是相伴随的。后者包括能够负担的住房、医疗、教育机会和公共交通。

再次，未来的增长不能再是单一的经济增长，而是必须进行仔细地评估。只有当它对社会公平、教育和医疗改善、社会稳定和人类发展的其他方面都有利的时候，这个增长才可以被接受。

薛瑾，丹麦奥尔堡大学城市规划系助理教授，著有《经济增长和可持续的住房：不稳定的关系》一书

Does city growth have to sacrifice the environment?

Instead of blindly emphasising urbanisation as a way to stimulate economic growth, questions like "growth for how long" should be asked

Xue Jin

In 2012, the urban proportion of China's population passed the 50% mark. Earlier this year, Premier Li Keqiang urged deeper urbanisation as an engine of China's future economic growth. The assumption underlying this economic strategy is that urbanisation will increase the level of consumption and investment in infrastructure. While debate continues on whether this assumption is valid, less attention has been given to the environmental consequences of rapid urbanisation.

Urban growth is closely associated with increasing consumption of materials and energy, emissions of pollutants (not least CO2 emissions), encroachments on natural areas and agricultural land which may result in loss of biodiversity, landscape fragmentation and loss of land for food production. Over the past two decades, most Chinese cities have experienced rapid expansion. In the 1990s the amount of urban land in China increased by 30%, 80% of which was converted from farmland. According to the National Bureau of Statistics of China, nearly 10 million hectares of farmland was lost between 2000 and 2009. With further urbanisation, the tension between preserving land for agriculture and land demands for urban growth will increase.

The illusion of green growth

China's strategy to tackle its environmental problems is in line with ecological modernisation theory, where decoupling of economic growth from negative environmental impacts is a key element. Hangzhou, capital of Zhejiang province, is a city that has had a good environmental reputation. Since the 1990s, Hangzhou has experienced rapid economic growth and urbanisation. Its urban housing stock increased considerably from 25.8 million m2 to 107.3 million m2 between 1991-2008.

Increasing land use efficiency has been an important long-term goal at different levels of planning in Hangzhou, while regulations of energy conservation for residential buildings have been consecutively tightened since the 2000s. But to what extent has such a rapid growth in the housing stock impacted on the environment?

In Hangzhou, housing stock growth has only been weakly decoupled from residential energy consumption; urban economic growth has also been weakly decoupled from land consumption. This implies that absolute residential energy consumption and land consumption for urban expansion have increased. Between 1991-2008 built-up areas grew from 327 km2 to 868 km2. Residential energy consumption in 2008 was more than twice that of 1991. Environmental gains from eco-efficiency technologies and policies have been offset by growth in the volume of housing stock.

> "Degrowth in rich cities in the Chinese context refers to a combination of "selective degrowth"and "selective improvement".

Although renewables have been proposed as a solution to meeting growing residential energy demand, at present they provide only a small proportion of energy needed for building operations in Hangzhou (and nationwide). The time it will take for a new technology, e.g. solar energy, to be widely applied in society may exceed the time horizon within which we will encounter the limit of fossil fuel usage. Arguably, this places a cap on continual growth in energy consumption.

Furthermore, the development of renewables entails the production of related equipment and infrastructure. The "rebound effect" caused by the application of renewables and other energy effciency technologies, may induce households to consume more floor space and energy than would otherwise be the case.

Even though Chinese cities on average have a higher land utilisation efficiency than US and European cities, land use efficiency in Hangzhou has decreased since the 1990s. In the face of the challenge of a growing housing stock, when the opportunities for densification are used up, it is impossible to avoid converting undeveloped land to accommodate building growth, no matter how effciently the land is used.

Is degrowth relevant to China?

The departure point of the degrowth paradigm is the belief that human economic growth cannot exceed the "carrying capacity" of its ecosystem. The theory of degrowth recommends a reduction in the overall economy but it is more than simply a challenge to the idea of growth. The goal of human development is the pursuit of well-being, ecological sustainability, and social equity; what happens to GDP is of secondary importance.

China faces the huge challenge of improving the living standard of a growing urban population through increased construction of buildings and infrastructure. So it could be argued that China still has a moral right to develop. But instead of blindly emphasisng urbanisation as a way to stimulate economic growth, questions like "growth for how long", "growth for whom", and "growth for what" should be asked. There are also three key points to keep in mind.

Firstly, economic growth in China cannot last forever. Chinese consumption levels will reach those of OECD countries within a couple of decades if present growth rates continue. The limited natural resources may not support such a global affluence level.

Secondly, the richest parts of China will reach OECD levels much sooner than the rest. If China's total resource consumption is to be kept below an ecologically sustainable limit, priority for growth should be channeled to poor regions in inland China and low-income population groups. The gaps in affluence level across the country require differentiated regional development strategies. What's needed are coordinated development strategies which pursue economic degrowth in the wealthy cities and regions and fuel the growth potential in central and western China .

Degrowth in rich cities in the Chinese context refers to a combination of "selective degrowth" and "selective improvement". The former could include degrowth in the size of the population, urban sprawl, high-speed transport infrastructure, consumption of cars and dwelling, and other material items. The selective degrowth should arguably accompany selective improvement of social services and welfare for the deprived within the city, including affordable housing, medical care, education opportunities and mass transit.

Thirdly, instead of a single-minded commitment to economic growth, future growth should be carefully assessed, and only accepted to the extent that it is beneficial to social equity, improvement in education and health care, social stability, and other dimensions of human development.

Xue Jin is assistant professor in urban planning in Aalborg University, Denmark and author of Economic Growth and Sustainable Housing: An Uneasy Relationship

智能手机能否助中国解决道路拥堵?

一篇新报告指出，通过智能手机实现的交通信息分享，能够为中国城市减排减压。

诺林·卡比尔
凯西·维斯顿

中国城市超常的增长已经为世人熟知。如今，中国已经有160座城市的居民超过百万，总人口的一半以上居住在城市，这个增长速度是西方城市的两到三倍。

这种空前的人口移动带来了巨大的压力，其中感受最明显的部门之一就是交通。中国汽车数量以每年超过10%的速度增加，因此，城市规划者和交通管理部门必须有创新性的技术才能解决道路拥堵。

尽管北京等城市都已经建立了好几个专门播报最新路况信息的广播电台，但仍然无法防止拥堵的出现，如2010年长达两周的全面大堵塞，2012年中秋节的大堵车等等。因此，中国必须找到新的解决办法。

新城市基金会最近发布的一份报告，对于城市化中国来说尤为意趣深远。通过与技术企业爱立信公司以及加州大学伯克利分校的合作，我们使用智能手机应用程序，将那些每天上下班路线相同的出行者联系在一起，让他们可以相互分享有用的相关信息。

这份报告是在加州圣琼斯市一年试点项目的基础上撰写的，它为全世界的交通部门、地方政府和手机应用程序开发商们提供了一个机会，让它们可以寻找改进通勤者经验的新道路。报告中对Waze 和Roadify等工具的效果进行了检验，这两款智能手机应用程序分别能够让驾驶员和公共交通乘客进行实时信息的分享。

这些智能手机应用程序建立在被动贡献模型上——只要驾驶时在手机上运行这些应用程序，驾驶者就可以被动地提供自己所在地的交通状况信息以帮助其他通勤者规划最佳出行路线。驾驶者们还可以在此基础上补充更加详细的信息。为了他人更有效率的出行和安全驾驶也是通勤者们的责任，比方说在堵车的时候输入交通状况。

> “无论个人还是城市管理部门都能从这些来自专为通勤者设计的智能手机应用程序的信息中受益。”

通勤者：我联通，更快乐

这一研究项目的一个重要发现是，鼓励和使用信息共享能够成为一种高效经济的办法，为通勤者建立一个社区，从而由其自己提供减轻日常出行负担的办法。

无论个体通勤者，还是致力于交通的组织，都能享受上述好处。我们发现，通勤者接受或者分享实时信息的能力可以有效减少与出行相关的压力，并为其提供一种社区的归属感。此外，通过社交应用程序与其他通勤者联通的驾驶员，比那些没有联通的出行愉悦感更强。这是因为他们及时收到的信息，以及与他人分享的信息，能够使其产生一种帮助同行者的满足感。

最后，我们发现，从通勤者应用程序获得的众包数据，对交通部门和手机应用程序开发商来说意义重大。实时信息共享能够成为一种非常有用的工具，确认通勤者们

遇到交通问题的地点和时段。反过来，这也为需要交通管理机构改善管理的路线提供了反馈。

这份报告的发现之所以对于改善中国的城市交通意义重大，是出于文化、人口和技术等方面的众多原因。

首先，智能手机在中国城市中产阶级中的流行，以及中国人对手机应用程序的浓厚兴趣，意味着通勤者很可能会积极参与到联通出行中来。拥有400万参与者的猪八戒网等众包企业在中国已经非常受欢迎。中国对于社会交往以及众包的热情，表明通勤者会乐于与他人分享信息。

其次，和圣琼斯市的通勤者一样，中国通勤者也倾向于独自开车。对圣琼斯实现联通的通勤者的数据分析表明，驾驶员非常看重与其他通勤者分享自身感受（以及有用信息）的能力。同样，中国道路上每天有数量惊人的独自开车上下班的人，他们也能享受到由这些手机应用程序带来的更愉快的出行。

减少中国的道路排放

最后，在城市层面上，联通出行可以为中国千百万人提供必不可少的信息，以便做出更好的出行选择，并且产生积极的环境、社会和经济效应。

研究表明，在通勤者决定出行方式时，人们对不同交通形式的效率的感觉对其影响很大。比如，一个还没有决定出行方式的人，在早上出门前看到其他驾驶员的警告，可能就会放弃开车，选择使用公共交通工具，或者换个时间出门。即使他/她最终仍然决定开车，也会根据上述信息选择不同的路线，从而实现更有效的出行。

使用“众包”信息共享，可以提高通勤者们的出行效率，同时帮助中国两亿汽车减排。

哪怕中国城市人口中很小一部分采取这种方式，就会在减少碳排放方面取得显著成效，实现方式或者是增加公共交通使用，或者是减少交通时间。由于中国正在千方百计减少2亿辆汽车带来的污染，这些潜在环境效果将显得越来越重要。

在武汉和深圳这样高速发展的中国城市，汽车拥有量的快速增长使我们很难评估未来交通模式的变化方向。对不断波动情况的评估和反映需求，已经让很多地方政府做出回应。

比如，武汉已经安装了可以对交通流做出反应的红绿灯，以求将通常由路口带来的流动中断最小化。与此类似，从智能手机应用程序上收集到的数据可以为驾驶员提供更清楚的交通“痛点”情况，比如按照地点、每天的时段、每周的哪天等。管理部门可以利用这些信息来制定通勤者规划，调整管理实现交通最优化，或者激励通勤者以避免路口压力过大。

随着中国城市和基础设施投入的不断增加，由Waze和Roadify这样的应用程序提供的、质量兼备的数据，可帮助管理部门解决那些“痼疾”地区，这些地区不但长期让通勤者头痛，而且变成了污染之源。

互联出行的威力和潜力都是显而易见的：无论个人还是城市管理部门都能从这些来自专为通勤者设计的智能手机应用程序的信息中受益。尽管我们的研究是在加州的圣琼斯市做的，但是考虑到中国城市人群的“技术控”程度，以及中国政府在治理拥堵和污染方面的努力，报告中的这些发现显然尤为适合在中国城市实施。

诺林·卡比尔，新城市基金会城市实验室主任

凯西·维斯顿，新城市基金会城市实验室研究员

How smartphones could clear China's congestion

Crowd-sourced commuting would cut emissions and stress in Chinese cities, says the New Cities Foundation

Naureen Kabir
Casey Weston

Today, 160 Chinese metropolises have over one million inhabitants and more than half the population lives in urban areas, which are growing at two to three times the rate of Western cities.

One sector feeling the weight of this unprecedented demographic shift is transport. In a country where the number of cars grows by more than 10% each year, urban planners and transport authorities need innovative techniques to address road congestion.

Though cities such as Beijing already have several radio stations dedicated to providing traffic updates, they did not manage to prevent the two-week long gridlock in 2010, or the slew of Autumn Holiday traffic jams throughout the country in 2012. China needs alternative approaches.

A recent study by the New Cities Foundation has particularly interesting implications for urban China. Working with technology company Ericsson and the University of California, Berkeley, we used smartphone apps to connect travellers who take the same daily route to and from work, allowing them to share relevant, useful information with each other.

The report, based on a year-long pilot project in San Jose, California, presents an opportunity for transport agencies, local governments and mobile phone app developers around the world to identify new ways to improve the commuter experience. It examined the effects of tools like Waze and Roadify, two innovative smartphone apps that allow drivers and public transit users respectively to share information in real-time.

Such apps are based on a passive contribution model – simply by driving with the app open on your phone, you passively contribute traffic and other road data that helps the system provide other commuters with the optimal route to their destination. There are opportunities to supplement this information with more detailed traffic reports, and it is the responsibility of the commuter not to put others at risk and drive responsibly, by entering traffic information while the car is stopped during a traffic jam, for example.

Connected commuters, happier commuters

A key finding of the project is that encouraging and using crowd-sourced information sharing can be an efficient, cost-effective way to build a community of commuters who themselves provide solutions to the burdens of daily travel.

The benefits extend to both individual commuters

“Though cities such as Beijing already have several radio stations dedicated to providing traffic updates, they did not manage to prevent the two-week long gridlock in 2010, or the slew of Autumn Holiday traffic jams throughout the country in 2012.”

and organisations working on transportation and mobility. We found that commuters' ability to receive or share real-time information with other travellers effectively reduced commute-related stress and provided a sense of community. Moreover, car drivers connected to other commuters via social apps tended to be happier with their commutes than unconnected drivers. This was because of the timely information they received and the information they shared with others, which gave them a sense of satisfaction at helping fellow commuters.

Finally, crowd-sourced data from commuter apps was found to be highly relevant to transport agencies and mobile app developers. Real-time information-sharing can be a useful tool for identifying where commuters are experiencing problems and at what time of day. In turn, this provides feedback on routes that need to be better managed by authorities.

There are cultural, demographic and technological reasons why these insights have the potential to improve urban mobility in China.

First, the popularity of smartphones among the Chinese urban middle class, and a keen appetite for mobile phone apps, means commuters are likely to engage actively in connected commuting. Crowdsourcing enterprises like Zhubajie, which has four million workers signed up (arguably making it the biggest employer in the world) are already very popular in China. China's enthusiasm for social networking and crowdsourcing suggests its commuters will be receptive to sharing information with others.

Second, like commuters in San Jose, Chinese commuters tend to drive alone. As the data analysis of connected commuters in California indicated, drivers valued the ability to share their feelings – and useful information – with fellow commuters. Similarly, the staggering number of lone commuters flooding China's roads each day could benefit from a more enjoyable drive to work enabled by these mobile apps.

Cutting Chinese road emissions

Finally, at the city level, connected commuting could provide millions of Chinese people with the necessary information to make better commuting choices, with positive environmental, social and economic ramifications.

Research shows that people's perception of the efficiency of different kinds of transport influences commuters most when deciding how to travel. For example, an undecided commuter, seeing the warnings of other drivers before leaving the house in the morning, might be encouraged to use public transport instead, or depart at a different time. Even if the commuter ultimately decides to drive to work, he or she may have a more efficient commute thanks to information on alternative routes from other commuters.

If this behaviour is replicated across even a small percentage of China's urban population, it could have significant impacts on reducing carbon emissions, either by boosting use of public transport or cutting time spent in traffic. These potential environmental impacts will assume increased importance as China explores innovative ways to decrease the pollution being emitted by its 200 million automobiles.

In fast-growing Chinese cities like Wuhan and Shenzhen, the rapid rise in car ownership makes it difficult to assess how traffic patterns will change in future. The need to evaluate and react to a fluctuating situation has already elicited a variety of responses from local authorities.

Wuhan, for example, has installed traffic lights that react to the flow of traffic to minimise the disruption typically caused by intersections. Similarly, data gathered from smartphone apps could provide more clarity on pain points for drivers – by location, time of day, or day of week, for instance. The authorities could then use this information to develop commuter programmes, adjust regulations to optimise traffic or incentivise commuters to avoid overloaded junctions.

As Chinese cities and infrastructure investments grow, the mix of qualitative and quantitative data generated by apps like Waze or Roadify could help authorities address areas that consistently cause stress for commuters and are a major source of pollution.

The power and potential of connected commuting is evident: both individuals and city authorities can benefit from the information generated by smartphone apps designed for commuters. Although our study was conducted in San Jose, California, the tech-savviness of the Chinese urban population, combined with government efforts to cut both congestion and carbon emissions, make Chinese cities particularly well placed to apply its findings.

Naureen Kabir is director of the Urban (co)LAB at the New Cities Foundation

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北京顺风车

一项由民间发起的私家车拼车分享活动，正在为北京市政府缓解交通和空气污染难题，提供样本。

谢良兵

2013年6月17日开始，王永每天一大早就要来到北京市北郊的大规模居住区回龙观，了解顺风车试点情况。他是顺风车公益活动发起人之一。

这一名为“三人一辆车，代付高速费”的回龙观民间活动，被认为是北京市小客车合乘政策出台前的试点。“活动原本计划到7月16日结束，因为效果不错，被允许延到9月16日。”王永在接受采访时说。

试点在结束之后将形成调研报告，作为北京市预计年内出台的《小客车合乘指导意见》的重要参考之一。根据《法制晚报》报道，《意见》或将涉及鼓励支持公益性合乘、分摊合乘费用等相关内容。

“研究制定小客车合乘指导意见”是《北京市交通排堵保畅第十阶段（2013年）工作方案》中的一项重要工作。北京市交通委员会法规处副处长闫林海希望，回龙观民间试点能为政府相关政策的制订，提供可参考的研究思路和方案。

“顺风车”的苦恼

王永的顺风车之旅始于1998年的一个雨夜。那天他开车途中看见一位老太太，冒雨前行被溅了一身污水，决定送老太太回家。送到之后，老太太和家人的感激让王永内心温暖。

这也触动了他儿时的记忆。小时候，村里开汽车的那个人人缘极好，人们常常坐着他的车进城，在王永眼中，这个人是最受尊敬的人。顺风车网站的口号就是“分享带来温暖”，王永从此开始了他的顺风车行程。

一切并不顺利。他从回龙观上班进城，总会将车停在公交车站，摇下车窗问：“有去双安、马甸的吗？免费捎一段。”

等车的人们对王永的行为满是狐疑、冷漠甚至是白眼。但他很执着，有时候行人往前走，他还开着车追着，不停地劝说：上来吧，上来吧。

王永为自己经常“拉不到人”而感到郁闷，在2000年，他打电话给一家报社的读者热线大吐做顺风车的苦水。

随着媒体的报道，王永“剃着光头、开着奔驰车顺风载人”的好人形象被树立起来。他坚持至今，一直都是当个人志愿行为来做，并未想过上升到一个群体性的公益活动。“（人多了）无法控制风险。”王永说。

这种风险除了“陌生人社会”的不信任，还有制度对顺风车的不认可，比如出了事故怎么办；此外，顺风车车主如果和乘客分摊成本，很容易被相关部门质疑为“非法营运”。

随着北京交通越来越拥堵、雾霾天不断增多，政府开始探讨各种政策的可能性，其中就包括顺风车的合法化。1998年，王永做顺风车的时候，北京市机动车拥有量刚刚超过100万辆。但截至2013年6月26日，北京市机动车保有量已突破532.9万辆。

调控机动车的使用成为北京治堵的一项重要举措。顺风车公益基金管委会工作人员和志愿者最近在北京周边高速公路两个收费处所做的调查显示，通过收费闸口的私家车里，超八成只有司机1人。机动车的乘坐率过低，被认为是堵车和雾霾的重要原因。王永算过一笔账：以北京500万辆车为例，按最低10%的拼车比例计算，除去平均每天尾

号限行的100万辆车，每天可减少40万辆车出行，北京每年将少消耗新鲜空气约250多万吨，减排一氧化碳约3万吨。

简单和方便的切入点

这让王永对顺风车常态化充满信心。2009年、2010年连续两年，王永找相关政府部门沟通，但均未能奏效。政府的担心在于，没有看到成功的范本。

2011年，王永和免费午餐发起人邓飞等人联合发起了“春节回家顺风车活动”。北京岳成律师事务所解决了行程中可能发生的纠纷疑虑；而阳光保险为顺风车出现事故解决了后顾之忧。“春节回家顺风车”持续一个月，参与的微博网友超过1.8万人，500余位车主帮助约1000多乘客免费回家过年或返城工作。不过，当时的唯一平台是微博，配对比较麻烦。在第二年，扩展为4个平台：微博、顺风车网站、手机APP以及短信平台。

到2013年春节，通过短信、微博、微信、网站参与活动总人数达402,429人，配对成功共9678人。

这些样本让王永有了和政府继续沟通的底气，不久机会就来了。2012年9月，在一次活动的欢迎晚宴上，作为“北京青年榜样”的王永，终于与参会的时任北京市代市长的王安顺，就顺风车情况进行了交流。王当即表示支持顺风车，可以在北京的有关地区进行试点，还要求王永将顺风车的有关资料和如何借助顺风车缓解北京交通拥堵等方案整理好，进行专题汇报。

2013年5月4日，作为北京市“五四青年奖章”获得者，王永参加了市领导与优秀青年座谈会。他再一次着重提到了他的顺风车计划。5月6日下午，王永被叫到一位主管市领导的办公室谈顺风车事宜。他提出4个建议：减免高速费、免于尾号限行、共享公交专用道、减免车船税，这位领导认为涉及部门和利益较多、操作起来会很复杂。他希望王永能找到最简单和方便的切入点。

一周后，王永向北京市委市政府递交报告，请求在回龙观进行顺风车“三人一辆车，代付高速费”的试点。5月底得到批复，并指定由团市委给予支持。北京市团委也决定，将顺风车作为北京青年弘扬正能量的典范。

以高速费为切入口

至此，王永原本以为整个事情会很顺利，但操作起来才发现并不容易。顺风车涉及发改委、国资委、交通委等多个部门及两位主管市级领导，“太复杂。一年半载可能都谈不下来。”王永说。

为了能迅速进行试点，王永的团队想到了“代付”高速费的方式，即从高速路特定入口驶入且载有3人及以上、贴有顺风车车贴的私家车，均由顺风车公益基金代为支付高速通行费用。

尽管由自己出钱，但试点还是需要与多个部门进行沟通，其中涉及的问题有高速通行券的发放地点、专用通道的设立、顺风车广告牌的设置、交警值班点的设置等。

这让王永学会了如何与政府部门打交道，也让他了解了政府部门为民办事的真心。“各个部门都很重视，经常召开协调会，而且还在我们公司开过协调会。政府的人来我们这样的公司开协调会是很少见的。”王永说。

6月17日，“三人一辆车，代付高速费”正式启动。回龙观进京方向的道路两旁竖起了10处广告牌，志愿者们在领取处发放粉色的高速通行券。不过，从早上7点到9点，准备的300张通行券只发出92张。

近一个月过去后，情况明显好转，越来越多的人参与到这项活动中来。为了鼓励私家车车主参与活动，搭乘2人以上的顺风车也获得通行券。很多车主搭不来人，王永的团队还主动为他们寻找“客源”。

7月9日，顺风车活动发动社区大妈进入社区宣传。王永在每一次的社交场合中，也都不忘拉人入会，比如在被抄牌的协调过程中，他就成功说服一位城管副队长和一位副镇长加入顺风车车主的行列。

原北京市交管局副局长、长安大学教授段里仁说：在中国，拼车更多的是一种自发的民间行为，因此政策和管理需要跟上。而闫林海表示，能否推广顺风车，还需要拿数据来说话。王永希望自己的试点能提供这些。

谢良兵，《经济观察报》记者

原文载于《经济观察报》，2013年7月25日

Citizen-led carpooling takes on Beijing's traffic

Wang Yong has given over 10,000 free rides to strangers, and is now involved in a major pilot in the capital trying to get Beijingers to carpool

Xie Liangbing

While driving in Hunan one rainy night in 1998, Wang Yong passed an old woman who was slogging along the side of the road, getting splashed by passing cars. He pulled over and offered her a ride; he still remembers the warm feeling he got when the old lady and her family expressed their appreciation when he took her home.

Wang, who now lives in Beijing, says that warm feeling rekindled the childhood memory of a man in his village who would always give other villagers a lift into town. Remembering how the man was so highly revered, Wang was inspired to continue offering free rides under his slogan "Sharing Brings Warmth". It was an idea that would spin into something much bigger than he expected.

A three-month pilot carpooling scheme is underway in Beijing

In the beginning, Wang's idea wasn't warmly received. Whenever he drove past the bus station near his home, or on his way to work in the city, he'd simply roll down the window and shout out offers of a free ride to waiting passengers. People responded with indifference, suspicion and even hostility. It was rare that anyone actually got in his car.

Wang was so upset by people's rejection of his generous offer that in 2000 he phoned a newspaper's hotline. He soon became known as the kind-hearted bald man offering free rides in his Mercedes. Since that rainy night in 1998, Wang estimates he has given rides to more than 10,000 people.

He later thought about trying to get more drivers involved, but worried that this would be risky. In addition to the question of trust, there were no policies or rules to regulate this type of service. He was also concerned that the government would consider it illegal if it turned into a carpool with passengers sharing costs with drivers.

But as traffic congestion and air pollution worsened in Beijing, the need for a solution also become urgent. According to a recent study by Wang's Shunfengche Public Benefit Foundation, at two expressway tollgates, 80% of the private vehicles that passed through had no passengers.

Wang explained that there are currently five million vehicles in Beijing, of which one million are taken off the road each day under the city's license plate scheme. If just 10% of the remaining four million took up carpooling, that would reduce traffic by an additional 400,000 cars every

day. This would result in a roughly 30,000 ton reduction in carbon emissions in the city.

Branching out

But when Wang approached the authorities, first in 2009, then again the following year, there was no interest in his schemes, perhaps because of the lack of a precedent in China.

Undaunted, Wang teamed up with the organisers of the popular "free lunch" campaign to organise the Shunfengche carpooling campaign on Weibo during the Chinese New Year holiday travel rush in 2011. The scheme attracted sponsorship from a law firm and an insurance company. The law firm offered legal services for potential disputes during the campaign and the insurance company helped address insurance coverage issues.

During the one month campaign, 18,000 people got involved on Weibo and more than 1,000 passengers were matched with approximately 500 drivers. The following year, the service moved beyond Weibo to the Shunfengche campaign website, as well as to smartphone apps and SMS messaging systems. During the 2013 New Year holiday, 402,429 people got involved through the four platforms and as many as 9,678 people eventually participated in carpooling.

Wang's work led to him being given the "Beijing Youth Role Model" award in September 2012. This gave him the opportunity to meet Beijing's mayor and make a pitch for a larger scheme, which he went on to present to government officials.

Wang suggested that carpoolers should be exempt from tolls, certain taxes and the license plate scheme, as well as being allowed to use the bus lane. Given that the actual implementation of this proposal would involve too many different government departments and interest groups, he was advised to revise it and draw up a simpler solution.

In May this year, a formal report that elaborated on his carpool campaign was submitted to the Beijing Municipal Government. A week later, Wang was given permission to start a pilot scheme in the Huilongguan area.

Making progress

Although the city government approved the scheme, Wang soon realised that it would involve numerous formalities that would take years to negotiate. To get the campaign up and running sooner, Wang and his team decided to employ the funds from the Shunfengche Public Benefit Foundation to cover the express toll payment for carpoolers. Any private car that displays a special Shunfengche sticker and carries at least three people when entering the Beijing-Tibet Expressway through either the Huilongguan or the Xicanqi entrance will be exempt from the toll.

Other issues need to be addressed, such as locations for issuing toll exemption passes, designated carpool lanes, advertising and setting up traffic police patrols. But Wang says he's now become more skilled at dealing with officials and feels his efforts are being taken seriously.

Since the three-month campaign officially started on June 17, 10 billboards have been put up along the route to Huilongguan, while several volunteers have been stationed in various locations to hand out toll exemption passes.

Wang hopes that the data drawn from this pilot scheme will help expand the carpooling campaign throughout the city and make a convincing argument for the introduction of an official carpooling policy from the Beijing municipal government. He believes this will happen before the end of the year.

Xie Liangbing is a reporter at The Economic Observer, where this article was first published

城市“轨道化”能解决拥堵问题吗?

发展城轨有助于缓解交通拥堵现象，但城轨的建设需要更好的环评和监督。

叶静宇

2013年9月13日下午，一场特大雷暴雨突袭上海，短短数小时内，60多条马路被淹。浦东陆家嘴的情况最为严重，数以万计的人们滞留在黄浦江两岸——地面交通几近瘫痪，连接浦东、浦西最重要的地铁2号线也因雨水倒灌出现故障。许多人直到午夜才得以过江，一些不堪等待的则住进了附近的旅馆。

这一刻，人们突然意识到，地铁、轻轨等城市轨道交通系统已经成为他们生活中不可或缺的一部分。难以想像，在有着2000多万人口的上海，倘若没有了城轨，城市将变成怎样。

从1965年中国第一条地铁在北京始建至今，中国大陆共有16座城市开通了城轨，运营总长度约2037公里。按照已经获得国家发改委批准规划的城市来算，到2015年，中国还将有20座城市加入城轨化行列，新增运营里程近1000公里。

城市的规划者们热衷于修建城轨有很多原因，其中之一是由于地面交通越发拥挤不堪。以上海为例，上世纪90年代初，上海开始修建第一条地铁，其时，上海的常住

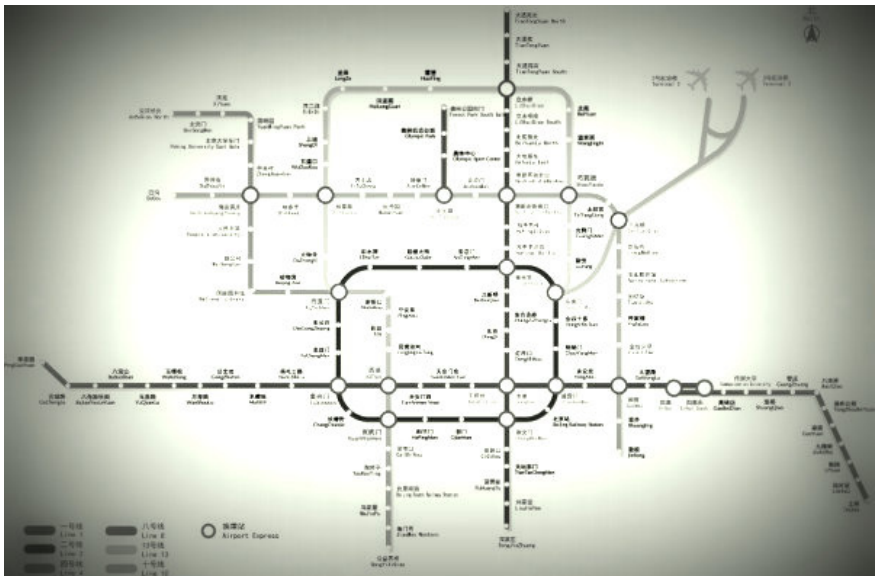
到2015年，中国还将有20座城市加入城轨化行列，新增运营里程近1000公里。

人口约为1300万，汽车保有量为20万辆左右。随着改革开放，上海成为中国的经济中心，至2013年，上海常住人口达到近2400万，汽车保有量约为280万辆。上海交通部门在今年初曾估计，中心城区浦西的快速路在高峰时段的车速将低于36公里/小时。由此导致尾气排放过多，进而引发多省市严重空气污染也就不足以为奇了。

发展城轨是其中一个解决办法。北京交通大学城市轨道交通系主任毛保华指出，虽然建地铁不赚钱，但是从解决交通拥挤，减少污染角度看，建地铁也是必要的。

事实上，城市轨交因其运量大、速度快、安全、准点、保护环境、节约能源和用地等特点，已被世界各国普遍认为是解决城市的交通问题的根本出路。

不过，城轨对地质构造有一定的要求，且在城轨运营之后也会对已有的居住环境造成振动、噪音甚至辐射污染。2008年，上海研究磁悬浮扩线，在环境影响评测通过的情况下，因部分上海市民质疑该环评报告的公信力，最终致使项目冻结；2010年3月，因北京地铁5号线的噪音问题，部分沿线居民在申请第三方的环评报告后，将地铁运营方告上法庭。



北京地铁路线图

根据中国的法律，所有拟建设城市轨道交通项目的城市，有两项强制性的环评程序要走：第一是制订城市轨道交通线网规划和城市轨道交通近期建设规划；第二是同步开展项目环评与工程可行性研究报告编制。报告主要进行环境影响预测分析，并提出具体的减缓环境影响的措施，如声屏障措施、轨道减振措施、施工期环保措施等，建设方必须有相应的环评批文才能开工建设。

在早些年的建设时期，环保部门在城轨项目的推进中处于弱势地位，许多建设方在拿到最终的环评之前，就迫不及待地开工建设。

直到2011年5月，环保部才首次针对无锡地铁叫停这种“先上车、后买票”的做法。事实上，大多数与城轨相关的的环境冲突，都与环评程序把关不力有很大关系。对于城轨的运营方来说，规划和建设期间留下的环境问题，最终也会在运营时显现出来，结果仍是由运营方承担。

叶静宇，《经济观察报》记者

Are urban rail projects a solution to congestion?

Urban rail projects can ease the growing congestion of China's roads, but better environmental oversight is needed

Ye Jingyu

A huge thunderstorm struck Shanghai on September 13, this year. Within hours sixty roads were flooded. Lujiazui in Pudong was worst affected, with tens of thousands of people unable to cross the Huangpu River. Roads were paralysed, and the No. 2 subway line, which links the two sides of the river, was suspended due to water entry. Many had to wait until late that night to get home, with some opting to stay in hotels. Suddenly everyone realised how reliant they were on underground and light rail.

Construction started on China's first subway in Beijing in 1965. Now sixteen mainland cities have urban rail systems, with a total length of 2,037 kilometres. Plans approved by the National Development and Reform Commission will see a further 1,000 kilometres of urban rail networks built in another 20 cities.

City planners are turning to urban rail for many reasons, one of which is that roads are becoming unbearably congested. When Shanghai started building its first subway line, in the early 1990s, the city had a permanent population of 13 million and about 200,000 cars. As the city became an economic powerhouse the population reached almost 24 million, with 2.8 million cars. Early this year Shanghai's transportation authorities estimated that the average speed of cars on city-centre expressways at rush hour had dropped to 36 km/h. Unsurprisingly, these high levels of exhaust fumes leads to severe air pollution in many cities.

Urban rail is a part of the solution. Mao Baohua, Dean of the School of Traffic and Transportation at Beijing Jiaotong University points out that although subway systems don't make a profit, they are needed to relieve congestion and cut pollution.

Globally, rail systems are the backbone of urban transportation – they provide fast, high-capacity, safe and punctual transportation, with good environmental performance and energy-efficiency.

However, there are downsides, for example vibrations that affect existing homes, as well as noise and electromagnetic pollution. Environmental problems with many urban rail projects can be traced back to weak environmental assessment procedures. In 2008 some Shanghai residents' scepticism about the environmental impact assessment carried out for a proposed maglev (magnetic levitation train) line led to plans being frozen.

Chinese law specifies two compulsory environmental assessment processes for any proposed urban rail projects. The first is the completion of a plan for the urban rail network and also for near-term construction. The second is the compilation of both environmental impact assessment and project feasibility studies, in which the environmental impact is predicted and analysed, and the presentation of measures to mitigate this – such as noise baffles, cushioning to prevent vibrations, environmental-protection measures to be taken during construction, etc. Construction can only start once an environmental impact assessment has been approved.

In the past the environmental authorities have not had much say – many project operators would not wait for approvals before going ahead. Rail operators have often found themselves having to deal with engineering and environmental problems caused by errors during the planning and construction phases.

Officials have attempted to crackdown on these problems. In May 2011, the Ministry of Environmental Protection temporarily called a halt to a subway project in Wuxi because it had started without its permission.

Ye Jingyu is a reporter at The Economic Observer

斯德哥尔摩可持续发展背后的故事

瑞典的斯德哥尔摩是欧洲公认的绿都之最。然而，这一称号却掩盖了在实现真正意义上的可持续发展过程中斯德哥尔摩及其他所有城市所面临的各种挑战。

安娜·霍特
乔纳森·梅茨格
艾米·雷德-奥尔森

瑞典的斯德哥尔摩在城市可持续化发展方面所采取的创新举措受到了世人的注目。这些举措不仅在政界获得了广泛支持，还做到了将宏伟愿景和目标（如计划在2050年前彻底淘汰化石燃料）与切实的手段和措施（征收拥堵费以及主打环境牌的重点区域重建）相结合。所以，常常会有人提议将斯德哥尔摩作为典范和“最佳实践”供世界其他城市效仿。然而，助力斯德哥尔摩取得成功的原因何在？

政治层面的长期举措是原因之一。上溯到20世纪中期，当时所施行的福利政策不仅改善了民生、提高了健康水平，还促进了城市地区人居环境的发展，以及我们通常所说的“可持续”资源利用模式的形成。例如，20世纪50年代到80年代之间建设的地下交通系统，其规模在当时来说可以算是大得离谱。然而，很多人却认为，斯德哥尔摩之所以能够不像其他很多大城市那样杂乱无章正是得益于这个地下交通系统。另一个主要因素是，自20世纪60年代起，瑞典就通过立法来保护环境免受伤害。上世纪90年代末到本世纪初兴起的“第三次政策浪潮”也对斯德哥尔摩的城市可持续发展产生了强烈的影响，为城市地区向着新型、可持续化方向发展制定了设计规划。其中，最具前景、规模最大的就是“哈姆滨湖城”。

可持续发展还是海市蜃楼？

正是在这些背景下才会常常有人认为，瑞典已经实现了GDP增长和二氧化碳减排的两不误。然而，在对支撑这些观点的数据演算进行推敲后，研究人员认为，排放之所以出现明显降低在很大程度上实际不过是将排放转移到了世界其他地方而已——也就是所谓的“眼不见为净”。所以，此种战略其实有可能会加重全球发展的失衡。环境“有害物”，如产品生产过程中会引发危险或有害于环境的环节不仅并未真正减少，反而被轻而易举地输出到其他地区。

从这点来看，目前全世界围绕斯德哥尔摩所做的报道，将其称为引领城市可持续化发展的指路明灯的说法似乎有些不辨是非，甚至是过于理想化了，就像故事里所说的“在那遥远的北方有片神奇的土地”一样。但需要认清的是，宣传材料中夹杂不的营销成分并不意味着斯德哥尔摩的成绩缺乏真实性。

> 近几十年，随着西方消费主义生活方式的理念在全球的迅速渗透，人们常常会将环保措施当成是对“舒适生活”中各项便利的威胁或限制。而最容易被人接受的则是那些既能节省消费者的时间、精力、金钱，还能保护环境的政策。

在城市可持续发展方面，斯德哥尔摩还是有很多实实在在的项目和宏伟目标的。

另外，还要记住的就是，没有一座城市可以如孤岛一般自给自足。人群、观点、资源的不断流动形成了一张大网，这张大网也将三者汇聚在了一起，城市就是网中的一个个节点，在这些流动的汇集之处就产生了城市化现象。

然而，与我们对城市、社区之间关系的理解背道而驰的是，“可持续市区”和“生态城市”的一些最佳实践样本如今被打包成一套套“随时准备出口”的解决方案在国际市场上叫卖。在试图吸取其他地方的经验时，无可否认，这些项目都十分夺人眼球，但是，我们也不应该在其面前迷失方向，而应力求搞清从体制和系统层面强化什么样的能力才能对城市发展产生广泛和实质性的影响。如若不然，就很有可能会在一大片完全不具备可持续性的城市网络中建起一片时髦的、金玉其表的“可持续”飞地。

决策者所面临的关键问题

我们在对斯德哥尔摩的城市可持续化发展进行研究的过程中提出了一些关键问题。这些问题可能会对其他考虑推行可持续发展的城市和地区有所帮助。首先要问的就是，应该把当前的可持续性政策或投资归功于过去的政治、经济和社会遗产么？那些备受推崇的“最佳城市可持续发展实践”其初衷往往不是为了保护自然环境。当然，这并不是说现在的城市规划不应该围绕可持续发展制订专项政策。相反，由于现在的可持续政策有时会脱离其他的城市管理行为，因此应当始终将可持续的概念纳入每个决策中，而不是孤立化地同时存在。

其次要做的就是，找到城市在自然、政治、文化等方面所独有的特点对可持续发展的影响，不论这些特点为提高可持续性打开了新的机遇，还是为其制造了新的障碍。例如，瑞典政治文化中的趋同倾向对于可持续政策和举措来说既可谓是一个关键的“支撑力量”，也有可能会将可持续问题上升为一个与特定发展环境纠结在一起的抽象问题。这样一来，人们虽然容易就模糊的理念达成共识，但在实际操作过程中也有可能会步履维艰。

最后，城市还必须考虑在一个深受全球自主选择、自主消费文化潮流影响的现代城市社会中，如何才能实现社会共同的可持续行为目标。比如说，如果不考虑城市居民的消费模式和消费行为，以及这些生活方式所造成的环境恶化，就很难对一个城市的可持续性展开严肃的讨论。这个城市不仅是产品的消费地，还有产品的产地。

城市可持续发展所面临的挑战

直到20世纪末，人们还普遍认为，那些为了保护环境而采取的广泛行动能够使人们的生活质量得到显著改善。这包括通过提高交通网络的通达性、净化水源、保护娱乐和生活环境等以造福所有人——而不仅仅是少数人或有钱人——为目标的重大创新和投资行为。

近几十年，随着西方消费主义生活方式的理念在全球的迅速渗透，人们常常会将环保措施当成是对“舒适生活”中各项便利的威胁或限制。而最容易被人接受的则是那些既能节省消费者时间、精力、金钱，还能保护环境的政策。最近，人们的兴趣转向了具有创新性，并且“悄无声息”或者说是“被动”的绿色技术。因为这些技术能够巧妙地回避围绕个人消费、自由、个人生活方式选择等既有理念展开讨论所带来的不适感。

可是，决策者如果想要切实实现城市可持续化发展目标，就得做出一些困难的抉择，而且宜早不宜迟。这些抉择不仅涉及如何增加技术中的创新含量，推动绿色消费和绿色增长，还涉及在兼顾本地各项行为所产生的区域、跨区域、乃至全球影响情况下，如何才能平衡个人和集体的长、短期需求的问题。

即便斯德哥尔摩在城市可持续发展方面是公认的欧洲做的最好的城市，但是，在这一领域，“最好”其实还远远不够好。如果我们的目标是在全球范围内真正实现可持续发展，那么，就绝对不能忽略整个大局。

安娜·霍特来自瑞典皇家理工学院。她和乔纳森·梅茨格以及艾米·雷德-奥尔森合著了《可持续的斯德哥尔摩：欧洲绿都之最的城市可持续发展之探》（劳特利奇出版社）一书

乔纳森·梅茨格来自瑞典皇家理工学院

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The story of sustainable Stockholm

It may be Europe's greenest city, but this hides the challenges Stockholm and other cities face in achieving truly sustainable development

Anna Hult
Jonathan Metzger
Amy Rader Olsson

Stockholm has been recognised for its innovative take on urban sustainability, combining grand visions and goals (such as becoming 100% fossil fuel-free by 2050) with practical interventions and measures (such as congestion charging and eco-profiled major redevelopment areas). It has therefore often been suggested that Stockholm can be a role model or "best practice" for other cities around the world. But what is behind this apparent success story?

Part of the answer is a long history of political initiatives, stretching back to the welfare policies of the mid-1900s, which were implemented to improve wellbeing and health, but also contributed to urban settlement and resource use patterns that we generally consider "sustainable." For instance, at the time of its construction, the underground system built between the 1950s and 1980s was arguably grossly over-dimensioned, but many argue that it helped Stockholm avoid the sprawl that characterises many other major cities. Another major factor was national legislation introduced from the 1960s and onwards to protect the environment. The "third wave" of policies strongly affecting the sustainable urban development of Stockholm emerged in the late 1990s and early 2000s, with plans for the design of new, sustainable urban districts. The most ambitious and extensive of these is "Hammarby Sjöstad", which has become the most famous example of sustainable urban development in Stockholm, and inspired many other international projects, such as the Tangshan Bay development initiative in China.

Sustainable growth or mirage?

In these contexts it is often argued that Sweden has managed to increase GDP growth and at the same time decrease carbon dioxide emissions. Nevertheless, many researchers that have studied the calculations behind these claims argue that much of the apparent decline in emissions in reality simply are the results of emissions being displaced to other parts of the world – an "out of sight, out of mind" – attitude. Therefore, such strategies may indeed exacerbate global inequalities in development, where environmental "bads", such as dangerous or environmentally harmful processes of goods production, are not really mitigated but rather conveniently exported to other places.

In this sense, it may appear as if the global narrative presently being woven around Stockholm, as a beacon of urban sustainability, is sometimes a bit uncritical and almost utopian. Nevertheless, just because the green profile of Stockholm includes some dubious marketing components, this does not necessarily mean that it lacks substance. There are many serious projects and ambitions in Stockholm in the area of sustainable urban development.

We also need to keep in mind that no city is a self-sufficient island, but rather represents nodes within networks that both constitute and are constituted by innumerable flows of people, ideas, and resources – flows at the intersections of which the phenomenon of urbanisation is generated.

Contrary to such a relational understanding of cities and neighbourhoods, best-practice examples of "sustainable urban districts" and "eco cities" are today sold as "ready to export" package solutions on the global market. We would like to argue that we should not stare ourselves blind at the sight of such, admittedly dazzling, projects when trying to learn from other places – but also try to understand what wider institutional and systemic capacities can generate a broad, substantial impact in urban development. Otherwise, we risk constructing fashionable and only purportedly "sustainable" enclaves embedded in a wider, wholly unsustainable urban fabric.

Key questions for policymakers

A number of key questions crystallised in our research on sustainable urban development in Stockholm. These may be helpful for other cities and places in thinking about sustainable urban development. The first is to ask how, why and what we think of as sustainable policy or investment is a reflection of political, economic and social history; what we credit as "best urban sustainability practice" is often developed for reasons other than preserving the natural environment. This doesn't imply that cities should stop developing policies specifically aiming at sustainability. Instead, it means that cities always should consider the potentially positive or adverse sustainability effects of every policy decision, without relegating sustainability issues to a separate domain – where they sometimes can become isolated from all the other activities going on in a city administration.

A second exercise is to identify the ways in which the character of a particular urban setting – natural, political and cultural – both opens new opportunities for improving sustainability or creates new roadblocks. For example: the consensus orientation of Swedish political culture has arguably contributed both to a critical "staying power" of sustainability policies and initiatives, but may raise sustainability issues to a level of abstraction that becomes muddled in specific development contexts, making agreement upon vague ideals easy but at the same time hampering concrete advancements.

Finally, cities must consider how societal goals for collective sustainable behaviour can be achieved in modern

Stockholm is no green utopia, but it does have some good sustainable policies in place, argue the authors

urban societies strongly influenced by global cultural trends favouring individual choice and consumption. It is, for instance, difficult to earnestly discuss the sustainability of a city without taking into regard the consumption patterns and practices of its inhabitants, and the environmental degradation generated through these lifestyles, in the place of consumption – but also at the sites of production of the goods.

The challenge of sustainable urban development

Up to the end of the twentieth century, broad actions aimed to protect the environment were generally considered to significantly improve quality of life through major innovations and investments in increased transit accessibility, cleaner water, and protected recreational and living environments which aimed at benefitting the whole population and not just small groups or economic elites.

In more recent decades, and paralleling the rapid global diffusion of the Western consumerist lifestyle ideal, environmental measures have often been cast as threats or restrictions to the comforts of the "good life." The policies that have been most easily accepted are those that save consumers time, energy, or money as well as the environment. Recently, interest has turned to innovative and often "silent" or "passive" green technology, neatly avoiding uncomfortable discussions regarding established ideals of personal consumption, freedom and individual lifestyle choices.

Nevertheless, if urban decision-makers are serious in their ambition to achieve sustainable urban development, the day may come sooner rather than later when some difficult choices have to be made. These concern not only how to ramp up innovations in technology and facilitate green consumption and green growth, but also how to balance individual and collective needs in the longer as well as the shorter term – taking into account the local, trans-local, and global impacts of local activities.

For, even if Stockholm is deservedly recognised as the leading European city with regard to sustainable urban development – in this field "best" might actually be far from good enough. If the aim is to achieve truly sustainable development on a global basis, we can never afford to lose sight of the broader picture.

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生态城以人为本，还是以技术为本?

天津被誉为生态城市的样板。可是，过于依赖新技术和当地政府领导层变动会让这座城市的可持续化受到质疑。

鲍存彪
梁俊忠

目前，中国的环境恶化问题非常严重，不仅威胁到了公共健康，还使城市的社会稳定受到了挑战。

中国领导人非常清楚这个问题必须得到解决。过去几年，随着各种“绿色文明”宣传活动在全国范围的开展，邓小平“发展第一”的基本国策也通过补充完善而具备了“环保内涵”。与此同时，开展生态城旗舰项目也被称作是中国着力改善其以往在环保方面欠佳表现的具体体现。

中国社会科学院（CASS）最近高调发布了2013年《生态城市绿皮书》。绿皮书不仅探讨了中国生态城项目在建设初期所面临的一些问题，还明确肯定了国家对于利用技术手段解决城市环境问题的信心。

据中国城市科学研究会最近发布的报告估计，中国“生态城市”项目数量已经激增到200多个，而拥有至少一个以上项目的地级市数量则超过80%。毫不令人奇怪的是，大型生态城项目多数都集中在经济发展迅猛的主要沿海城市和地区。并且值得注意的是，4个没有计划开展生态城项目的省份（西藏、甘肃、青海、宁夏）全部都在中国最为贫困的西部地区。

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中国有如天津生态城的项目，数量已经激增到200多个。

这些项目中，不少都声称自己借鉴了国际 “生态先进”城市的“最佳实践”，由城市发展顾问和绿色能源专家组成的跨国团队共同打造。中国第四大城市、北方城市天津的生态城旗舰项目就是一例。

中国生态城：“借鉴新加坡”

根据中新两国签署的合作协议，占地面积34.2平方公里的中新天津生态城（SSTE）是由吉宝集团与以天津泰达投资控股有限公司为主体的中方联合体共同组成的合资企业。双方要在中国共同打造一

座“社会和谐、环境友好、资源节约”的城市。

从表面上看，中新天津生态城是为了打造一个能够在中国其他地方复制的样本城市。其在生态方面的主要特点大部分都是先进环保技术的产物，如加强楼宇外墙保温、利用太阳能降低能耗、雨水收集灌溉、以及以空中花园为特点的大规模景观等。

2008年，中国城市规划设计研究院、天津城市规划设计研究院、新加坡规划团队三方共同完成了中新天津生态城的总体规划设计。项目本着“三能”——即“能实行”、“能复制”、“能推广”的设计宗旨。

并且，总体设计规划最终还要做到“三和”，即为当代以及后世子孙创造人与人之间的和谐，人与经济之间的和谐，人与环境之间的和谐。为了对生态城的发展进行衡量，项目还参照中新两国国家标准及国际标准制定了26个关键绩效指标（KPIs）。

中新天津生态城以及中国各地涌现出来的很多其他生态旗舰项目都有一些共同的特点。首先，这些项目通常都有一个由政策、规划、建筑、工程等领域专业人士组成的、肩负技术“知识转移”使命的国际化团队。此外，企业/商业目标和生态现代化理念也是支撑这些项目的强大动力。而在人们看来，后者正逐渐成为推动进一步增长的催化剂，特别是在以环境新技术研发为重的情况下（如，绿色建筑和清洁能源）。

然而，高调发展旗舰项目并不是没有任何问题。人们会质疑，追求城市可持续化和生态城市是否不过是为了推动创业型城市的增长而制定的一个合法化策略。另外，一直以来生态城市的发展缺少基层群众的真正参与。所以，人们的普遍看法就是，在很大程度上它只是地方的一个营销策略。

此外，生态城的发展还有些过于依赖甚至崇拜技术。对此我们要多加谨慎，应根据当地群众的需要寻找更加合适的技术。

还有就是，当地政府的密切参与就意味着领导层的人事变动（这在中国屡见不鲜）有可能会使项目突然失去政治支持。因而，从长远来看会给项目带来危害。

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Eco-cities in China: an analysis

Although Tianjin has been feted as a model eco-city, its over reliance on new technology and local government power blocs puts its sustainability into question

Pow Choon Piew
Harvey Neo

Environmental degradation in China has now become so severe that it is no longer just an issue threatening public health but also poses a challenge to urban social stability.

China's political leaders are only too aware of the need to tackle the problem. Over the past few years, the enduring legacy of Deng Xiaoping's "growth-first" philosophy has been overhauled and imbued with "shades of green" as the state rolls forward various "green civilisation" campaigns nationwide. In tandem with this, flagship ecological city projects have been hailed as the concrete manifestation of China's commitment to improving its dismal environmental track record.

With much fanfare, the Chinese Academy of Social Science (CASS) recently launched the 2013 Ecological City Green Book. While acknowledging several teething problems with eco-city construction projects in China, the Green Book is an affirmation of the country's faith in the mobilisation of technological solutions to tackle urban environmental problems.

By some recent estimates, the number of eco city projects in China has swelled to well over 200 cases with more than 80% of prefecture level cities having at least one eco-city project according to a recent report published by the China Society for Urban Studies. Not surprisingly, most of the large scale eco-city projects have been launched in key coastal cities and places that are undergoing rapid economic development. Significantly, the four provinces which do not have any plans for eco-cities (Tibet, Gansu, Qinghai and Ningxia) are amongst the poorest, located in the western part of the country.

Many of these projects claim to emulate international "best practices" of "ecologically advanced" cities elsewhere and are assembled through a transnational network of urban consultants and green energy experts, as exemplified in the flagship eco-city project in the northern city of Tianjin, China's fourth largest city.

Eco-cities in China: The "Singapore transfer"

As a joint venture between Keppel Group and a Chinese consortium led by Tianjin TEDA Investment Holding, the 34.2 km square Sino-Singapore Tianjin Eco-city (SSTE) is the result of a collaborative agreement between China and Singapore to jointly develop a socially harmonious, environmentally friendly and resource-conserving city in China.

The SSTE is ostensibly an economic venture that aims to build a prototype city that can be replicated in other cities

> The number of eco-city projects in China has swelled to well over 200 cases, with more than 80% of prefecture level cities having at least one eco-city project.

in China. Its key eco-features are mostly the products of advanced environmental technologies, such as good thermal insulation for buildings and use of solar energy to reduce energy consumption, rain water collection for irrigation and extensive landscaping features such as sky gardens.

Designed to be "practical", "replicable" and "scaleable", the masterplan of SSTE was jointly developed in 2008 by the China Academy of Urban Planning and Design, the Tianjin Institute of Urban Planning and Design, and the Singapore planning team.

The final master plan is said to promote the "three harmonies": people living in harmony with each other, now and for future generations; people living in harmony with economic activities; and people living in harmony with the environment. To keep track of the process of the eco-city, a set of 26 Key Performance Indicators (KPIs) is formulated draws on national standards in China and Singapore as well as internationally.

The SSTE and scores of other eco-flagship projects sprouting up all over China, have a number of features in common. First, these projects often involve mobilising an international network of policy experts, professional planners, architects, engineers, etc. who engage in technical "knowledge transfers". In addition, these projects are also driven strongly by entrepreneurial/commercial objectives and ideals of ecological modernisation. The latter is increasingly seen as a catalyst to even greater growth especially when focusing on creating new environmental technologies (for example, green buildings and clean energy).

But the development of high profile flagship projects is not without problems. It brings into question whether the pursuit of urban sustainability and eco-city is simply a legitimisation strategy for pro-growth entrepreneurial cities. Moreover, with the lack of meaningful grassroots participation, the general consensus has been that this is a project largely driven by a strategy of place marketing.

There is also an over-reliance and celebration of the use of technology in eco-city developments. This needs to be more circumspect and to look more into appropriate technology that is in sync with the needs of the local community.

Ownership of the project is critical too. The close patronage by local government means that with a change in the leadership of the local government (not uncommon in China), political backing for the project could be suddenly withdrawn, thus jeopardising the project in the long run.

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上海塔：世界第一座生态友好摩天楼?

上海新的风力发电摩天楼被推崇为中国可持续城市建设的样板。

尼科拉·戴维森

尽管还被脚手架所包围，世界第二高楼——上海塔已经傲立于上海拥挤的天际线上，俯瞰群侪。上海塔（上海中心大厦）位于浦东陆家嘴金融区，它螺旋式的楼体代表着中国作为一个经济超级大国的崛起。然而，这座优美的建筑还有一层更加实际的意义：它利用风力进行发电。

设计师们精心打造的这个扭曲、竹笋形建筑外形，让建筑侧力减少了24%，降低了大楼结构的风力负荷，节省了3600万英镑的工程造价。这座总高632米的高楼总造价16亿英镑（148亿元）。明年完工后，它将成为一个超凡绝伦的建筑杰作。

按照建造世界最具可持续性摩天楼的目标，负责上海塔建筑设计的晋思公司进行了大量创新，使其成为LEED黄金级认证和中国绿色建筑三星认证的双达标建筑。

上海塔被垂直划分为9个区，每个区有12到15层。这座“城中之城”将包括办公、居住、文化设施和商业区。建筑顶部利用了多种最新技术，包括每年可产生 5.4万度可再生电力的风力发电机，为外部照明供电。上海塔有两层玻璃幕墙，形成一个类似暖水瓶隔热层效应的气穴，从而实现冬暖夏凉。

上海塔的建材尽可能地使用本地产的高回收材料，其1/3的内部空间都将变成“空中花园”或者公共绿色空间。设计中还有可持续性更强的策略，根据晋思公司的说法，与同样规模的一般结构建筑相比，上海塔的总碳足迹每年将减少3.4万吨。

晋思公司负责人格兰特·乌里尔说：“通过与委托方（政府）的合作，我们希望上海塔能够为环境反应性树立一个新的国际基准。对政府来说，这是一个向世界表明其在可持续战略上进步性姿态的良机，他们也期待上海塔能够成为中国未来发展的一个榜样。”

> 关于什么样的“绿色”城镇化战略才适合中国还存在争议。就连绿色建筑的定义也各种各样。

中国城市亟需一个新的发展战略。1980年以来，中国的城市人口增加了120%，但城市建成区面积却增加了两倍。毫无规划的随意建设不仅让城市更加不宜居住，而且耗尽了自然资源，造成了中国的污染灾难。

中国的“十二五”规划体现了领导人对更加平衡发展的强烈愿望。最近，李克强总理强调未来的建设应该是“科学的”。9月份在大连进行的夏季达沃斯论坛上，中国国家发改委副主任张晓强说：“我们的城镇化应该体现‘绿色、集约、智能、低碳’等重要内涵，而非简单的圈地和盖楼。”

然而，关于什么样的“绿色”城镇化战略才适合中国，还存在争议。垂直的巨型城市（就象上海塔所代表的）、星型拓扑模式以及相互连接的小城市网络，究竟哪种

更好呢？就连绿色建筑的定义也各种各样，从“不要像传统结构那么差”，到能够使周边环境焕然一新的“活的”、“会呼吸的”建筑，不一而足。

晋思公司认为，对中国来说垂直发展是一个可持续的战略。作为繁荣的象征，中国对超高层建筑的偏爱丝毫不令人吃惊。目前全世界在建的10座最高建筑中，有7座在中国。其中202层高的长沙“天空城市”旨在创造一个“双纪录”：建成后不仅世界最高，而且建设速度最快。

但开发商们的警惕性也应该和楼层一样越来越高。高层建筑与城市人居委员会编辑丹尼尔·萨法里克说：“摩天楼本身毫不具备可持续性，建造一座像上海塔这样的建筑要花费巨大的能源。你必须保证所有垂直交通的顺畅，还有那么多的机械系统，就连维持照明所需的电力都多得惊人。”

尽管上海塔已经努力到了不惜自己发电的地步，但其架构是依靠1079根深深打入地下的大口径水泥和钢管支撑的。400余辆水泥车轮番往来，连续63小时不间断作业才完成了塔的底板浇注。晋思公司的乌里尔说，时间将会证明上海塔是否能够实现碳中和。

同济大学仿生设计实验室主任雷朴实（Pius Leuba）在描述最适宜的可持续城市模型时说：“我们必须考虑：如果人类从来没有踏足，这片土地将会是什么样？如果上海从来没有人口居住，它每天能够净化多少水，能够产生多少氧气，能够形成多少表土？如果我们的城市能够达到同样的环境效益，那就是可持续城市了。”

考虑到中国城镇化的两大特征——惊人的规模和速度，雷朴实补充说城市绝对应该采取混合功能街区模式。将公寓、写字楼、商业和绿色空间放在临近区域，能够带来可持续效益，包括土地利用上的协同（居民们成为附近零售业的顾客，而零售业为居民带来便利），公共交通利用率的提高以及更加经济的小户型房价。

雷朴实说：“当然，‘密度’也有一个副作用，因为它似乎就是‘拥挤’的同义词。这点必须通过设计来解决。如果我们设计巧妙的话，并不需要更多的能源或资源。”他拿巴黎做例子，那里低层、密集、混合功能的街区是设计良好的城市的典范。

可持续发展也依赖语境。萨法里克说：“有一种趋势是追求灵动系统、太阳能板、能动的东西、涡轮发电机，但实际上与城市地区的整合最终成为最重要的标准…… 如果你的建筑能够吸引附近的其他投资者，就等于减少了路上的车辆和周围林立的（为居民提供服务的）小型写字楼，也就开始增加可持续观点的可信性。”

中国已经几乎没有时间来改变城镇化轨道了。最可持续的路径（城市实现社会公平、经济活跃、环境友好）或许将在发展速度以及GDP上有所妥协。但是，如果中国想要避免一个悲惨的未来：资源匮乏、社会被分为两大阶层——特权精英们位于富裕的中心，而大多数人则处于边缘，“适度”是至关重要的。

尼科拉·戴维森，自由撰稿人，现居住在上海

The world's first eco-skyscraper?

Shanghai's new wind-powered skyscraper is being promoted as a model of sustainable urban construction for China

Nicola Davison

Is it better to build vertical mega cities or to create an inter-connected network of small cities?

Though still shrouded in scaffolding, the world's second tallest building already overshadows its companions in the crowded Shanghai skyline. Located in the Pudong financial district, the Shanghai Tower's spiralling trunk represents China's emergence as an economic superpower. But the elegant shape has a more practical application: it works with the wind.

Designers refined the twisting, tapering form so that loads would be reduced by 24%. This allows the building to be unusually light, saving developers some £36 million. When completed next year the 632-metre tower, which cost an estimated £1.6 bn, will be an architectural showstopper.

In line with the aim to build the most sustainably advanced skyscraper in the world, Gensler, a global architecture firm, has made considerable innovations to earn the building both a LEED Gold standard and a China Green Building three star rating.

Comprised of nine vertical zones of 12-15 stories each, the "city within a city" will hold offices, housing, cultural facilities and commercial space. Cutting edge technologies include wind turbines at the building's crown that produce 54,000 kWh/year in renewable energy, powering external lighting. Two curtain walls envelope the building, creating an air pocket to insulate in winter and cool in summer.

Locally sourced materials with a high-recycled content have been used where possible, and one third of the interior will be "sky garden" or public green space. There are more sustainable strategies, but in total the building's carbon footprint will be reduced by 34,000 metric tonnes per year compared to a typical structure of the same scale, according to Gensler.

"Working with the client [the government], we are hoping that the Shanghai Tower sets a new international benchmark for environmental responsiveness," says Grant Uhlir, the Principal of Gensler. "It's an opportunity for [the government] to make a progressive statement to the world about sustainable strategies and they're also looking at this tower to be a model for future development in China."

Chinese cities are in desperate need of a new development strategy. Since 1980 the urban population has grown by 120%, while built-up areas have tripled. Reckless construction has not only rendered cities less livable, but has depleted natural resources and contributed to the country's pollution woes.

China's Twelfth Five-Year Plan (2011-2015) expresses leaders' aspirations for more balanced development, and recently Premier Li Keqiang has stressed that future construction should be "scientific". At the World Economic Forum in Dalian in September, Zhang Xiaoqiang, a high-ranking official, said: "Our urbanisation should embody the concepts of green, intensive, intelligent and low-carbon and it does not mean simply building things or enclosing land."

However, there is debate about what constitutes a suitable "green" urbanisation strategy for China. Is it better to build vertical mega cities (as epitomised by the Shanghai Tower), to pursue the "hub-and-spoke" model, or to create an inter-connected network of small cities? Definitions of green constructions also range from "not as bad" as typical structures to living and breathing buildings that regenerate their surroundings.

Gensler argues that, for China, verticality is the sustainable strategy. And as symbols of prosperity, it's unsurprising that China is partial to the addition of extravagant towers to its skylines. Seven of the ten tallest buildings currently being built are in China. The 202-storey Sky City in Changsha is aiming for a double distinction: to be not only the tallest skyscraper when it opens, but also the most rapidly built.

But developers should build upwards with caution. "There's nothing inherently sustainable about a skyscraper," says Daniel Safarik, an editor at the Council on Tall Building and Urban Habitat. "It takes an enormous amount of energy to run a building like [the Shanghai Tower]. You've got all the vertical transportation to deal with, all the mechanical systems, the amount of electricity needed to keep the lights on is pretty extraordinary."

While the Shanghai Tower goes to great lengths to generate its own energy, the structure is supported by 1,079 concrete and steel bore pipes driven into the ground. A fleet of trucks pumped concrete for 63 hours to create the foundation. Time will tell, says Uhlir of Gensler, whether this building will achieve carbon neutrality.

"We have to think: what would the place look like if human beings had never set foot in it?" says Pius Leuba, director of the Biomimetic Design Lab (BiDL) at Tongji University, as he describes the optimum sustainable city model. "If Shanghai had never been populated, how much water would it clean per day, how much oxygen would it produce, how much top soil would it create? If our city could arrive to the same benefit, we would have a sustainable city."

Given that Chinese urbanisation is distinguished by two characteristics – scale and speed – Leuba adds that cities should at least deploy the mixed-use neighbourhood model. Having apartments, offices, commercial and green spaces in close proximity reaps sustainable benefits, including land-use synergy (where residents become customers for retail which provides amenities to residents), increased access to public transit and more affordable smaller-unit housing.

"Of course 'density' has a bitter aftertaste because it sounds like 'crowdedness'," says Leuba. "This needs to be solved through design. It doesn't necessarily need more energy or more resources if we can design smartly." He points to Paris, with its low-rise, dense, mixed-use blocks as an example of a well-designed city.

Sustainable development also relies on context. "There's a tendency to want to look at active systems, solar panels, things that move, turbines," says Safarik. "But really, integration with the urban realm ends up being the most important metric…If you build a structure that draws other investment nearby, and you're taking cars off the road and smaller offices spring up around it to provide services to the occupants, it starts to add to the credibility of the sustainable argument."sustainable argument."

Nicola Davison is a freelance journalist based in Shanghai

转型城镇：小镇上的全球性运动

与大多数政府领导的、自上而下的可持续发展倡议不同，转型城镇的成功完全依赖于社区志愿者在地方层面上的努力。

玛蒂尔达·李

罗伯·霍普金斯说过：“不会有天兵天将来拯救我们的家园，我们只能靠自己。”7年前，他还是教授生态农艺的教师，当时他从英国西南部的小镇托特尼斯着手开始试验，“让人们对石油峰值论进行思考”。一年后，镇上居民经常聚在一起观看影片，听取讲座，讨论“后石油时代”的应对策略。

在这项“转型行动”势头大涨之后，他们分成多个工作小组，分别负责食品、能源和住房事务，并制定了一项以社区为基础的20年期能源下降行动计划，来减少小镇的整体化石燃料依赖。在他们热情的推动下，该镇建立了一个太阳能消费者俱乐部、植树和园艺交流团体、多项教育计划以及一项社区土地信托。他们还开始技能交换行动，从补袜子到烤面包等不一而足，以恢复那些差不多从他们的祖父母一代就开始绝迹的传统。

转型城镇倡议的这种“提高技能，减少耗能”的方式，似乎改变了公众参与的规则。人们的反应不再是对新生事物的恐惧和漠然，而是投入有趣且有意义的活动中。霍普金斯说：“我们必须与不愿参与其中的人们打成一片。”

如今，全球已有1000多个转型城镇，遍布 44 个国家，包括伊朗和菲律宾。“我们的转型城镇倡议，其设计理念为自组织式，因此在巴西不会让人觉得它是英国的舶来品。在巴西，这项运动对从富裕社区到贫民窟都有广泛影响。培训是量身定制的，其模式绝非像可口可乐经销权一样，而是靠当地团体决定如何去做，我们提供的是推动力和某些启发，帮助他们互联互动，分享经验。”霍普金斯如是说。

转型城镇的建设并无定式，但该运动的网站也的确指出了这一过程中的一些具体“要素” 或者说阶段。不过，霍普金斯说大量转型城镇团体产生的原因源于对粮食和粮食安全的关切。他说，所谓文明“说到底就是三餐问题”。转型城镇运动成功地帮助社区建立更有弹性的粮食系统，包括推广符合生态农艺原则的低碳型粮食种植方法，以此来调整人们的购物习惯，使其将平衡的重点调回本地商户上。

霍普金斯说：“本地的食品相关项目不需要融资，也不需要获得许可，只要大家联合起来干就行了。大城市里有很多闲置土地可以

> 霍普金斯说：“要建设一个转型城镇，你无需得到任何人的许可，在网上就有大量的资源。转型城镇运动完全有理由在中国以及其他任何地方流行起来。有关后化石燃料时代对人们生活的挑战问题，在哪里都是一样的紧迫。“

用作商品菜园，而食品项目也让人们有信心进行更多工作。”

随着转型城镇运动的推广和深化，他们开始考虑如何让这一方式发挥经济复苏工具的作用。霍普金斯说：“我们已经在英国制定了3个经济蓝图，其中对地方经济中所有的资金流向都进行了详细考虑。比如一个城镇每年在食品上的花费为6000万英镑，其中93%都花在了超市里，这笔钱中有85%-90%都要流向镇外。”转型城镇运动的经济考量在于，研究10%的消费行为改变可能解决什么问题及可能创造多少工作机会。“转型工作真的已经开始带来经济效益，而非只是让我们更紧密地聚在一起。”

2007年3月，转型城镇托特尼斯发行了英国第一种“转型货币”——“托特尼斯镑”。这是一种以英镑为依托的补充货币，可以在托特尼斯70多家参与店铺及商家使用。在当地商家购物可以产生一种良性循环，因为当地商家的所有者把挣到的钱再投入到源于本地的商品和服务上。自从“托特尼斯镑”发行后，英国又出现了另外5种地方货币，包括刘易斯、布里克斯顿、斯特劳德、加的夫和布里斯托。地方货币不光是一个热门话题以及地方骄傲的象征，更是对把钱花在本地、留在本地的“本地倍增效应”的确认。

但是，未来10年将有更多的人口离开小村镇，涌入世界各地不断膨胀的超大城市。在这样的趋势下，转型城镇运动这样一个小规模的自下而上方式能够取得真正的进展吗？对此，霍普金斯回应说：“要吃掉一头大象，最好的办法就是把它化整为零。要实现一整座城市的‘转型’是一项庞大的任务。在伦敦，我们看到的转型工作都是在小片地区层面上进行的，目前这里已经有50项不同的转型行动。对于有些事情你是无法在地方层面上产生影响的，比如交通。但是可以想象，地方团体联成网络后就会影响城市层面上的决策，这是正在形成的最佳办法。”

至于转型城镇的未来，霍普金斯更关注用于支持新兴的再地方化经济体的投资，及通过技能培训对该团体的志愿者提供支持。他说：“转型城镇运动一直都在寻求与其他志同道合的团体合作，”无论是通过政府、产业还是公民社会。在德国的符腾堡以及瑞典的斯德哥尔摩等建设完备的生态城市，转型团体通过在本地落实大型可持续发展计划来支持城市和国家的工作。

霍普金斯说：“要建设一个转型城镇，你无需得到任何人的许可，在网上就有大量的资源。转型城镇运动完全有理由在中国以及其他任何地方流行起来。有关后化石燃料时代对人们生活的挑战问题，在哪里都是一样的紧迫。化石燃料依赖会带来致命的弱点，甚至不需要对此大张旗鼓地宣传就能让人们开始思考这些问题。”

玛蒂尔达·李，自由撰稿人

Transition Towns: the local movement

Unlike most top-down, government-led sustainable development initiatives, the Transition Town movement's success relies exclusively on community volunteers working on a local level

Matilda Lee

"There is no cavalry riding to the rescue of the places we live in, it comes down to us," says Rob Hopkins. Seven years ago, Hopkins, then a permaculture teacher, began an experiment in Totnes, a market town in southwest England, to "get people thinking about peak oil". Over a year, townspeople came together to watch films, hear lectures and discuss what would eventually become a plan for a "future without oil".

As this "Transition Initiative" gained momentum, they split into working groups to tackle food, energy and housing issues and to develop a community-based 20 year plan to reduce the town's overall fossil fuel dependence. Their passion spawned a solar buyers club, tree planting and garden sharing groups, education initiatives and a community land trust. They began skills swaps to bring back traditions that had all but died off since their grandparents' generation, from sock darning to bread making.

The Transition Town movement began as a response to climate change and peak oil

Transition's approach of "skilling up to power down" seemed to change the rules of public engagement, as the fear and apathy so typically following on from awareness-raising efforts was channeled, instead, into fun and meaningful activity. "We must speak the language of people who don't want to get engaged," says Hopkins.

Today there are over 1,000 Transition Towns in 44 countries. "We always designed Transition to be self-organising, so Transition in Brazil doesn't feel like it's been imported from England. In Brazil, it's spread from the wealthier parts to the favelas [slums]. The trainings are tailoured to the setting. It is not run as a Coca-Cola franchise. It's up to the groups on the ground what they do, we just provide an impulse and some inspiration and link everybody to share their stories," says Hopkins.

There is no one way to start a Transition Town, however the website does point to specific "ingredients" or stages to the process. Hopkins says that what spawns a lot of Transition groups is concern over food security. Civilisation, he notes, "is only three meals deep." Transition's successes in helping communities develop a more resilient food system include promoting low-carbon food growing methods based on permaculture principles to re-orienting shopping habits to shift the balance back to local businesses.

"Local food projects don't need funding, they don't need permission, you just get together and do it," says Hopkins. "Quite a lot of unused land in big cities could be used for market gardens. Food initiatives also give people the confidence to do more."

As Transition's work broadened and deepened, they

began to consider how the Transition approach might serve as a tool for economic regeneration. "We've done three economic blueprints in the UK, which look in detail at where all the money in a local economy goes. For example, where a town will spend £60 million a year on food, 93% of that is spent in supermarkets. Out of that, 85%-90% of that money leaves the town every day," says Hopkins. Transition Towns made an economic case for what a 10 per cent shift in spending would do and how many jobs it would create. "Transition work is really starting to have an economic case, rather than just doing it because it brings us closer together," he adds.

In March 2007, Transition Town Totnes launched the UK's first Transition Currency. The Totnes Pound is a complementary currency backed by sterling that can be spent in over 70 shops or businesses now participating in Totnes. Shopping at local businesses creates a kind of virtuous circle as local business owners re-spend the money they make in locally-sourced goods and services. Since the Totnes pound's launch, five other local currencies have emerged in the UK in Lewes, Brixton, Stroud, Cardiff and Bristol. Not only a talking point and a local symbol of pride, local currencies have confirmed the "local multiplier effect" that money spent local, stays local.

But with millions more people leaving small towns and villages to join the world's growing megacities in the next decade, can a small-scale, bottom-up approach really gain ground? "The best way to eat an elephant is in very small pieces," Hopkins replies. "Trying to Transition a whole city would be the most monumental task. What we've seen in London is that Transition works on the neighbourhood scale, where there are about 50 different Transition initiatives. There are things you don't have influence over on the local level, such as transport, but you could imagine local groups networking to influence decisions on the city scale. That is emerging as the best way."

As for the future of Transition Towns, Hopkins is more concerned about investment to support the new re-localised economies as they emerge and in maintaining support for the group's volunteers through skills training. "Transition always seeks to work with other like-minded groups," he says, be it through government, industry or civil society. In well-established Eco-Cities such as Freiburg, Germany and Stockholm, Sweden, Transition groups support the city and state authorities with local implementation of large-scale sustainability efforts.

"You don't need anyone's permission to do a Transition Town, there are lots of resources online," Hopkins says. "There is no reason why Transition wouldn't catch on in a country like China or anywhere else. The challenges about what life will look like beyond fossil fuels are just as pressing. Fossil fuel dependence brings vulnerability and it wouldn't take an enormous amount of awareness-raising to get people thinking about those issues."

Matilda Lee is a freelance journalist

城市治理模式能拯救全球气候变化吗?

有效的全球气候变化协议遥遥无期、多国深陷政治僵局，在这样的情况下，我们是不是应该从范围较小的城市治理模式中借鉴经验？

亨利·基平

本文是皇家艺术学会亨利·基平对《假如市长治理世界》一书作者本杰明·巴伯的采访。

亨利·基平：你是怎样开始关注城市及其在解决全球问题中可以发挥的作用的?

本杰明·巴伯：我一直在研究如何使民主在各种不同的机构和各种不同的规模上发挥作用。我们都知道民主诞生于城邦，经过古代和中世纪的发展一直延续到新英格兰的殖民地。但随着民族国家的诞生，城市已经不再是主要的机构了。一个国家有成百上千万人要参与讨论，这迫使我们把民主从直接参与的模式升级成为代议制。

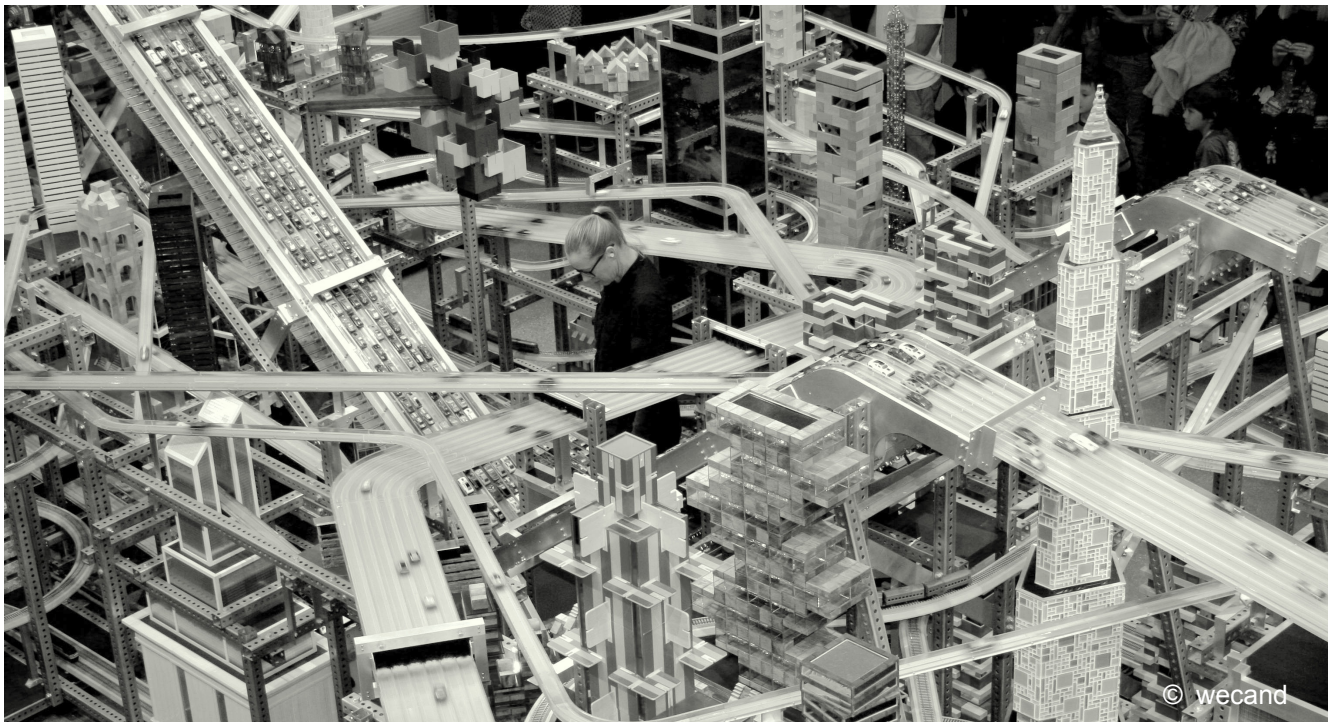
正如城邦规模太小难以满足新型国家机构的需求一样，我们如今面对的挑战都是相互联系的——无论是疾病、全球变暖还是大规模杀伤性武器——而启蒙时代诞生的民族国家机制已经成为了阻碍我们解决这些跨境挑战的绊脚石。2005年前后我参与的一个项目。该项目试图探寻：什么样的全球治理架构才适合解决本世纪如此大规模的、相互联系的挑战，以及这种治理架构的民主可行性。

我的书就是从这个问题开始，其中有一章是专门论述城市的。但我越是深入研究城市的运作，越是清晰地发现在利用非正式网络和解决跨境问题方面，城市遥遥领先于我所研究的其他所有组织方式。城市中有大量的合作和非正式治理。而且，由于城市的本地性质和规模特征，它们比那些在国际网络中与它们竞争的企业机构更为民主。

这就形成了一个循环。开始人类利用城邦解决问题，后来城邦开始渐渐显得规模太小。在后封建时代的欧洲和新世界，民族国家取代了城邦制，却又被发现不足以解决全球性问题。这样一来，如果我们能在某种程度上返回民主的诞生地——城市，是不是一件非常美妙的事情呢？在探寻解决全球治理问题方案的过程中，城市这个考察对象一下子便显得与众不同。

还有一件事也变得明显。这本书的书名叫做《假如市长治理世界》，但副标题是“为什么应该由他们来治理世界以及为什么他们已经在这样做了”，后者很重要。我提倡的解决方案已被付诸实施，虽然不是以全球治理的名义，而是像

“城市中有大量的合作和非正式治理。而且，由于城市的本地性质和规模特征，它们比那些在国际网络中与它们竞争的企业机构更为民主。”



城市领导人所需的能力和面临的现实都与国家领导人大大不同。

C40以及和平市长会议这样以沟通交流或是跨城市合作的名义开展的。也就是说我这本书不但论述了为什么城市可以做到国家做不到的事情，也指出城市已经在做国家不能为之事。人类迈向全球城市治理的旅程比我想象得要短。

还有一点可以作为佐证。911之后我建立了一家名为“共生运动”的非政府组织。每年我们都会到世界上的一个城市开会，探讨人类相互依存的现实以及民间、宗教和学术领袖可以为我们提供怎样的帮助。在这一过程中，我们发现支持来自于市长，而不是首相或者国家元首。我意识到我们做的很多事都是基于城市的。共生运动是证明城市日益重要的一项关键证据。

基平：从智慧城市运动这样的例子就可以看出，你的想法确实有道理。比如阿姆斯特丹就制定了到2025年将碳排放减少40%的宏伟目标，比欧盟的整体目标高出一倍。城市层面似乎是可以达成社会、私人和公共部门之间的联合的。

巴伯：确实。各国在哥本哈根和里约热内卢开会试图制定接替《京都议定书》的全球协约，但不幸的是，180多个国家前来开会都只是为了说明他们国家的主权不允许他们采取任何措施。不过好在除了国家元首之外，市长们也在开会。市长们持续探讨，签订了公约，并且切实地展开了行动。

更进一步地说，全球80%的能源消费和碳排放都来自人口5万以上的城市。因此，如果城市采取强有力的措施就可以产生显著的影响——除了阿姆斯特丹之外，洛杉矶也清理了港口，减少了三到四成碳排放量。即便美国和中国什么都不做，各个城市就可以为问题的解决作出巨大的贡献。这不仅仅是理论上的可能性。

基平：从城市层面进行思考和工作确实有很大的好处，这就让我想到了领导力的问题。之前您曾经说过“城市可以做到国家做不到的事情”，这是由于城市领导人具有怎样的特质呢?

巴伯：这个问题问得非常好，但我回答之前想先讲一个您没有问到的重要问题。我认为，定义民族国家司法和立法权力的主权已经成为了阻碍国际合作的巨大障碍。城市没有主权，但它们也因此可以摆脱那种造成民族国家之间无法有效合作的意识形态和司法权力束缚。城市天然地就是相互依存的。

现在回到您刚才的问题。城市领导人所需的能力和面临的现实都与国家领导人大大不同。务实精神是最重要的。市民不在乎你是共产党还是保守党，该回收的垃圾还是得照样回收。只要城市运转顺畅，市民根本不关心意识形态的问题。

长期担任耶路撒冷市长的泰迪·科莱克说的好："少听布道，多通下水道。"说白了，市长其实也是城市的一员，跟你的邻居一样。当然，城市治理方式有差异，这是由城市规模的大小不一决定的。

在某些国家——特别是法国和中国——市长的位置只是职业生涯的一个阶段，这是由政党系统决定的。弗朗索瓦·奥朗德曾任蒂勒市长，但他并不是当地人。在大多数国家，市长一般是不会升迁高位的。这既是因为他们不想，也是因为他们不擅长意识形态和国家政党政治。不过也确实有些例外。土耳其总理雷杰普·塔伊普·埃尔多安就曾经担任伊斯坦布尔市长，也就是说他可以做出土耳其政坛上所必需的妥协。

没有一个美国总统曾经担任大城市的市长。事实上，美国历史上只有两位总统曾经担任过市长的职务。格洛弗·克里夫兰曾短暂担任过布法罗市长，而卡尔文·科利芝当过马萨诸塞州南安普敦市的市长，但市长的经历都没有包含在二人的简历中。

这就归结到了城市领导人的特性。市长并非那种利用意识形态宣言或者壮烈的言辞就可以动员成百上千万人的有魅力的领导人。他们以高效解决问题见长；他们都明白合作的重要性，认为光靠个人寸步难行。公私合作在国家层面总要涉及到宏大的意识形态问题，但对于市长来说则是第二天性。这就意味着大多数十分成功的市长不会继续寻求高位。布隆伯格一开始是民主党人，后来转投共和党，如今则是独立人士。

基平：英国近日就直选市长问题在10个城市举行了公投，只有布里斯托投票通过了新的市长选拔体制。也就是说我们现在面临着一个奇怪的局面：市长上任之后总会受欢迎，但选民却因为缺乏信任而不愿建立相应的政治制度。这样的现象在其他国家有没有发生过?

巴伯：虽然我们需要也想要对城市和市长形成放之四海皆准的认识，但我们也不能忘了每个城市情况都不同，而且城市与政治体系中的其他部分也不同。尤里·卢日科夫就是一个很好的例子：他20世纪70年代在莫斯科市政厅任职，在副市长和市长的位置上一共干了28年。最后，他被梅德韦杰夫赶下台，因为后者将他视为威胁和潜在竞争对手。在20世纪初的美国，人们认为市长们严重腐败、道德败坏。进步运动提出城市经理的概念，也就是任命技术精英管理城市，解决城市问题。这个主张获得了很大的成功，一定程度上清除了城市政府的腐败习气。不过后来，人们感到技术精英管理城市的方法不够民主，于是又恢复了市长制。

我不会写一本名为《假如城市经理治理世界》的书。一部分原因是因为市长跟市民关系亲密。一方面市长可以进行跨境合作，另一方面是他们可以以相对民主的方式进行跨境合作。这就是为什么我的书里有很长的一章介绍参与性预算制定。这是让市民直接参与城市资源分配的绝佳例子。

基平：让我们再回到全球视角上。您提到解决问题的全球网络，也谈到这一机制的民主基础。这样一个网络大致是怎样的？对于那些并非居住在城市里的人们来说，解决问题的过程又怎样能做到民主?

巴伯：对于您的第一个问题，我认为下一步应该是召开全球市长议会，并成立秘书处——有些人可能会认为这一步迈得太大了，但我认为目前城市已经做了很多工作。议会不制定约束性法律，只负责分享最佳实践和实验结果供城市自愿遵守。秘书处可以定期组织评选城市生态奖等实践活动。比如秘书处可以号召部分城市自愿减少四成碳排放，然后由各城市协作完成这一目标。

我与多位市长进行过探讨，他们都表示很喜欢这个主意，并且他们现在也经常私下见面。我不会告诉您这些市长的名字，但确实有好几位重量级的市长支持我的观点，他们在我的书出版之前还碰头研究合作事宜。

> 乡村地区也可以有它们自己的平行架构。我并不是倡议建立一个统治地球的组织。我提议成立的是一个合作组织，城市可以在这里携手共治，一起解决全球问题。在有些问题上，地区可以决定同意或者不同意协商结果。

您的第二个问题比第一个还要重要。超过一半世界人口在城市居住，但那也就意味着还有不到一半的人口并不在城市居住。我的书最后一章花了很长的篇幅讨论全球市长议会是否存在不具代表性、不民主的问题。

关于这个问题的答案，第一我们要看到城市已经通过农业、交通系统等与周边地区建立了很深的联系。事实上，我们可以将市长也视为城市周边地区的代表。这样一来全球市长议会的代表性就会显著增强。第二，全球市长议会不是一个发布强制命令的组织，所有事情都是自发自愿的，所以地区政府或者乡镇也可以采纳市长议会的意见。

第三，乡村地区也可以有它们自己的平行架构。我并不是倡议建立一个统治地球的组织。我提议成立的是一个合作组织，城市可以在这里携手共治，一起解决全球问题。在有些问题上，地区可以决定是否同意协商结果。

第四，如果我们讨论的是每个选民都可以发表意见的那种民主机制，那么全球市长议会永远不可能具有足够的代表性。但如果按照博克的理论，也就是由代表来追求集体的利益，那么市长们不但会照顾自己城市的利益，还会努力争取公共利益。这样一来他们就代表世界，代表着他们各自城市之外的农村和其他地区。我在书中探讨了这个重要的问题，不过可能还有不充分之处。

最后，我们难道应该因为部分人没有被代表就拒绝成立全球市长议会吗？还是应该先建立起这个组织再为农村地区寻找更好的机制？

基平：从某种程度上说你已经找到了这个问题的答案：眼下的全球治理无法照顾到所有人的利益。

巴伯：没错，跨国公司和一些非政府组织已经在追求人类利益。但目前仍没有任何代表机构。如果我们可以从零开始建立起代表世界一半人口的机制，显然是会大有帮助的。

亨利·基平，RSA2020公共服务访问学者

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Can cities save us from climate change?

Effective climate change agreements seem a distant dream. So should we be looking to cities, where practical problem-solving is matter of everyday governance?

Henry Kippin

This is an interview between Henry Kippen, a visiting fellow at the Royal Society of Arts, and Benjamin Barber, author of the book *If Mayors ruled the world*.

Henry Kippin: How has your research agenda evolved to focus on cities and the role they can have in solving global problems?

Benjamin Barber: My focus has always been on the challenge of making democracy work in a variety of institutions and on a variety of scales. We all know that democracy was born in the polis and developed through the ancient and medieval worlds to the New England settlement. But the growth of nation states created a scale where cities were no longer capable of acting as primary institutions. That forced us to upgrade democracy from a direct-participation model to one that is based on representation, because you're dealing with thousands and millions of people.

Just as the polis was too small to deal with the scale of new national institutions, today we are confronting what I call interdependent challenges – whether that's disease, global warming or weapons of mass destruction – with these Enlightenment-era nation states, which stand in the way of addressing these cross-border challenges. In the mid-2000s, I worked on a project that asked what sort of global governance can we have that is appropriate for the scale of the interdependent challenges of this century, and can it be democratic?

My book started on that question and it had a chapter on cities. But the more I looked at what cities were actually doing, the more it became clear that, of all the institutions I had been looking at, cities were far ahead in actually dealing in informal networks and cross-border solutions. There was a good deal of collaboration and informal governance. And, because of their local character and size, they are much more democratic than the corporate institutions that are their competitors in international networking.

It makes a wonderful rhetorical circle. You start with the polis; it becomes too small. In post-feudal Europe and the New World, it is replaced by nation states, which are then insufficiently capable of dealing with global problems. Wouldn't it be wonderful if we went back, in a certain sense, to where democracy was born: the cities. While trying to solve the global governance problem, one of the institutions I was exploring turned out to be an extraordinary candidate.

One more thing became apparent. The title of the book is If Mayors Ruled the World, but the subtitle is Why They Should and, importantly, Why They Already Do. I found that what I was calling for was already underway, but not under the name of global governance. It was under the name of networking, or cross-city collaboration, such as the C40

> In some countries – in particular France and China – the position of mayor is just a step in a career that is predetermined by a party system.

and Mayors For Peace. So the book makes an argument for why cities do what states cannot, but says that this is already happening. The move to global city governance is a much shorter step than I first thought.

Kippin: That thesis makes sense if you look at things like the smart city movement. Amsterdam, for example, has set ambitious targets to reduce carbon emissions by 40% by 2025, which is twice the European objective. At city level, it seems possible to generate alignment between the social, private and public sectors.

Barber: Indeed. If you look at the attempts to follow up Kyoto at Copenhagen and Rio, the bad news was that about 180 nations showed up to explain why their sovereignty did not permit them to do anything. The good news, however, was that mayors were convening as well as heads of state. They stayed on, signed protocols and took action.

You can take it a step further. It turns out that about 80% of all energy is used in cities and 80% of global carbon emissions come from cities with more than 50,000 people. Therefore, if cities take strong measures – as well as Amsterdam, Los Angeles cleaned up its port and reduced carbon emissions by 30% to 40% - they will have a profound effect. Even if the US and China do nothing, cities can have a big role to play in fixing the problem. It's not just a theoretical thing.

Kippin: That's a huge advantage of thinking and working at city level, which gets me to the question of leadership. Earlier you said "why cities can do what states can't". What is it about leadership in cities that can do that?

Barber: That's a great question, but before I answer it let me mention an aspect you didn't ask about, which is very important. I argue that the very sovereignty that defines the jurisdictional and legal claims of nation states becomes a very large problem when it comes to international cooperation. Cities don't have this sovereignty, but that liberates them from the ideologies and jurisdictional claims that make an effective level of cooperation between nation states impossible. Cities are naturally interdependent.

Now, let's come to your question. Leadership in cities revolves around capacities and realities that are quite different from what we've come to expect from national leaders. Pragmatism is essential. People don't care whether you're a communist or a Tory; you still have to pick up the garbage. Citizens aren't too concerned about ideology as long as everything runs as it should. There's a great quote from Teddy Kollek, the long-term mayor of Jerusalem, who said: "If you spare me your sermons, I'll fix your sewers." To use a vernacular term, mayors can be homeboys; they're working with their neighbours. The very scale of cities

About 80% of all energy is used in cities and 80% of global carbon emissions come from cities with more than 50,000 people

changes the character of governance.

In some countries – in particular France and China – the position of mayor is just a step in a career that is predetermined by a party system. Francois Hollande was mayor of Tulle, but he was not from there. In most countries, mayors generally do not go on to higher office. This is both because they don't want to and because they are not established in ideological chains and national party politics. There are successful exceptions, however. Recep Tayyip Erdoğan, the Turkish prime minister, was previously mayor of Istanbul, so he was capable of the kind of compromises that needed to be made in that country.

There has never been a mayor of a major US city who has gone on to be president. In fact, only two American presidents ever served in any capacity as mayor. Grover Cleveland was briefly mayor of Buffalo and Calvin Coolidge was mayor of Northampton, Massachusetts, but they don't figure on their résumés.

This goes back to the character of leadership. These aren't charismatic leaders who can move millions of people through ideological statements and great rhetoric. These are very effective problem solvers and they will tell you that they lack the power to do anything without collaboration. Public-private agreements at a national level come with these big ideological questions, but those kinds of deals are second nature to mayors everywhere. This means that most mayors who are extremely successful don't go on. Bloomberg started as a Democrat, then became a Republican and is now an independent.

Kippin: In Britain, we recently had referendums in ten cities on creating directly elected mayors. Only one, Bristol, voted for a new mayoral system, so we have this odd situation where mayors are popular once in place, but voters don't seem to trust the political system enough to set them up. Does this happen in other countries?

Barber: While we need and want to generalise about cities and mayors, it is also the case that cities are very different from one another and part of different political systems. A good example is Yury Luzhkov in Moscow, who started in the 1970s on the city council and was deputy mayor or mayor for 28 years. Finally, Medvedev got him out because he was seen as a threat and alternative power source in Moscow.

In the American setting, at the turn of the 20th century, we believed that mayors were deeply corrupt and that the personal character of mayors was a problem. The progressive movement put forth the notion of city managers: appointed technocrats who would come in and do the problem solving. That idea was quite successful and went some way towards clearing urban government of its corrupt habits. Then, however, people felt that this technocratic approach was undemocratic, which led to a return for mayors.

Part of my argument is that we can talk about mayors because of the intimate relationship they have with the citizenry. One part of my argument is that mayors can collaborate across borders. But the second and equally important part is that they do it in ways that are relatively democratic. That's why I have a long section in the book on participatory budgeting. It's a nice example of trying to engage citizens directly on the allocation of resources in cities.

Kippin: Let me take you global again. You talked about global networks solving problems and mentioned the democratic underpinnings of that. What would that look like? And how can the process be democratic for people who live outside cities?

Barber: On your first point, I think that the next step – and some people would say that it's an awfully big step, but I found that many of the intermediate steps are being taken by cities already – should be the convening of a global parliament of mayors and a secretariat that would work with them. The parliament would not make mandatory laws, but rather present best practices and experiments for any cities that want to voluntarily comply with them. It would allow systematic and regular exchanges on common practices, such as ecological medals. For example, it could say that any cities that care to could agree to a 40% reduction in carbon emissions, but then explore with other cities how to achieve it in practice.

A number of the mayors I have spoken to have said that they like the idea and that they are already meeting each other informally. I won't name them, but I have the support of a number of important mayors who are convening a meeting ahead of the book's publication.

Your second question is even more important. More than half the world's population lives in cities, but that means a little less than half does not. There is a large section in the final chapter of my book that asks in what sense would a global parliament of mayors be unrepresentative and deeply undemocratic.

The first part of the answer is to say that cities are already deeply engaged with their regions through agriculture, transport systems and so on. In fact, cities being represented through their mayors could easily be seen as representing the regions around cities, too. The number of people being represented would shoot up. Second, the global parliament of mayors would not be an organisation that imposes anything on anyone; it's voluntary. So there's no reason why a regional government or county couldn't take up some of the parliament's ideas. There's no tax or lawmaking without representation.

Third, there is nothing to stop rural regions having parallel structures. I am not advocating starting an organisation that governs the world. Rather, I am arguing that a cooperative assembly, in which cities can work together in governing themselves, can help address and solve global problems. At some point, regions will have the chance to agree or disagree with the results.

Fourth, if you're talking about each voter having a voice that speaks for their interests, then a global parliament of mayors is never going to be representative. But if you're talking about a Burkian notion, where representatives pursue the interests of the whole, then my assumption is that mayors will have as their mandate not simply to reproduce the local self-interests of cities, but rather to pursue the common and public interest. If they did that, they would be speaking for the world, for agricultural and other regions not directly in their cities. It is a vital question and one I do try to deal with in the book, although I don't pretend that I deal with it fully.

Finally, should we not have a global parliament of mayors just because some people are not fully represented? Or should we have it and then find ways to have better institutions for rural areas?

Kippin: In a way, you already have the answer for that, which is that global governance as it is hardly works for the benefit of all.

Barber: Right, we have multinational corporations and some NGOs pursuing humane interests. But right now there are no representatives. If we can go from nothing to representing half the world, I'd say we're well on the way to a good thing.

Henry Kippin is a visiting fellow at the RSA 2020
This article first appeared in the RSA Journal

弹性城市的发展前景——美国案例研究

飓风桑迪等极端天气表明，应对气候变化的能力对纽约等城市来说至关重要。

塞布丽娜·舒尔茨
迈克尔·斯泰温斯

可持续的低碳城市并不能满足未来发展需求。政府间气候变化专门委员会第五次评估报告强调，未来洪水、风暴潮和热浪恐会日趋频繁且愈加剧烈，对城市及其居民、基础设施等财产构成巨大威胁。

2012年美国桑迪飓风和2011年泰国洪水等自然灾害表明，气候变化会引发极端天气，造成巨大的损失，而城市首当其冲。

联合国国际减灾战略署2013年3月的报告指出，连续3年来，每一年自然灾害造成的经济损失均超过1000亿美元，这在历史上还是第一次。为解决这一问题，各城市必

飓风“桑迪”袭击纽约6个月后，街头的破败景象。

须在制定低碳可持续发展路线的同时，采取措施提高其弹性应对的能力。如果现在不采取行动，未来则会付出巨大的代价。

“弹性城市”是指城市能够适应新环境，遭遇灾难后快速恢复，而且不危及其中长期发展。能源、交通、供水和建筑系统的弹性技术依赖于先进的信息技术和通讯服务。这要求以新技术和新方法规划、设计、管理和维护城市的基础设施。此外，培养地方官员弹性基础设施的理念和建设弹性基础设施的实践要同时进行。

另外，提高弹性应对能力还要求有新的管理方法。从规划阶段开始，各市政部门之间就必须加强协调和知识共享。与此同时，市民的参与也有助于城市弹性度的提高。

增强基础设施的弹性度还能带来其他益处。在能源领域，能使电力更加可靠，减少断电情况——这对医疗、应急等服务机构尤为重要；可以减少电力系统传输损耗；还能提高系统能效，从而降低电力需求。

美国住房和城市发展部部长肖恩·多诺万曾在桑迪飓风过后负责指挥总统特别工作组。他指出，每投入1美元降低风险，就可在灾害来袭时避免4美元的损失。

近日，西门子、奥雅纳（工程公司）和区域规划协会（一个关注纽约-新泽西-康涅狄格城市规划的市民组织）研究了纽约电网的弹性度，为增强其应对能力制定了路线图，并提出了商业模型。

研究分析了3个投资方案。第一，不采取任何措施，发生灾害后再开展城市重建工作。第二，加固重要设施，采取更好的保护措施，如提高地铁枢纽站的防洪能力。第三，制定方案降低电力需求的峰值，即采用先进的计量设备和能源管理系统，构建智能电网，增强其灵活性和敏感度：如将建筑与电网连接的自动化需求管理系统，能自动断开不重要的设备。

研究结果非常明确。如果不采取任何防护措施，未来20年预计损失可达近30亿美元。若投资4亿美元用于加固设施，则可将维修等费用减少20亿美元。如果既进行加固，又建立先进的智能电网，需要约30亿美元的资金，但同时可获得大量益处，未来损失将减少20亿美元，同时还可提高能效以及电网的容量、稳定性，这能带来30亿美元的净收益。

遗憾的是，目前尚没有来自中国或欧洲城市的可靠数据，因而无法进行分析。如有相关研究，则可为中国及欧洲城市提供弹性基础设施建设的方案。

对很多实行市场经济的新兴城市来说，弹性应对能力将成为争取国外直接投资的利器。跨国公司进行重大投资时，都倾向于基础设施可靠、服务机构高效、生活环境可持续的地方。因此，在全球化背景下，只有弹性应对能力强的城市才能具备经济竞争力，并获得持续的发展。

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The resilient city of the future

Extreme weather events such as Hurricane Sandy show the importance of cities like New York being resilient to climate change

Sabrina Schulz
Michael Stevns

Making sustainable, low-carbon cities will not safeguard urban areas from the effects of climate change. The Fifth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) emphasised that flooding, storm surges and heat waves will become more intense and more frequent in the future – with significant risks for cities, their inhabitants, infrastructure and other assets.

Events such as Hurricane Sandy in 2012 and the flooding in Thailand in 2011 demonstrated that cities are at the forefront of climate change-induced severe weather events – bearing the brunt of losses and damage.

The UN Office for Disaster Risk Reduction (UNISDR) reported in March 2013 that, for the first time in history, the world has experienced three consecutive years where the economic cost of natural disasters has exceeded US$100bn. In order to address this problem, cities will have to complement a low carbon sustainable development path with measures to improve their resilience. Not acting today will cost cities dearly in the future.

To be resilient, a city must adapt to new conditions and recover quickly from disasters, without putting medium and long-term development at risk. Resilient technologies for energy, transportation, water and building systems are usually based on advanced IT and communication services. Such a focus requires new skills and new approaches to planning, designing, managing and maintaining infrastructure. Training local officials to understand and master the requirements of resilient infrastructure solutions has to go hand in hand with their implementation.

Moreover, resilience also requires new approaches to governance. More coordination and knowledge sharing between different parts of a city administration from the planning stage onwards is indispensable. Involving citizens will help improve resilience because people will understand that their choices matter.

There are additional benefits to the implementation of resilient infrastructure solutions. In the area of energy they mean fewer power outages and increased reliability, not least for critical infrastructures such as medical and emergency services; decreased transmission losses in the electricity system; and improved system energy efficiency which reduces the need for additional generation capacity.

According to Shaun Donovan, US Secretary of Housing and Urban Development, who led a Presidential taskforce in the wake of Hurricane Sandy, for every US$1 spent on hazard mitigation, at least US$4 of costs are avoided when disaster strikes.

A recent study by Siemens, Arup (an engineering

“Resilience also requires new approaches to governance. More coordination and knowledge sharing between different parts of a city administration from the planning stage onwards is indispensable.”

company) and the Regional Plan Association (a civic organisation devoted to the urban planning of the New York-New Jersey-Connecticut region) on New York City's electricity grid identified a roadmap for how to increase its resilience and what the business case would look like.

The work analyses three investment options: First, it considers a do nothing scenario where the city just rebuilds after each projected future hazard. Second, it looks into making key equipment more robust and better protected, for example by flood proofing key subway stations. Thirdly, it looks into demand reduction programmes to reduce peak electricity demand, e.g. through the use of advanced metering infrastructure and energy management systems, it maps out the development of a smart grid, to bolster flexibility and responsiveness. This includes, for example, automated demand management, which connects buildings to the grid and can automatically power down non-critical appliances.

The findings of the study are clear. Taking no defensive action at all implies future costs of approximately US$3bn over a projected 20-year period. Investing about US$400m in increased robustness would cut the costs of repair and response by some US$2bn. If all suggested steps were implemented the cost would be about US$3bn but numerous co-benefits could be achieved. Future losses would be cut by US$2bn, and at the same time a net gain of US$3bn would be generated through enhanced grid capacity, stability and increased energy efficiency.

Unfortunately, we are still lacking reliable figures and analyses from cities in China or the EU. Similar studies for Chinese and European cities will enable a business case to be made for the implementation of resilient infrastructure solutions.

For many emerging market cities, resilience can become a differentiator when competing for foreign direct investment. When deciding on major investments international companies will inevitably favour locations offering robust and reliable infrastructures, efficient services and sustainable living conditions. Thus, in a globalised world, only the most resilient cities will remain economically competitive and keep thriving.

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无锡–杜塞尔多夫：绿色城市新伙伴

中德这两个截然不同的城市，是否能携手找到应对气候变化挑战的解决方案？

奥莉维亚·博伊德

乍看起来，这个配对似乎有点“乱点鸳鸯谱”。杜塞尔多夫是德国的时尚和广告中心，无锡则是中国东部沿海快速发展的工业城市，煤电的发展快于时尚的脚步。但是，在一个旨在鼓励城市汇集交流节能减排经验的国际项目中，德国的一家环境智库让这两个截然不同的城市“牵手成功”。

如果再稍稍深入探究一下，这两个城市能够配对的原因就会更加清晰。杜塞尔多夫位于德国的制造业心脏地带，但它已经摆脱了重工业基地的沉重躯壳，实现了服务导向经济的华丽转身。德国伍珀塔尔气候、环境和能源研究所的项目协调员丹尼尔·瓦伦丁说，这个成功经验为无锡的类似转型提供了参考模式。该研究所是上述国际项目的监督机构，同时中国也有众多研究机构参与了这一项目，包括清华大学和国家气候中心等。

此外，这两个城市在环境政策上也表现得非常“积极主动”。无锡已经成为中国太阳能板产业的中心，而且是国内低碳战略的先行者，其碳强度目标（单位GDP产生的排放）要高于国家目标。

瓦伦丁指出，无锡采取果断措施的驱动力应该就是发生在其家门口的环境灾难。风景如画的太湖将无锡市一分为二，如今藻花却将太湖弄得蓬头垢面，而且严重破坏了生态系统。2007年“蓝藻危机”最严重的那些天，废物和未经处理的生活污水导致太湖蓝藻的大爆发，淹没了一座污水处理厂，造成200万居民的供水中断，游客也被“赶出”无锡。

瓦伦丁说：“很显然，他们必须采取措施保护太湖，因为这座湖泊在经济上对无锡也至关重要。我想这可能就是他们提出大胆的环境政策的动因，这一政策已经涉及低碳领域。”

无论“大胆”与否，无锡都面临一个巨大的去碳化挑战。伍珀塔尔项目的初衷就是介绍德国在气候减缓中的经验、为无锡制定一个低碳路线图，帮助其推动这一进程。该研究所的研究人员建立了无锡二氧化碳排放清单，将该市的温室气体排放量及其来源详细罗列出来。

与此同时，杜塞尔多夫还希望能了解如何迅速推广电动汽车等新技术，以及如何去管理大型基础设施项目。

截然不同之处

尽管两个城市都乐于相互学习，但瓦伦丁也承认，差异大到无锡和杜塞尔多夫这个份儿上，这个学习绝对不是轻易能够实现的。

就连在“可持续”和“低碳”等概念的认识上，两地也天差地

> “尽管树立了雄心壮志，但纸面上的理念却无法转化成现实。这是关于中国城市绿色计划的普遍抱怨。”

无锡地处风景绝美秀丽的太湖之滨，同时也是经济高速发展的工业城市。

别。比如，在德国的语境下，伍珀塔尔研究所将“低碳”定义为人均二氧化碳排放低于2吨，而无锡的标准则是13吨甚至更高，这两个目标差得实在太离谱了。

瓦伦丁说：“如果我们对无锡人说，他们必须把排放降低到每人2吨，这显然太不现实了。对于无锡来说，这样一个目标是很不实际的，难以实现。无锡需要一条切实可行的减排道路，与杜塞尔多夫地区相比，无锡还只是刚刚上路。”

不同部门间的减排前景也有差别。无锡的大多数排放来自电力和工业部门，瓦伦丁说前者的进展相对比较容易，就是因为别的城市在这方面已取得了很大的进展。他说：“电力部门减排已经有一些方法，中国和世界其他地方的许多城市都有大量减排经验可以吸取。”

因此，无锡市政府在促进可再生能源方面对德国的政策和项目表示出浓厚的兴趣，就不足为奇了。瓦伦丁说，无锡的官员们对于地方和区域能源机构的模式尤为感兴趣，这些机构为可再生能源投资者提供信息和建议。关于如何建立类似机构的细节将被写入路线图，中方的访德代表团也即将成行。

至于工业，瓦伦丁说这方面的减排挑战更加棘手，“因为你必须改变无锡市的整个经济结构”。

“这是无锡面临的主要挑战之一，具体包括如何保证钢铁生产的排放强度降低，优化生产过程，未来应该生产哪些材料密集度较低的替代产品等问题。”瓦伦丁指出，为了避免碳泄漏也成了一个问题，雄心勃勃的环境目标到了地方层面，就只是逼着高排放企业搬家。

拥挤的市场

无锡—杜塞尔多夫联合是最新的“城对城”气候伙伴关系之一，这一趋势正在不断发展。支持者们指出，城市地区占全球温室气体排放总量的80%，并且常常赞扬这类专注于气候问题的“城城”合作关系是一种比国际气候谈判更加有效的进展实现方式。

这一方式最广为人知之处是在C40集团旗下进行的活动。该集团是一个旨在寻求气候变化威胁解决方案的巨型城市网络，现任主席为纽约市长布隆伯格。但新的例子还在不断冒出，上个月越南的胡志明市和荷兰的鹿特丹签署了一项在气候应对上进行合作的新协议，这两个城市都建在低洼的三角洲上，易受海平面上升之害。

瓦伦丁说：“各城市能够彼此学习，就不必每个城市都经历‘试错法’的过程了。”

他说，“无锡已经制定了很多先进的法规，如指挥控制政策和标准；但在不同工业部门间的经验分享机制方面，无锡可以向杜塞尔多夫学习。”

中国大量的绿色城市项目也存在同样的问题。过去10年中，寻找更清洁城市生活捷径的理念在中国迅速传播，掀起了一个绿色城市建设计划的高潮，从生态城市到低碳试点区再到碳交易试点城市，甚至还有人提出所谓的“第五代城市”，即不经过污染的发展阶段，直接跨越到现代的高技术中心（比如正在古城喀什推广的计划）。

但是，这里有一个问题。如瓦伦丁所说的，“每个人多少都有点闭门造车”。

瓦伦丁承认，无论对于绿色城市计划本身，还是对更广泛的中国来说，这种一拥而上、碎片化的形势都是一个挑战。今年，他的团队在北京举办了一次研讨会，会上做出的主要建议之一就是创立一个伞状组织，促进中国各种可持续城市项目间的对话。

但是，这又带来了另一个问题：绿色城市项目的建议在多大程度上能够得到落实？尽管树立了雄心壮志，但纸面上的理念却无法转化成现实。这是关于中国城市绿色计划的普遍抱怨。比如，东滩本来要在上海附近的滩涂上建起一座能源自给、零排放的现代城市，最终却以一起地方腐败丑闻告终。另一个项目是辽宁省本溪市的黄柏峪“可持续发展示范村”，建成后不但远未达到之前承诺的标准，还严重超出预算，以至于许多当地人都住不起了。

与此同时，研究者们还发现在中国的低碳试点城市里没有更多“绿色习惯”的迹象。最近，美国可持续发展社区协会对中国规划中的低碳工业园进行了一次评估，没有一个达到60分的及格线。

无锡—杜塞尔多夫的合作致力于策略部署，项目在落实阶段开始前就结束了。瓦伦丁说：“与中国的许多城市项目一样，我们的资金只能支持到提出路线图，但到落实这个路线图的阶段就结束了……接下来就要看无锡市政府愿不愿意继续进行下去。”

无锡伙伴们的高度兴趣，让瓦伦丁非常自信他们的发现将产生影响。虽然无锡在数据公开上比许多城市做得要好，但仍旧存在着一些问题：伍珀塔尔研究所的排放盘点，显示了无锡市的温室气体污染数据存在较大出入，比如交通和农业部门的，但有关部门还未采取措施来解决这一问题。

奥莉维亚·博伊德，中外对话副总编

Wuxi-Düsseldorf: green city partnerships

Can two very different cities in China and Germany find common solutions to climate change?

Olivia Boyd

On first glance, it isn't an obvious pairing. Düsseldorf is the fashion and advertising capital of Germany. Wuxi is a fast-growing industrial city on China's east coast, with probably more coal plants than catwalks. But a German environmental think-tank has linked the two together in an international exercise designed to encourage cities to pool experiences on cutting emissions and saving resources.

Delve a little deeper and the reasons for twinning these cities become clearer. Düsseldorf, located in Germany's manufacturing heartlands, has shaken off its old guise as a base for heavy industry and transformed itself into a services-oriented economy. This offers a potential model for a similar shift in Wuxi, says Daniel Vallentin, project coordinator at the Wuppertal Institute for Climate, Environment and Energy, which is overseeing the programme. A consortium of Chinese research bodies, including Tsinghua University and the National Climate Centre, is also involved.

Both cities, moreover, have proved themselves "proactive" on environmental policy. Wuxi, already the centre of the Chinese solar-panel industry, was an early mover on adopting a low-carbon strategy and its carbon intensity target (emissions produced per unit of GDP) is higher than the nationwide goal.

This drive to clean up may have been spurred by an environmental disaster on the city's doorstep, suggests Vallentin. Scenic Lake Tai, which splits Wuxi in two and is the heart of the local tourist industry, has in modern times been scarred by regular algal blooms that play havoc with the ecosystem. During the 2007 crisis, the worst to date, waste and untreated sewage triggered a massive outbreak of blue-green algae which swamped a water-treatment plant, cutting off supplies to 2 million people and driving tourists from Wuxi.

"It became very obvious that they had to do something to preserve that lake which is also important for economic reasons for the city. I think this might have been a trigger for an ambitious environmental policy, which overlapped to the low-carbon field," says Vallentin.

Ambitious or not, Wuxi faces a mammoth decarbonising challenge. The Wuppertal project aims to aid the process by bringing in lessons learned through

> "The industrial challenge is trickier, says Vallentin – "because you have to transform the whole economic structure of the city."

Germany's mitigation efforts and writing a low-carbon roadmap for the city. Its researchers have already produced an emissions inventory for Wuxi in a bid to reveal the extent of greenhouse-gas emissions and their sources.

Düsseldorf, meanwhile, hopes to gain insights into rapid upscaling of new technologies – electric vehicles, for example – and managing large infrastructure projects.

Very different places

While the two cities want to learn from each other, Vallentin admits that readily transferable solutions can be hard to come by when conditions on the ground are as different as those in Wuxi and Düsseldorf.

Even what is understood by concepts like "sustainable" and "low-carbon" can vary dramatically. For example, in the German context the Wuppertal Institute defines "low-carbon" as an emission level of 2 tonnes of CO2 per capita. For Wuxi – currently at 13 tonnes per capita and rising – such a target is simply out of range.

"If we were to tell them you should bring your emissions down to 2 tonnes per capita, that would be highly unrealistic," says Vallentin. "Such a target is very hard to reach and probably also not the appropriate ambition level for a city like Wuxi."

"Wuxi needs to enter a pathway where substantial reductions can be achieved, but they are at a much earlier stage than the Düsseldorf region."

Prospects of success also differ between sectors. Most emissions in Wuxi come from the power sector and industry. The former is comparatively easy to make inroads into, says Vallentin, simply because that is where most progress has been made elsewhere: "There are some solutions ready, and a lot of examples in other cities, both in China and other world regions, of how emissions could be brought down."

Perhaps unsurprisingly, therefore, the Wuxi city government has shown specific interest in Germany's policies and projects to promote renewable energy. Officials have been particularly taken with its model of local and regional energy agencies, which offer information and advice to renewable investors, says Vallentin. Details of how to set up such institutions will go into the roadmap, and a visit by a Chinese delegation is in the offing.

The industrial challenge is trickier, says Vallentin – "because you have to transform the whole economic structure of the city."

"This is one of the main challenges in Wuxi – how to make sure that steel production is less emissions intensive, how to optimise processes, what alternative products could be produced in the future that are less material intensive, all these kinds of things." Avoiding carbon leakage, where ambitious environmental targets at local level simply drive high-emitting companies to relocate, is also an issue, he says.

A crowded market

The Wuxi-Düsseldorf tie-up is one of the latest city-to-city climate partnerships in what appears to be a growing trend. Advocates point out that urban areas produce 80% of global greenhouse gas emissions and often argue these focused hook-ups are a more effective way of making progress than international climate negotiations.

This approach is most famously represented by the C40 group, a network of megacities seeking solutions to climate change threats currently headed up by New York mayor Michael Bloomberg. But new examples are popping up all the time. Last month, Vietnam's Ho Chi Minh and Rotterdam in the Netherlands, both cities built on low-lying deltas and vulnerable to sea-level rise, signed a new agreement to cooperate on climate adaptation.

"Cities have to learn from each other so that not every single city has to go through its own process of trial and error," says Vallentin.

In the case of Wuxi, he says, this learning process needs to focus as much on how to share experiences as concrete policies. "They already have a lot of advanced regulations in place – command and control policies and standards – but mechanisms for knowledge sharing among different industry branches, this is something where they could benefit from the relationship with Düsseldorf ."

The same could be said of China's multitudinous green city projects. The idea of finding shortcuts to cleaner urban living has caught on in China quickly over the past decade and prompted a blooming of schemes, from eco-cities to low-carbon pilot zones to carbon-trading pilot cities, even something called the "fifth generation city" – the idea of leapfrogging to a modern, high-tech hub without the intervening polluting stages, currently applied to the ancient city of Kashgar.

But there's a problem. As Vallentin puts it, "everyone is more or less working on his own."

Vallentin admits the crowded, fragmented landscape presents a challenge – not just for his scheme, but for China more broadly. One of the key recommendations to come out of a workshop his team held in Beijing this year

was the creation of an umbrella organisation to promote dialogue between the country's various sustainable urban programmes.

This prompts another question, however: how likely are the project's recommendations to be implemented? A common complaint about Chinese green city schemes is that, despite lofty ambitions, paper ideals fail to turn into reality. Plans for Dongtan, an energy self-sufficient, zero-emissions city destined for mudflats near Shanghai, were flattened by a local corruption scandal. Another "model village", Huangbaiyu in Liaoning province, fell far short of promised standards and surpassed the budget to the extent many locals couldn't afford to live there.

Meanwhile, researchers have found little evidence of greener habits in China's low-carbon pilot cities and, in a recent evaluation of China's designated low-carbon industrial parks by the US Institute for Sustainable Communities, none hit the pass mark of 60%.

In the case of the Wuxi-Düsseldorf collaboration, the project - the focus of which is strategy - is set to end before implementation even starts. "Like many city projects in China," says Vallentin. "Our funding reaches until the production of a roadmap but ends when it comes to implementing this roadmap…then it's up to the Wuxi city government to follow up."

The level of interest from the Wuxi partners makes him confident their findings will have an impact. But there are already hints implementation could be as much of a problem here as anywhere in China. Though Wuxi has a more advanced greenhouse-gas database than many other Chinese cities, the emissions inventory exercise uncovered serious gaps in the city's data, for example in the transport and agricultural sectors. So far, however, there has been little movement to do anything about it.

Olivia Boyd is the London-based deputy editor of chinadialogue

德国：能源供应大转型

公众参与正帮助德国实现能源供应向可再生能源转型。

德克·罗姆尼

德国计划大规模改造其国家能源需求和供给，这个被称之为“能源转型”的项目为市一级政府和公众参与开发可再生能源注入了新的动力。

能源转型是德国的国家项目，旨在减少温室气体排放，增加可再生能源的使用，并提高能源利用效率。该项目始于2010年，在日本福岛核事故之后开始获得越来越多的支持。核事故后不到一周，40%的核电容量便被关闭。而早在2011年之前，德国联邦政府已采纳多项计划，以加速国家能源系统的转型。

能源转型计划要求到2050年之前将德国的一次能源使用减少50%，逐步停止使用核能，并将可再生能源发电的比重提高到80%。

德国第三大城市慕尼黑设定的目标尤其远大。该城市希望到2025年完全利用可再生能源发电。最近慕尼黑建了一座虚拟电厂，这座虚拟电厂实际上是将许多小规模的可再生能源发电厂整合成为一个网络，以单一系统的方式运行，这样就避免了单个风能或太阳能电厂常常出现的不稳定问题。为了满足慕尼黑巨大的能源需求，市政府下属的公用事业公司收购了德国北部的25家风电场。

然而，能源策略的转变不仅关系到城市。德国南部小镇威尔德波尔兹里德的居民投资开发太阳能、风能和生物质能，这些项目如今提供的电力和热能已经超过了他们的需求，村民已经开始将结余的能源卖给电网。

德国北部的埃尔霍夫特运行着一座装配了六座1.3兆瓦风力涡轮机的市民风电场。风电场不仅让当地居民得以控制自己家乡的可再生能源供应，还创造了就业机会，支持了当地可再生能源产业的发展，同时为地方财政带来了税收。

> 德国能源转型计划要求到2050年之前将本国可再生能源发电的比重提高到80%。

威尔德波尔兹里德和埃尔霍夫特的例子都表明，社区和个人在德国的能源转型中正在发挥至关重要的作用。到目前为止，德国一半以上的可再生能源发电产能来自城乡个体居民。实际上，德国四大能源企业在可能生能源总产能中的份额仅为6.5%。

过去几年中，在太阳能、生物质能和风能发电以及电网运营和分配等多个领域均表现活跃的德国能源合作机构迅速增加，目前已有约600家。这一成功背后的秘密就是《可再生能源法案》——该法案的上网电价规定保证了任何人都可以在接下来的20年中以固定价格向市场出售可再生能源产生的电能。

如此高份额的分散式波动性可再生能源，不只挑战了德国既有的市场设计，或许也重新定义了市政府和市民在能源转型中扮演的关键角色。

德克·罗姆尼，德国观察的政策官员，致力于中德气候与能源合作

Germany's radical energy plans

Public and civic participation is helping Germany to transform its energy supply towards more renewables and less fossil fuels

Dirk Rommeney

Germany's attempts to radically transform its national energy supply (known as the "Energiewende") has given new impetus to both city-level and public participation in renewable energy.

The Energiewende, or energy transition, is a national plan to reduce greenhouse gas emissions, increase renewables and improve energy efficiency. The concept was first put forward in 2010, but gained wider support after the Fukushima nuclear accident in Japan. Less than a week after the accident in Fukushima, 40% of nuclear power capacity had been switched off. And by 2011, the German Government had adopted plans to accelerate the transformation of the country's energy system.

The plan requires a reduction of primary energy use by 50% by 2050, a complete phasing-out of nuclear energy and an ambition to generate 80% of Germany's electricity from renewable sources.

Munich, the third largest city in Germany, has set particularly ambitious goals. The city aims to completely switch its electricity supply to renewable energies by 2025. The city recently opened a virtual power plant – a network of small-scale renewable energy plants which are pooled and operated like a single system, thus avoiding the fluctuations that characterise individual wind and solar power facilities. To meet the city's considerable energy requirements, the city-owned utility company acquired 25 wind power plants in northern Germany.

However, shifting energy strategies isn't just an urban issue – the inhabitants of the village Wildpoldsried in south Germany who invested in solar, wind and biomass projects now generate far more energy for electricity and heating than the demand of the village. The surplus energy is sold to the grid.

In northern Germany, the citizens of Ellhöft are now operating a citizen wind park with six 1.3 MW wind turbines. The locals benefit in several ways: control of their own sustainable energy supply, new local job creation, support of the regional renewable energy sector as well as revenues and local business tax for the municipal budget.

The examples of Wildpoldsried and Ellhoft illustrate how communities are playing a significant role in driving the energy transition in Germany. More than 50% of the renewable energy capacity for electricity production, so far, has been installed by individual citizens and farmers.

In fact, the main four energy companies in Germany own just 6.5% of the installed renewable energy.

The number of German energy cooperatives active not only in the solar, biomass or wind energy generation, but also in grid operation and distribution has soared over the past few years to reach about 600 – spurred on by financial incentives that guarantee anyone generating electricity from renewables a fixed rate for the next 20 years.

Such a high share of decentralised energy is challenging the established market design in Germany and perhaps, redefining municipalities and their citizens as key players in the transformation of the energy system.

Dirk Rommeney is a policy officer at Germanwatch working on Sino-German climate and energy cooperation

《中国环境：绿色革命》

China and the Environment: The Green Revolution

山姆·吉尔 主编
Zed Books 出版社，2013

Edited by Sam Geall
Zed Books, 2013

中外对话隆重推出新书《中国环境：绿色革命》，为您讲述中国的环境故事。

世界上污染最严重的20个城市中，中国占了16个，这里平均每两到三天发生一次严重的水污染事件。中国经济的高速增长在引起全球关注的同时，也引发了人们对中国对全球环境所造成的影响的担忧。不少人将中国看成未来解决气候变化问题的源动力，但中国人如何真正地解决环境问题？本书带您走进不为人知的环保故事，了解现实中的中国及其紧张的环境局势。

本书由中外对话主编伊莎贝尔·希尔顿作序。中外对话北京办公室主编刘鉴强撰写了其中一章。

A new book from chinadialogue provides access to stories of environmental activism in China.

Sixteen of the world's 20 most polluted cities are in China. A serious water pollution incident occurs once every two to three days. China's breakneck growth causes great concern about its global environmental impacts, as others look to China as a source for possible future solutions to climate change. But how are Chinese people really coming to grips with environmental problems? This book provides access to otherwise unknown stories of environmental activism and forms the first real-life account of China and its environmental tensions.

The book includes an introduction by chinadialogue editor Isabel Hilton and a chapter by Beijing editor Liu Jianqiang.

中国城市将如何发展？

How will China's cities change?

中国政府计划未来几十年将2.5亿人从农村迁至城市，堪称史上规模最大的人口迁移计划。在本期特刊中，我们将探讨中国城市化面临的关键问题和挑战。尽管解决这些问题并无捷径，但本刊提供了一个可参考的出发点。

Over the next few decades the Chinese government plans to move around 250 million people from the countryside into its cities – the largest planned migration in history. In this special issue of our journal we explore the key issues and challenges facing China's urbanisation programme. Though there are no easy solutions, the articles in this journal provide a valuable starting point.

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