



INCLUSIVE
GROWTH
IN CITIES:
CHALLENGES &
OPPORTUNITIES



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Title

Inclusive Growth in Cities: Challenges & Opportunities

Depósito Legal DC2016001288

ISBN 978-980-422-051-7

Editor

CAF

This document was prepared for the Vice Presidency of Social Development, CAF
by The Growth Dialogue Institute

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Estudio Bilder / Buenos Aires

Print

Ediecuatorial C.A.

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The views expressed in this publication are the responsibility of the authors and do not necessarily represent the official position of CAF

The digital version of this book is available at: scioteca.caf.com

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ACRONYMS

| | |
|-------------------|--|
| BOD | Biochemical Oxygen Demand |
| BRT | Bus Rapid Transit |
| CCC | Climate Change Convention |
| COD | Chemical Oxygen Demand |
| GGKP | Green Growth Knowledge Platform |
| GHG | Greenhouse Gas |
| GIS | Geographic Information System |
| GLTN | Global Land Tool Network |
| IPCC | Intergovernmental Panel on Climate Change |
| LSE | London School of Economics |
| OECD | Organisation for Economic Co-operation and Development |
| PPP | Public Private Partnerships |
| SCC | Sustainability Cost Curve |
| UCLG | United Cities and Local Governments |
| UN-Habitat | United Nations Human Settlements Programme |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |

PREFACE

Every day around the world our cities add 180,000 new citizens. By 2050, there will be a total of 3.5 billion new urban residents, which will represent a two-fold increase from current numbers. The growth trend in the global urbanization process will present opportunities and challenges for national and local authorities. In this sense, the smartest investment that a city can undertake is to plan for its future, rethinking its strategies and financial interventions in order to reduce inequalities and increase inclusion. Cities will have to incorporate a vision whereby development and urbanization can- and should- reinforce each other.

To understand each city's own local dynamics, it is important to identify how inequalities are affecting its economic performance and what are the main obstacles to increasing social inclusion. A big part of the success or failure of the Sustainable Development Goals will be decided in urban areas, which in regions like Latin America generate over 65% of GDP. Therefore, national development strategies should be better aligned with urban development, to guarantee that all citizens, and especially those at-risk, have equal access to quality basic services and means of production.

From the wider development point of view, one of our greatest challenges into the future will be augmenting productivity in cities, which nowadays serve as the main engines for national economic growth. The full inclusion of all citizens into all aspects of city life has both social and economic benefits. Inclusion facilitates the development of agglomeration economies, stronger labor markets and an improvement of the investment climate. For this reason, to generate inclusion, it is essential to prioritize connectivity; access to quality goods and services for all; education and training; and improved coordination between the different levels of governments.

Moreover, the role of local governments in the national development strategies of our countries should be enhanced, as they are placed in a central role to design and implement public policies that can open new ways for advancing a sustainable model of society that puts people at the center of development.

The objective of CAF- Development Bank of Latin America- is to closely accompany authorities and provide them with practical tools that could support their managerial needs. In response to the importance of generating knowledge about good urban development practices, aligned with the New Urban Agenda, CAF presents this publication that provides ideas on how to generate higher growth by developing public policies that have a catalytic role in the inclusion of all citizens in our cities' productive systems.

José Carrera

Vice-president of Social Development
CAF-Development Bank of Latin America

INTRODUCTION

Urbanization has been one of the most important drivers of productivity and growth in recent times, lifting millions out of poverty and enhancing living conditions across the globe. Between 1950 and 2014, as urban residents increased from 759 million to 3.9 billion, infant mortality fell dramatically, adult literacy has grown above 88%, and access to potable water is now available to more than 90% of people living in cities, although with great variation in quality. According to the UN, a new (and final) wave of 2.5 billion people will live in cities by 2050. While this augurs well for general economic growth and improved living conditions, the pressures on cities to invest, supply land, and built-out infrastructure are unprecedented, especially taking into account that more than one billion people are currently living in very poor conditions.

Those challenges are compounded by critical issues of widening income inequality around the globe; a struggling middle class (the source of much of the recent growth in emerging economies); climate change and sustainability issues; macroeconomic vulnerability, and debate on accountability and decentralization. Political conflict and resulting involuntary migration add new pressures to selected cities, testing their capacity to integrate newcomers. Failure to do so will increase the risk of radicalism and violence (Saunders, 2010). Cities have become key agents of social integration and sustainability in all its aspects —social, environmental and economic (World Economic Forum, 2016).

LINKS WITH UN-HABITAT AGENDA

In 1996, Habitat II met in Istanbul. Four years after the 1992 Earth Summit, Habitat II focused on linking the urbanization agenda with the urgency to promote sustainable development. It was an important departure from the classical view of “cities as a part of the problem, not a solution, for global sustainability” (McCarthy, 2016, 2). Ensuring adequate shelter for all was a major goal of Habitat II. Since then, over 100 countries have adopted constitutional rights to adequate housing and many countries have financed public funding for housing programs. Despite important progress and decline in the share of people living in slums, low-income city residents continue to struggle with the lack of affordable shelter and unequal opportunities.

The upcoming Habitat III promises to be different. The world is now predominantly urban and cities are emerging as important players in sustainability and growth discussions. The new Sustainable Development Goals include specific targets for urbanization, including ensuring provision of basic services to all (new and old residents), the efficient use of natural resources and the reduction of the carbon footprint. The preliminary (and impressive) work for Habitat III and the resulting new Urban Agenda emphasize the reinforcing relationship between urbanization and development, and an ideological underpinning emphasizing the need for democratic development, respect for human rights, and the importance of inclusive cities.¹

1. See <http://citiscopescope.org/habitatIII/explainer/2015/06/what-new-urban-agenda#sthash.SluXJ49J.dpuf>

FOCUS AND ORGANIZATION

This paper discusses the role of cities in addressing economic and social inequality and promoting sustainable city growth. While inequality has been studied at the macroeconomic level (see Stiglitz, Piketty, Kanbur), the impact of inequality on cities has been less well addressed. Typical questions include: How have past urban policies impacted the integration of land and housing markets, job opportunities, and inclusion? How can urban policies take account of the right of the residents to influence the future of their own city? How do we pay for the services and infrastructure to address inequality and exclusion? How can changes to governance improve decision-making? Lastly, given the close relation between inclusion and sustainability, what lessons can be extracted to guide long-term investment in infrastructure?

Inclusion, inequality, poverty and sustainability are often studied together, with definitions often overlapping. Inclusion and sustainability are the wider concepts that are difficult to measure. Inequality and poverty can be quantified by using Gini-coefficients and by poverty rates that measure the headcount of people living within a certain income stratum or at a certain distance from previously defined poverty lines. We assume that inclusive (pro-poor) cities are guided by the goal to improve the capacity of the poor to access goods and services, improve their livelihoods and to participate in decision making. We would expect that inclusive cities would lead to more equal distribution of urban amenities. Sustainability is the more comprehensive concept, including environmental goals as well as social ones (Annex 1). Overall, promoting policies that bring together the energies of our cities and are sustainable from the environmental and social point of view should be the main focus of urban development.

The report is organized in four chapters. Chapter 1 summarizes the main arguments to explain

why income and asset distribution has become more unequal and the lack of consensus on what needs and should be done. We review the main arguments in favor of an automatic convergence of incomes (e.g. Kuznets) as well the recent views of Piketty, Kanbur and Stiglitz who argue in favor of policy intervention to avoid further divergence in incomes. We then review what we know about inequality at city level, why inequality hampers city economic growth, and how fiscal decentralization, still in progress in many low income countries, must balance the demand for citizen participation with the requirements of providing basic infrastructure (e.g. mass transit and water) at the lowest possible costs which are associated with larger jurisdictions and coordinated decision making.

Chapter 2 discusses what can cities and urban policies do to promote a more inclusive growth. We look at the important policies under city jurisdiction, including land, housing, transport, finance and governance and how they can contribute to improve inclusion. An idea emerging from the literature (see Perlman, Sassen, Bertaud, Arnott) is the need to include rather than ignore informality and to learn from it. Informal markets provide jobs and shelter for a large part the poor and the newly emerging middle class in developing countries. The chapter also discusses the main sources of city financing, including the potential for land-value capture instruments, the challenge of governing rapidly growing metropolises, and the continuing debate about how much should central governments influence urban policies.

Chapter 3 discusses how cities can use sustainability and carbon reduction in planning infrastructure investments. It focuses on specific tools, including alternative methods to integrate sustainability objectives in decision models and ways to extend the usual cost-benefit analysis using marginal abatement curves and sustainable limits. Some simple tools are presented for developing cities that show how alternative packages of services can be adapted to the available resources of the community.

Chapter 4 concludes with some suggestions for the New Urban Strategy to be discussed at Habitat

III. We focus on practical policy interventions and approaches that are useful to enhance the productivity of cities as growth drivers, while at the same time improving inclusion and access to basic services, and doing so in an environmentally sustainable fashion. The notion that these objectives are complementary (rather than orthogonal) to one another is increasingly supported by evidence. Particularly in the area of new technologies to manage cities, there are numerous pro-poor policy opportunities. Moreover, as the globe is increasingly urbanized, the achievement of broad development goals, such as the SDGs, will either succeed or fail in cities. Hence national development strategies and city development strategies need to be better aligned if progress is to occur.

Finally, Chapter 5 states the key messages of the paper.

1— URBAN GROWTH AND INEQUALITY

This chapter focuses on the relationship between city policies and exclusion and inequality. We know that attitudes and spatial policies have a clear impact on housing and residential segregation, which in turn determine access to labor markets via affordable and accessible mobility. It is often argued that there is a tradeoff for the poor between where and how they live and access to jobs and income generation. It is also accepted that inequality often leads to violence and conflict, thus hampering the attraction of the city for private investors. What is less clear is how much responsibility cities can assume for the persisting poverty and inequality in their midst as compared to national development efforts. We start by providing a framework for the discussion of income inequality at the macroeconomic level and how it links with inequality within cities. We then review the recent trends in urbanization, the drivers of city growth and the impact of inequality.

FRAMEWORK: FROM MACRO TO LOCAL INEQUALITY

There has been considerable discussion of rising economic inequality in the developed world, along with a generalized sense that the problem has grown to unacceptable proportions (Rosanvallon, 2016; OECD, 2011). These trends are also beginning to appear in the higher middle-income economies as well, as they portend badly for public policy. At the same time, there has been little agreement on what needs to be done to address the situation. A recent survey conducted in France on the perception of inequality and injustice found that about 90% of respondents thought income disparities should be reduced, and an even larger

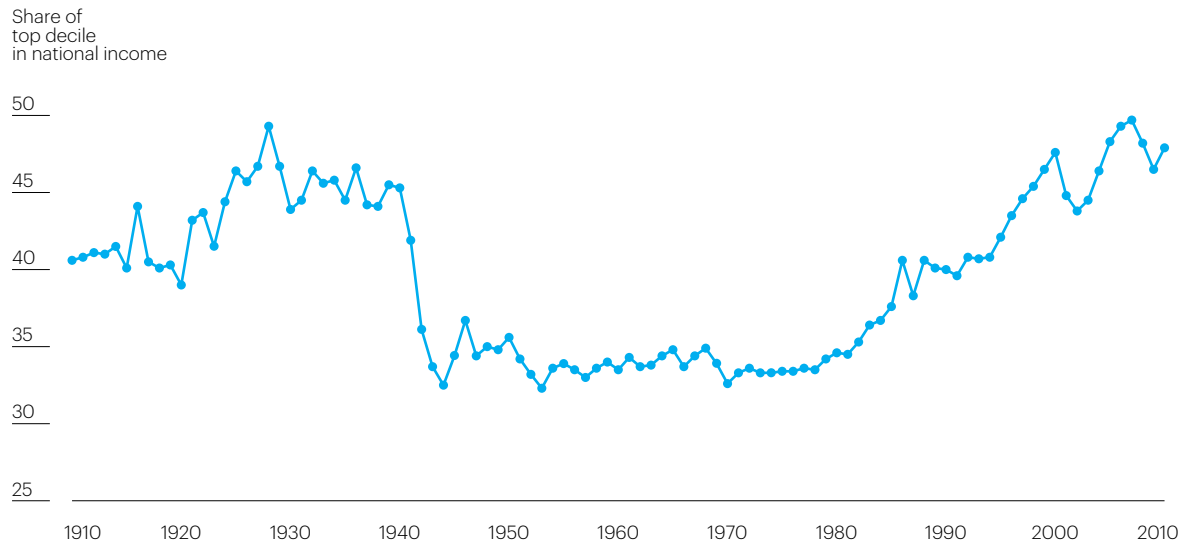
portion agreed that everyone should be guaranteed access to education, food, shelter and healthcare. Yet, 85% thought that income differences were inevitable and acceptable when they reward individual merit. It seems that while there is a strong sense of opposition to excessive inequality, there is no clear consensus on the theoretical framework to cope with it.

The analytical discussion on income inequality has gained a new interest by the recent work of Piketty (2014), Stiglitz (2013) and Kanbur (2010) and their views on the convergence of incomes or lack thereof during the process of development. Underlying the debate was the Williamson-Kuznets (1965) hypothesis that as a country starts to develop income inequality starts to rise, peaks and then declines. The notion was that this was a natural part of the development process. In the case of East Asia in particular, the triggers for rapid growth and poverty reduction were rural to urban migration, associated with a large shift from agriculture to manufacturing. This process coincided with agglomeration gains, higher wages in cities, and strong technology-led gains in national income (Henderson, 2010). This framework is supported by data from the World Bank (2009).

There has been an interesting debate on the Williamson-Kuznets hypothesis and how far it explains the inequality trends of the past 30 years. When Kuznets published his analysis and theory of income distribution in 1965, he relied in a large and solid statistical base. Using data on US federal income tax returns and his own estimates of US national income, Kuznets calculated the evolution of the share of each decile of the income hierarchy in the US national income. He noted a sharp reduction in income inequality. At the beginning of the period, the top 10% of the US earners claimed 40-50% of the annual national income. By the late 1940s, that share of the top decile had declined to 30-35% of the national income. This decrease of 10% of income was considerable. Kuznets suggested that this trend was a signal of the convergence of incomes associated with a high level of development. It is clear today that the sharp reduction in income inequality that occurred in almost all rich countries between 1940 and 1980 was due mainly to the employment-led expansion of the post-war period (Piketty, 2014).

FIGURE 1.1

Income inequality in the United States, 1910-2010



Note: The proportion of the top decile in the national income of the US was reduced from 45-50% in the 1910s and 1920s to less than 35% in the 1950s (this was documented by Kuznets); subsequently it increased from less than 35% in the 1970s to 45-50% in the 2000s and after 2010.

Source: Picketty (2014)

Thomas Piketty (2014) uses data for the US and Europe to show that inequality was the norm in the 19th and early 20th century. It began to decline during the period after World War II but has widened again since 1980. Figure 1.1 illustrates this movement and measures income inequality by the share of income accruing to the wealthiest 10% of individuals in a society. The U-shape trend is clear and observable in many countries. Piketty also finds that income inequality in emerging countries (e.g., India, Indonesia, China, South Africa, Argentina, and Colombia) has been rising since the 1980s (Piketty 2014, 327).

These findings are confirmed by Berube and Olmes (2016), working with 100 metropolitan areas in the US. In more than half of those metro areas, inequality (measured by the ratio of income share of the top 10% and bottom 10% groups) has clearly increased. Philippe Longman (2015) finds similar results at regional level

suggesting the return (and widening) of the great economic divide among the various regions of the United States since the 1980s, especially between average cities and the few leading coastal ones, such as San Francisco, Washington DC, and New York.

It is clear, however, that even economically robust growth will not eliminate income inequality. The question is how much inequality is inevitable and how much is tolerable. While poverty rates have fallen dramatically, high inequality and growing differences in living conditions have become unacceptable for large shares of the population (Kanbur 2010). For example, in the last thirty years (between 1983 and 2013), poverty rates have fallen dramatically in Mexico (from 47 to 11%), the Philippines (from 61 to 38%), India (from 50 to 21%), Brazil (41 to 9%). However, the Gini coefficient rose in all cases, except Brazil, which showed a small decline from .57 to .53. Growing income gaps between

rich and poor are the object of considerable social commentary and political concern. In China, despite spectacular growth and poverty reduction, policy attention is now focusing on the growing popular protests, both in the vast hinterland and also in the coastal cities. Mexico, Ghana, South Africa and India tell similar stories. Progress in reducing poverty and improving the delivery of basic services has been offset in the public opinion by rising inequality.

The issue of inequality has become a major urban issue as well. Inequality of income and opportunities both *stigmatizes* and *excludes*. It *stigmatizes* and removes large groups of the urban population from a socially and economically productive life; and it *excludes*, by preventing them and their children from benefitting from opportunities to advance in the society at large. Inequality matters as a public policy issue because highly unequal societies do not function efficiently, nor are they sustainable in the long run (Stiglitz 2013). From our city/urban perspective, given the current level of urbanization and the fact that this trend will add 2.3 billion of the 2.5 billion people expected on the planet by 2050 into cities, the prevailing problem of inequality as a national preoccupation becomes as a practical matter a cities issue.

WHAT DO WE KNOW ABOUT INEQUALITY IN CITIES?

There is not much research on income inequality in cities. The usual metrics of Gini coefficient are available for many cities, but they provide few clues to what they mean in terms of causes or effects (UN Habitat, 2015). Violence, crime, social

problems, and loss of social cohesion are often the consequences of an unequal distribution of income and opportunities, but their relationship to inequality is not precisely known (UN, CAF, 2015). In addition, data on developing countries are imprecise, and the existence of large informal sectors means that a large part of the income and consumption data of the poorest group of the population may not be adequately reported or included in the statistics.

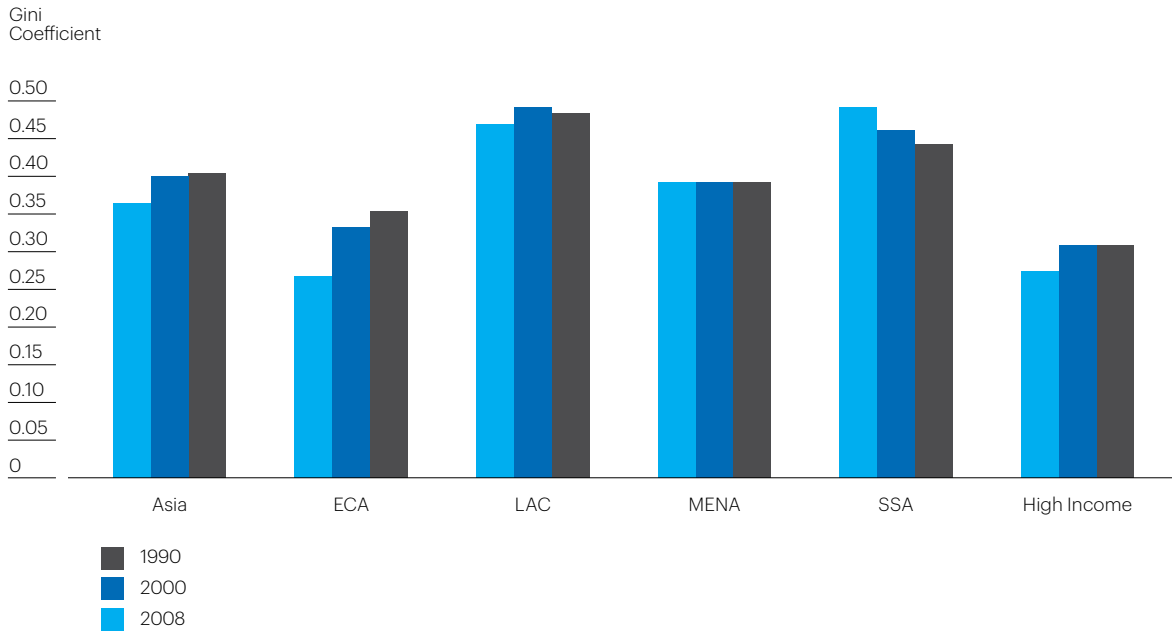
For its State of the World's Cities volume for 2010/11, UN-Habitat reviewed trends in income inequality for major regions of the world, and for 48 selected cities. Latin America shows the highest level of inequality (0.483) closely followed by sub-Saharan Africa (0.442). Urban inequality is also the highest in Latin America (0.492), with Brazil and Colombia showing the highest coefficients (0.569 and 0.55, respectively). Within countries, there is a great variance in city income inequality. Brasilia has the highest inequality coefficient in the country, at 0.67, one of the highest in the world². Income of the 10% richest group is 90 times the income of the poorest 10%. Belo Horizonte is relatively "less unequal" with a Gini coefficient of 0.46, the lowest for a Brazilian city. Santiago displays a Gini coefficient of 0.55, whilst other Chilean centers (such as San Vicente and Legu) have coefficients of 0.33 and 0.34 respectively. Higher inequality in capital and large cities reflects the diversity of their economies and the fact that higher-educated individuals are attracted by high-end activities.

Mumbai and Sao Paulo are examples of large cities in developing countries with visible signs of increasing inequality. This inequality is particularly evident by the share of people living in slums and the changes in poverty rates. Mumbai, one of the largest cities in the world, with 20.7 million

². In 2009, the income of the wealthiest decile was 88 times the income of the decile with less income. The national average showed that the richest decile had incomes 48.8 times greater than the poorest decile.

FIGURE 1.2

Income inequality by region, Gini coefficient, 1990-2008



ECA: Eastern Europe and Central Asia; LAC: Latin America and Caribbean; MENA: Middle East and North Africa; ASS: Sub-Saharan Africa

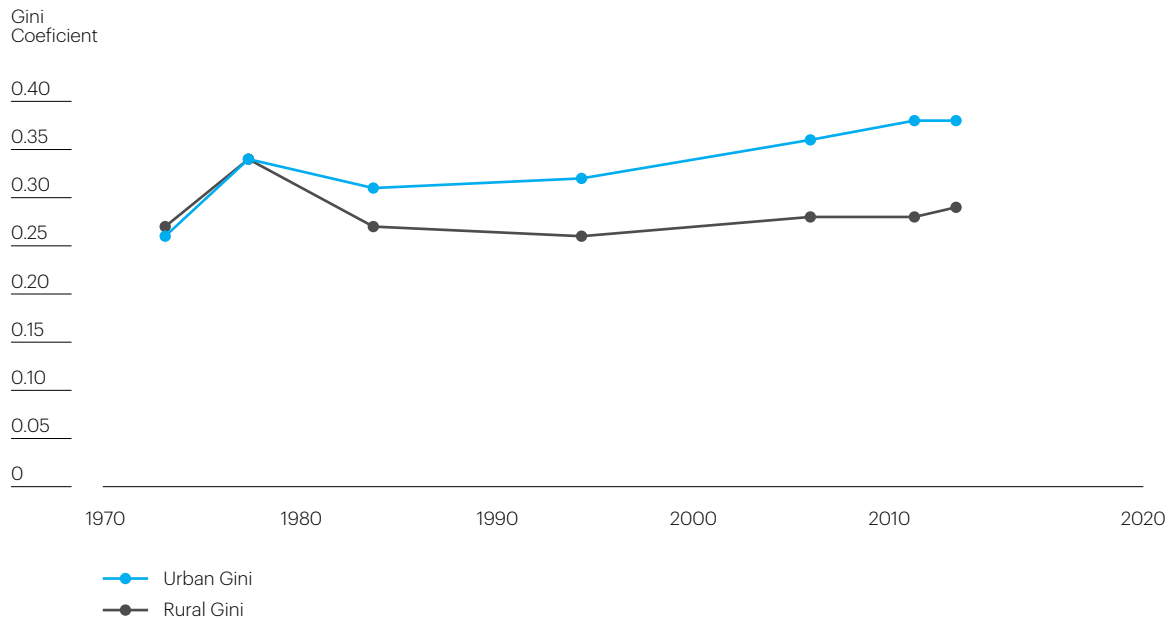
Source: World Bank (2015)

residents in 2014, has a large and diverse slum population —in 2011, there were close to 2000 slums in the city representing 54% of the city’s population. At the same time, Mumbai is one of the most expensive cities with luxury apartment buildings side by side with poor slums, offering a clear picture of division and exclusion. There are no exact data for Mumbai’s inequality. Income distribution for urban India computed by the (former) Indian Planning Commission shows the urban and rural Gini coefficients diverging over time (Figure 1.3), the urban Gini increasing from .27 in 1973 to .38 in 2010, and the rural Gini remaining below 0.30. While rural distribution has remained unchanged and people are relatively equal in their poverty, there is greater differentiation in urban settings but also less absolute poverty. India’s poverty rates (as % of people living below the

poverty line) in 2011 was 25.7% in rural areas and 23.7% in urban areas (WDI, 2015c).

In Brazil, urban inequality has oscillated around a high .45 average Gini coefficient. Between 1991 and 2000, inequality increased in 64% of Brazil’s municipalities; in the next decade, inequality declined in 80% of the cities, as a result of the Plano Real (which put an end to the prior hyperinflation), new job creation, increases in the minimum wage, the implementation of conditional cash transfer programs, and important reforms in the non-contributory social security system. Overall, between 1991 and 2010, only 7% of Brazilian cities saw a consistent increase in income inequality. One of those cities was Sao Paulo, whose Gini index increased from .56 in 1991, to .61 in 2000, where it stagnated through 2010 despite national gains in terms of greater income equality

FIGURE 1.3
Gini Coefficients in India



Source: India. Planning Commission (2012)

(Sao Paulo 2014, 2). In spite of this very high level of inequality, the proportion of households “vulnerable to the condition of poverty” declined from 19.5% in 1991 to 14.7% percent in 2010 (Sao Paulo 2014, 3). Throughout Latin America, the percentage of the population living in either extreme or moderate poverty has declined in the last two decades (Levy, 2016)

China’s urban inequality is complex. One of the most important divisions is between households that have an urban *hukou* (legal household registration in the city used to control initial migration in the last 30 years) and those that do not. According to Chan (2012), 205.6 million rural migrants (without an urban *hukou*) were living in Chinese cities in 2010. This represented 31% of the urban population, compared with 22% in 1990. While the situation of migrants in Chinese cities has improved in recent

years, most operate in the semi-informal sector, and do not have the right to state-supported health, education or housing facilities (see Box 1.1). Cho (2013) who studied the city of Harbin in Northeast China in the late 2000s, reports that China’s extensive urbanization in the late 1970s has led to “massive and uneven urbanization processes that have accelerated the dilapidation of working-class neighborhoods as well as the burgeoning of upscale gated communities.. [..]China’s urban poor also share job insecurity, marginality, territorial stigmatization, and the punitive gaze of others.... (Cho 2013, 169)”.

Not only in China, but in many other parts of the world, the phenomenon of *gated communities* has become evident in the years since Habitat II. These communities have been increasing rapidly in North America and Latin America. In the late 1990s, a survey of US cities showed that “new homes in

**Box 1.1 —
China's Control of Migration**

China's household registration (*hukou*) served two purposes – to slow down the permanent shift from the village and to ensure that urbanization was localized and diffuse and spread across many cities. The consequences of these policies are mainly three. China is probably under-urbanized; many Chinese cities are under-sized (Au and Henderson, 2006); and there are large urban-rural income gaps. These income gaps correspond to both consumption gaps as well as gaps in marginal productivity of labor in the urban vs. the rural sector.

The *hukou* system has lost part of its power in controlling migration. Instead, China has resorted to implicit policies used all over the globe, that is, making living conditions for migrants very unpleasant. Migrants to the largest cities cannot obtain housing in the formal sector, can't rent in the formal sector. They are forced to rent in urban villages that are pockets of crowded housing in slum-like conditions. Children do not have access to state schools and migrants are excluded from health insurance, social security, job-training programs and the like. Will these urban villages become the slums of India or Kenya?

Source: Henderson (2010)

over 40% of planned developments are gated in the West, the South, and southeastern parts of the United States" (Blakely and Snyder 1999, vii). In 2004 a British survey found more than 1,000 such neighborhoods in England, predominantly in London (Blandy, 2007). In Latin America, gated communities have emerged in most large cities. In Santiago, Chile private highways connect exclusive quarters of the city, accessible only to those living in these neighborhoods (Borsdorf and Hidalgo 2008). In Sao Paulo, downtown apartment buildings have elaborate security screening mechanisms to limit those leaving and entering (Caldeira 2000). Gated communities reflect the increasing divide in cities, resulting in the lack of interaction between economic and social groups. This trend coincides with an increase in crime and violence in many urban settings.

While urban inequality is spreading around the world, the provision of basic services remains poor. Slums may be housing a smaller portion of the urban population as a result of local housing policies and higher incomes, but for the millions at the bottom

of the urban system (especially in South Asia and Sub-Saharan Africa) garbage pickup and removal is almost non-existent. Toilets, let alone public toilets, are rare, and good quality running water to one's dwelling lacking. Well-funded public education is unavailable, and the quality of health services, transport facilities, leisure and open spaces is low.

One of the results of the poor supply of basic services is *public protest*. While protests over public services have occurred sporadically for some time, they have increased notably after the turn of the millennium. South Africa, with the best coverage for water, sanitation, electricity, and most other urban services in black Africa, has experienced persistent demonstrations and even violent confrontations since 2005. These protests are local and are symptomatic of a generalized lack of trust in local government (Hough 2008).

In Latin America, urban protest has been a constant tool to demand better services, more participation and less corruption, all of which

are part of the rights to the city. In 2013, local resistance to poor urban services erupted after Sao Paulo raised the bus fare by 7% (viz., from \$1.40 to \$1.50). In June 2013, the Free Fare Movement convened four marches, in which a few thousand people participated. A week later, another protest led to a police crackdown. In another week, the protests had spread to a hundred cities, involving a million demonstrators. These protests did not stop even when the government reversed the decision of the fare increase. Demonstrators used the opportunity to ask for better services, less corruption; and a crackdown on police repression (Frayssinet 2013).

In sum, inequality is disruptive, unfair and unproductive. It saps the dynamic energy of cities. It adds costs to logistics and security. Dealing with inequality will require a consistent policy to promote city growth, job creation and favorable investment climate combined with targeted income and social policies to help the most vulnerable groups access basic services and dignified income opportunities. Accountability, participation and good urban policies are equally urgent, as discussed later on.

URBANIZATION TRENDS AND CITIES

Urbanization has been a reality for the last two centuries. The urban population has increased from 4% of the world population in 1800 to 53% in 2015. Per capita income increased from \$200 per capita to more than \$6500, life expectancy rose from 45 to 78 years (Hohenberg, 2004). One of the characteristics is the speed of

urban growth. While it took Europe more than two centuries to urbanize from 10% in the 18th century to about 75% nowadays, it took only 100 years in the US and about 60 in Latin America to reach similar rates of urbanization. In China urbanization has been even quicker. Lower transportation costs and globalization has made it possible for urban settlements grow very fast. The number and size of cities has also changed. In 1800, only one city, Beijing had more than 1 million residents. The next ten largest cities averaged about 600,000. In 1900, the top ten cities averaged 2.6 million residents; in 2000, the average was 20 million (tenfold growth). In 1950 only one city had more than 10 million people —New York. Today there are 27 megacities and there will be 50 by 2050, when most of Asia will have been urbanized.

The location of the main urban centers has changed as well. Between 1800 and 1900 the growth of cities was concentrated in Europe and the US. In 1900 the economic stage started to change. In 1900, London was the world's largest city with 6.5 million people, followed by three American cities, three European cities and two in Russia. In 2000, the largest city was Tokyo with 36 million people, followed by Beijing, Shanghai, Mexico City and Sao Paulo, all among the top ten. Only New York, with an Anglo-European origin, remains in the top ten.

Projections by Hoornweg and Pope (2014) suggest that in 2050, the planet's largest ten cities will no longer be in the Global North. They will have shifted to South Asia (Mumbai, Delhi, Dhaka, Kolkata, Karachi) and Africa (Kinshasa, Democratic Republic of the Congo; Lagos, Nigeria). By the end of this century, 17 of the world's 25 largest cities will be in Africa. That is, the largest cities will be those in developing countries with probably fewer resources and less infrastructure available to manage this growth. One possible advantage for late urbanizers can be that they can plan ahead, and before investing in infrastructure, choose the most rational and sustainable alternative that can lead to or allow for inclusion and sustainability.

TABLE 1.1

World's Largest Cities (Urban Areas) by Population (Millions)

| 1800 | 1900 | 1950 | 2006 | 2050 | 2100 |
|-----------------|----------------------|--------------------|---------------------|--------------------|----------------------|
| Beijing (1.1) | London (6.5) | New York (12.4) | Tokyo (35.5) | Mumbai (42.4) | Lagos (76.6) |
| London (0.9) | New York (4.2) | London (8.9) | Mexico City (19.2) | Delhi (36.2) | Dar es Salaam (73.7) |
| Guangzhon (0.8) | Paris (3.3) | Tokyo (7.0) | Mumbai (18.8) | Dhaka (35.2) | Mumbai (67.2) |
| Tokyo (0.7) | Berlin (2.7) | Paris (5.9) | New York (18.7) | Kinshasa (35.0) | Kinshasa (63.0) |
| Istanbul (0.6) | Chicago (1.7) | Shanghai (5.4) | São Paulo (18.6) | Kolkata (33.0) | Lilongwe (57.4) |
| Paris (0.5) | Vienna (1.7) | Moscow (5.1) | Delhi (16) | Lagos (32.6) | Delhi (57.3) |
| Naples (0.4) | Tokyo (1.5) | Buenos Aires (5.0) | Kolkata (14.6) | Tokyo (32.6) | Blantyre City (56.8) |
| Hangzhou (0.4) | St. Petersburg (1.4) | Chicago (4.9) | Jakarta (13.7) | Karachi (31.7) | Khartoum (56.6) |
| Osaka (0.4) | Manchester (1.4) | Ruhr (4.9) | Buenos Aires (13.5) | New York (24.8) | Niamey (55.2) |
| Kyoto (0.4) | Philadelphia (1.4) | Kolkata (4.8) | Dhaka (13.1) | Mexico City (24.3) | Kolkata (52.4) |

Source: Hoornweg (2015)

In the past, urban growth has paralleled some broad economic structural changes:

- a. Urbanization has been consistently associated with growth, industrialization and income, with the possible exception of some African cities. Cities provide the density that is needed for agglomeration economies and for increases in productivity (Henderson 2015, 53).
- b. Urban hierarchy unfolds in tandem with the economic structure or specialization of a city/area. Medium-sized cities tend to be the site for specialized manufacturing while large and diversified cities are associated to centers of innovation and research where cross-fertilization helps innovation and new product development.
- c. Urban systems and cities have their own dynamics. Over their life, some cities gain and some

lose comparative advantage in producing different products. The largest cities deindustrialize and become service centers along with developing functional specialization (Duranton and Puga, 2005). Manufacturing then moves to hinterland areas and smaller cities. As explained by Henderson (2015), "It is difficult to evaluate whether individual cities are oversized or have the right industrial composition, or whether the city-size distribution in a country is relatively efficient".

- d. In the absence of empirical evidence on the optimal size of cities, the best urban policy would be one that creates a level playing field in capital markets and provides institutions to foster competition, including well-defined property rights for developers and access to capital markets for public infrastructure investments by local governments" (Henderson 2015, 83). Nevertheless, the role of non-primary cities merits increasing attention, especially in a scenario

of rapid urban expansion. Secondary cities are in general the recipients of the new migrants and the least prepared in terms of planning, infrastructure and finance. Coordination, targeted policies and guidance from urban planning to finance are much needed to provide secondary cities with the capacity (both intellectual and physical) they need to face the challenges ahead.

GROWTH DRIVERS IN CITIES AND WHY INEQUALITY MATTERS

The vast literature on sources of city economic growth converges on a simple framework — successful cities grow more because their workers are more productive (Moretti, 2014) and not because of better endowments of natural resources. The case of Bangalore, Silicon Valley and Shanghai confirm this argument. Differences in productivity are associated with three important competitive advantages related to forces of agglomeration: thick labor markets, thick markets for services and inputs, and knowledge spillovers. Cheshire and Magrini (2009) have tested these hypothesis for European countries within the EU and confirm the impact of four factors that explain differences in city growth, as measured by per capita GDP: (a) dynamic agglomeration economies (that favor city size and number of interactions); (b) activity and highly skilled human capital; (c) concentrations of research and development and (d) policies to improve incentives of local actors to promote local growth—the so called place-based policies. These work in conjunction with the above variables, notably

by making available local public goods (that benefit mostly the residents of a given city), creating institutions of higher education, as well as lowering congestion and density costs.

Research conducted by the World Bank and IPEA in 2006 for Brazil, confirms the above framework: It shows that workers' education, potential market size, and transportation costs had a major impact on productivity as measured by labor income. A change of one standard deviation in any of the three factors (labor education, market size, transportation costs) will increase labor income by 33%, 11% and 3%, respectively. The importance of transportation costs is considerably higher in other countries, such as South Africa, where studies show workers often spending a third of their income on transportation costs, not to mention the enormous commuting times spending getting from traditional housing locations to jobs. The cost of inter-city transport affects the productivity of the city. Productivity is also affected by the use of zoning and low levels of crime and violence.

Inequality and exclusion within cities will offset some of the above beneficial dynamics. First, inequality/exclusion reduces the benefits of economic growth (Kanbur, 2010). In and of itself higher inequality/exclusion creates tensions in society, especially when it occurs across visible socioeconomic groups, such as migrants, religions, or slum dwellers. Second, it reduces investment efficiency. Because of the high fixed costs of investment and imperfect credit markets, those with more wealth are better able to invest in their entrepreneurial projects, thus diverting capital from the poorer but possibly more gifted entrepreneurs (Banerjee, 2010). Third, inequality is particularly damaging when it affects the middle class. The middle class has a key role in generating the income that drives the tax policy, and cushions the poor against shocks and vulnerabilities and can help their integration into the wider society and labor markets (Kanbur and Spence). Fourth, inequality/exclusion also raises the price low income people must pay for essential services,

**Box 1.2 —
The Social Cost of Inequality**

Inequality as a sense of lack of reciprocity hampers political commitment and leads to withdrawal from participation, which is felt most acutely when citizens believe that the rules apply differently to different people. They resent the double standards and those who manage to manipulate the system to their own advantage. Such sentiments are a crucial source of social distrust, which in turn undermines the legitimacy of the welfare state, fosters aversion to taxes, legitimizes various forms of self-dealing (as justifiable compensation for others transgressions) and erodes public spirit. Accordingly, restoring reciprocity is the first step towards creating a society of equals.

Source: Rosanvallon (2016)

thus reducing their capacity to invest in shelter improvement or education. Slum dwellers usually pay more for water and construction materials, since they are supplied by small, inefficient providers (Brookings 2016).

A recent study of the perception of inequality in 10 cities in Latin America and the Caribbean reveals that 92% of inhabitants believe that inequality reduces quality of life and security (UN, 2013). When endemic poverty and high inequality exist alongside abundance and wealth there is a high risk of local tension, social and political fracture, and the violent redistribution of property with widespread social unrest (UN Habitat, 2008). All these factors tend to be associated with crime, which automatically makes the upper classes afraid and reluctant to live in mixed neighborhoods. The gated communities of Buenos Aires and Sao Paulo are the natural reaction of high-income people who want to live in the cities (where slums have encroached) but feel the need to protect themselves against robbery and crime. Thus, their generated fear cuts off avenues for dialogue and inclusion and creates spatial divides that are detrimental to the efficient functioning of cities.

WHAT CAN BE DONE AT THE CITY LEVEL TO IMPROVE EQUALITY/ INCLUSION?

The literature suggests two main ways to deal with poverty and exclusion: economic development and targeted interventions. Economic growth basically results from the adoption of new technology as well as physical and human capital accumulation, all of which generate employment opportunities, raise worker productivity and consequently earnings (Mills and Pernia, 1994). Growth also makes available public and private resources that can be used to improve institutions and basic services such as education and health care, which are essential to increase productivity and general well-being. However, not all types of economic growth can lead to a reduction

of poverty to the same degree and short-run interventions may be needed such as safety nets to address specific cases where general economic improvement is not sufficient.

Tools to improve income inequality in the short run include fiscal policies administered at the central government level in collaboration with local governments. This can include broad taxation on transfer of wealth, progressive income taxes (Atkinson, 2015), subsidies to children³ and a negative income tax for those citizens with incomes below a certain threshold. At the city level, conditional cash transfers have become widely used in the last twenty years (after their apparent success in Brazil) to provide minimum subsidies to very poor families while ensuring that children attend school and are vaccinated (Tepperman, 2015). In Latin America in 2011, these programs benefitted about 113 million people across 18 countries, representing 11% of the population.

Cities have unique tools to promote inclusive growth through job creation, infrastructure, and promoting favorable investment climate. Urban planning, land and housing policies, investment in infrastructure, systems of finance, and governance can be made responsive to the need to make cities more inclusive. Inclusive urban planning has strongly endorsed by urban scholars beginning with Jane Jacobs, and more recently by Saskia Sassen, and Doug Saunders as ways to promote diverse development across sectors and residents of different background (Sassen, 2015). Bertaud (2015) emphasizes the urgency to use flexible but accommodating pro-active planning that will guarantee access and connectivity for the new arrivals while benefiting from the dynamics and efficiency of the informal land and housing markets.

International aid agencies such as the World Bank, DfID, CAF -Development Bank of Latin America-, and the Asian Development Bank are refocusing their aid strategy to address urban inequality and are helping local agencies and cities move forward. Many cities

have adopted poverty alleviation programs that include housing as a human right, while promoting community development and embarking on nationwide participatory processes for the provision of basic services (World Bank, 2015a). Projects such as the Metro cables project in Medellin offer a telecom connection to slum dwellers together with innovative public transit systems. Community organization based approaches, such as the Slum Dwellers International (SDI) are bringing together slum residents to help them identify and implement strategies to improve (and finance) community infrastructure (Belo Horizonte), childcare and community sanitation (Dhaka). CAF has a solid urban development program that aims to improve the social capital of vulnerable areas and emphasizes an integrated urban transport, the creation of public space, early education, water and sanitation, and institutional development. It also finances major analytical and public policy studies, seeking to generate knowledge and improve the development of cities.

DECENTRALIZATION AND GROWING IMPORTANCE OF CITIES

The capacity of cities to deal with exclusion and equity (as well as with economic growth) is determined in large part by the decentralization framework that defines the responsibilities of local governments. In the last 20 years decentralization has established itself as a political and institutional phenomenon promoting increasing responsibility to local governments for the provision of basic services, collection of revenues, broad political participation and consultation. In more than 130 countries,

3. The UK's Child Benefit Program.

principles of local self-government have become the norm in territorial administration (UCLG, 2009).

The initial decentralization efforts seem to have occurred in 1940-1960s, when some African and Asian countries attempted to delegate some powers to local governments as part of their independence process. The attempts were unsuccessful as military and political pressures insisted on central governments. Similar developments occurred in Latin America as military regimes endorsed strong central governments.

Decentralization expanded dramatically in the 1990s in line with the growth of civil society and democracy. The trend was worldwide, from Africa, to Eastern Europe and Latin America. According to Campbell (2003), by the end of 1990s more than 14,000 subnational governments in Latin America had democratic elections. The institutionalization of decentralization has materialized through the enactment of special laws —e.g. The Philippines 'Local Government Code of 1991, South Africa's 1997 Constitution, India's Amendment to the Constitution in 1992, and Brazil's 1988 Constitution. The new legislation establishes the division of responsibilities and taxing power across the levels of government, the accountability of localities to the central authority and to tax payers, and possible limits on access to credit and borrowing. Participation processes, including participatory budgets that have been used extensively in Brazil are part of the decentralization process but the details are left to the local government. In 2004, more than 300,000 Brazilians participated in participatory budgeting. In 2013, about 3000 cities around the world experimented with participatory budgets (Dias 2014). Half of those were in Latin America.

In most cases the distribution of responsibilities is along well-established public finance policy principles (Musgrave, 1958; Bird, 1995). Functions of macroeconomic management stability and distribution should be handled by the central government (with access to a larger tax base) while resource allocation functions are best handled at the local level to allow the residents (and tax payers) to influence the decision process and supervise the outcome. Issues of externalities and economies of

scale (inherent to investment in trunk infrastructure, for example) need to be handled at regional level to take into account the spillover effects of decisions taken at the local level.

In practice, three issues are often contentious in decentralization schemes. The first is the access to national shared revenues, directly through shared taxes or indirectly through intergovernmental transfers. As local governments have access to a much smaller tax base than the central government (income taxes and international taxes are the province of central governments) the need for equalization transfers is evident, but the terms of those transfers are often subject to debate. Often subnational governments demand larger shares of national tax transfers, invoking the fact that to finance the services under local authority, more funds are required. Subnational government may also dispute the underlying formula that guides the sharing process. These questions may last for years, as in Argentina and Brazil. In Brazil, some of these problems were dealt with by amending the constitution to allow sub-national entities to retain a certain percentage of revenues to finance education and health. This has created a fiscal strain nationally, however, and has not been matched by incentives to increase efficiency. In Argentina, the inability to update revenue sharing formulae has limited the capacity of the central government to deal with macroeconomic events (World Bank, 2015b).

An additional issue is the need to guarantee that the provision of trunk infrastructure (such as mass transit and water supply) can benefit from economies of scale to demand the lowest cost and that standards of service provision (e.g. water quality, education curriculum, pollution and emission, etc.) are enforced at local level. As seen in Part 2, many countries have used metropolitan arrangements to coordinate these services. In the discussion of how much to decentralize, if the pendulum goes too far in favor of local autonomy, we may end up with highly decentralized local government and fiscal structures that facilitate fragmentation at local level within a metropolitan area precluding the benefits of externalities and economies of scale, and hamper the effectiveness of inclusivity approaches.

2 —
WHAT
CAN CITIES DO
AND FOR
WHOM?

Cities have considerable latitude to improve inclusiveness and to deal with inequality. This happens through the delivery of an array of services and infrastructure by ensuring citizens the access to participate in local decisions, and by managing common resources and urban policies that have a direct impact on local markets and on income opportunities for the urban residents. This is the case for land policies, housing markets, inclusive urban planning, and affordable transport. Local governments also provide access for citizen participation. Access and accountability depend on the extent to which citizens can communicate with their local government. New approaches to encourage citizen access and participation include online access to government information and data (Slack 2014a) and participatory budgeting as described earlier.

ACCESS TO HOUSING

Access to decent housing is one of the most important issues that cities face when dealing with inclusion. Despite remarkable progress in the decline of slum dwellers (as a percentage of the urban population) and greater understanding of how to provide progressive shelter for the urban poor, the number of people lacking basic shelter is still staggering —800 million people in 2014 or one quarter of urban populations worldwide.

We know that one approach is for migrants to settle in the suburbs of cities where land and shelter are more affordable and then hopefully to improve their economic situation over time. In addition to these segregated developments sprawling outside of major cities are concentrations of poor closer to metropolitan area. The existence

of slums and informality in most of the large and medium-size cities of the global south reflects the mismatch between demand and supply of affordable structures, serviced land and/or lack of transportation that limits housing options. In the absence of affordable public transport, the working poor are limited to a walkable area to find jobs. The tradeoff often faced is between lower housing standards or no work at all.

How countries have dealt with housing deficits varies across countries. In developed countries, public policies may be interventionist, either providing public housing or subsidized rental housing for people unable to afford “decent” housing. In the US, about 7 million households (half of the renter households) receive rental assistance (Arnott 2009). In addition, developers are often required to provide a certain percentage (e.g. 20%) of affordable housing units in every new residential development (Moore 2013). Vancouver uses another scheme —density for benefit agreements— whereby cities grant developers increased density based on the number of affordable units they provide. In Singapore and Hong Kong housing ownership was part of the strategy to build inclusive growth and relieve a binding constraint to national development (Freire, 2013). Urban land was publicly owned. Provident funds mobilized resources for the construction and financing of the housing units, and a system of long and medium-term plans ensured that the initial vision of developing a city was maintained.⁴ In Europe, the housing programs are more diversified, often having a large component of purchase-assisted programs where families receive subsidized loans to be able to afford a given house.

These purchase-assisted programs have also been used in Chile, Brazil, Mexico, Costa Rica, Poland, and Egypt, usually using demand subsidies as a way to improve affordability. However, subsidies work only when they can trigger a supply response in the land or housing markets. If land

4. Slums disappeared relatively rapidly, as their land was used for commercial development. Residents were housed in apartment buildings built by the central government

or housing markets are distorted, as they often are in developing countries, demand-side subsidies might exacerbate the affordability problem for non-subsidized low-income households as rents or prices increase. In Brazil's case, to maintain affordable prices for the *Minha Casa Minha Vida* program, land was purchased away from the labor centers, which lowered the attractiveness of the program. Demand-side subsidies were used by the Chilean National Housing program, one of the first programs that worked with private sector financing

institutions to enable potential clients to leverage their savings and purchase a house. Through thirty years, the program has been revised, adjusted and made flexible so that the housing resources can be adjusted to the need of the resident (Hamman, 2015; Freire. 2013).

In developing countries the approaches vary from country to country depending on specific context, income level and political commitment. For the most part, programmatic flexibility,

**Box 2.1 —
Incentives Towards Affordable Housing – an International Perspective**

International experiences demonstrate that the success of affordable housing programs at municipal level depends on the availability of affordable serviced land. In periods of accelerated development, demand for office space and residences increase and urban land prices sky rocket. To offset this outcome, municipalities and states need to take measures to remove any excessive controls on land use or building permits (like height or space floor ratios) or offer subsidized housing in places with services connected by public transportation to the labor market. Examples of the public sector's capacity to leverage its resources and promote affordable housing in cities include:

France: National-level affordable housing policy. France provides low-income housing at the national level, through the Solidarity and Urban Renewal Law, which requires that 20 percent of housing in all municipalities with a population greater than 3,500 is dedicated to public social housing. Those municipalities that do not meet the requirement pay a fee, which is in turn invested into social housing development.

UK and the Netherlands: Non-profit sector housing provision. In the UK and the Netherlands, the non-profit sector has increasingly played a role in the provision of low-income housing. Registered Social Landlords (RSLs) in the UK are non-profit organizations that develop housing partially subsidized by the government. In the Netherlands, non-profit housing associations provide over 99 percent of the low-income housing stock. These associations are financially independent from the government, although the government does play a role in guaranteeing loans for housing improvement by these associations.

Ireland: Designating land for affordable housing development. To address the issue of a lack of available land, the Irish Planning and Development Act (2000), allows local governments to designate up to 20% of residentially zoned land for different income levels. This policy intends to ensure the availability of land for different class groups, with an emphasis on social housing.

Source: Kamal-Chaoui, L. and Sanchez-Reaza, J. (eds.) (2012)

adaptation to local conditions, and community participation are seen as best practice. For example, urban upgrading financed by international aid generally focuses on the basic services, such as potable water and sewerage, paving, and improved access. One of the first large upgrading programs was the Kampung Improvement Program (KIP) of Jakarta in the late 1970s. Focused on essential infrastructure and promoting the contribution of the communities, the program had a record low cost (\$120 per resident in Jakarta) and benefitted more than 30 million people since 1989 (Surjadi and Haryatiningsih 1998; World Bank 1995; Freire 2013). These programs have evolved as the results of past intervention, success and failures, and are taken into account in the design of new projects. The general framework includes: (a) recognition of the residents' rights and needs, (b) general acceptance of security of occupancy of land, (c) access to basic public services and sanitation, and (d) community involvement in planning, and participatory budgeting for community public goods. The examples of community organization in India, Thailand and Cambodia have been very successful (Freire 2013; World Bank, 2015a).

As localities become more familiar with the details of applying and preparing a slum urbanization program, more sophisticated approaches can be used whereby residents, local governments, and credit institutions work together. The World Bank Vietnam Urban Upgrading program was one of the best examples whereby cities chose a combination of interventions, depending on the savings of the communities and their preferences and priorities. Local and state governments financed basic infrastructure, while the local community financed maintenance through the payment of tariffs, determined and approved by the community. Links to microcredit providers enabled the residents to launch small economic activities and provide additional jobs and income opportunity. Eventually, the beneficiaries of those programs left the ranks of the poor to join the large and rising middle class (World Bank, 2015a).

LAND POLICIES TO PROMOTE INCLUSION

Constraints on the supply of land are a major factor to overcome in reducing the housing costs of the urban poor and in accommodating the expanding population. Urban land is often too expensive for the poorest residents, who then need to move outside the city and settle far from the labor markets, which makes it difficult and costly to commute to work. Commuting by public transit in many African cities would cost more than half a poor household income. In Harare the poor spend more than 25% of their income on transport (Hook, 2005). In Mumbai, three-fifths of commuters walk to their job.

Inclusive land policies are rooted in a couple of principles: coordination between land use and infrastructure planning, valuation of land assets, sensible regulations and available finance. Hanoi for example has been able to grow without the formation of many slums because the government set of prudent rules for land markets and infrastructure. It allowed the densification of former village areas, it pushed road networks outside the city, and avoided demolishing the older houses (World Bank, 2013a). The new roads opened new land for formal developers while improving connections between existing villages and the modern city. In Bogota, the Program of Slum Improvement had the specific objective of connecting the formal city with 26 major slums, improving the connection to the labor market, legalizing land ownership, providing water and sanitation and constructing community facilities.

Urban planning is especially important during rapid urban growth. It is needed to chart a course for cities, to set general terms of urbanization, and to ensure that land policies are coordinated with infrastructure development. Lack of flexible urban

planning is at the root of challenges faced in many countries in Latin America and Africa. Uganda, for example, faced land problems due to lack of fiscal capacity at local level to acquire land or protect rights-of way; land transactions were hampered by poor tenure security and lack of records, land markets were underdeveloped and competition was very limited. The Republic of Korea is considered a model of success where urban planning and land management institutions have evolved to meet the challenges of expanding urbanization (see Box 2.2).

The link between land and transport is particularly important in the quest for inclusivity. Affordable land is a function of distance from the city and its labor market and takes into account available modes of transportation; it is hugely affected by zoning and regulation. Bertaud (2015) suggests an interesting approach. He defines urban land as the land that is available within less than one hour travel from the city center and he argues that with available and affordable transport, this land outside the city could be made available to the urban poor. This would, in his view, be equivalent to a significant increase in supply of urban land. A practical solution would be to plan transportation networks so as to effectively expand the land supply for the lowest-income urban groups, increasing transport's door-to-door speed by allowing faster and more efficient transfers between transportation modes. More than many of

the more traditional low-income housing programs, "improving transportation and connectivity would expand land supply, hold down housing costs, and have more impact on the quality of housing of the poor and on their employment" (Bertaud, 394).

Even when there is a good potential for development of newly available land, the existing laws and regulations may need to be modified to accommodate the changing needs of the newly expanding city. Density regulation (one of tools to limit the quantity of property that can be developed on a plot of land) has played an important role in limiting the capacity of cities to densify, de facto limiting the supply of urban land. Take the case of Bangkok and Bangalore. Bangalore has floor area ratios between 1.75 and 3.25, well below most cities whose FAR average about 5. Research has shown that if the FAR limits were lifted and density increased, the city's radius would be 1/3 less than what is actually, reducing commuting times and saving family income. Bangkok followed a different policy. During 1974-88, when growth was rapid and land prices were increasing, developers were able to increase density in their projects. The average number of units grew from 36 per hectare to 56, with multi-family units increasing in 1990 to 40% of new construction, compared with 2% in 1986. Informal housing was less than 3% of the total, compared with 40% in many developing cities (World Bank, 2013a).

Box 2.2— Planning ahead - The Case of Korea

The Republic of Korea is often considered a model of success in terms of urban planning and land management policies as they adapt to the different phases and needs of urbanization. Land development programs were established first, followed by a land-use regulation system. Then came comprehensive urban planning, with guidelines for 20-year visions, zoning decisions, and planning facilities. Downtown development projects abided to the phased scenarios under the comprehensive plans. Metropolitan management started in 2000. During the process, national housing programs provided affordable housing and multiple transport systems were designed and implemented to facilitate access to jobs and connectivity.

Source: World Bank (2013a)

Box 2.3 — Questioning the Modernist Ideal of City Planning

A persistent “outcry” against zoning and urban regulations and their impact on unaffordable land and lifeless cities is emerging in the literature. Frenchmann (2015) proposed to abandon the “modernist ideal” of urban planning. “Current urban land and design policies are outdated. Most take for granted the ideals of a modernist ideals of a city, with separate living and shopping and working quarters a model invented in 1920 when land was plentiful, cars were few and gas was cheap. There is now ample evidence that this form of city is wasteful, inequitable and unsustainable. This model inspired the Chinese model of gated, single-used “tower-in-park” developments (very intense in energy consumption) and pushed aside all informal settlements as substandard. It has led to many governments to clear informal settlements and replaced them with standardized housing at much higher costs. This is often against the desire of the communities which, once basic sanitation is installed, they invest in progressively improvements of their housing. Medellin has been one of the first cities to get away with the classification of slums and treat all neighborhoods as if they were first class housing providing them with the social infrastructure and communication available in other parts of the cities (Samper, 2010).

Source: Frenchmann (2014)

Bertaud (2015) presents the case of Ahmedabad. Between 2000 and 2010s, 2,600 hectares were developed in the city. Of these 5% were developed and occupied illegally and 95% were developed formally. Of the formally developed surface, only one-fourth was available to be developed by the private sector and sold at market prices. The rest was kept in reserve, which allowed the government to intervene in the market in the case of a significant increase in land prices, so as to maintain usable space at affordable prices. The 5% of new land developed by the informal sector as slums and urban villages now accounts for residence for 35% of the population. Without the rigid regulations imposed by the city to the formal areas, the informal city was able to provide shelter to a larger number of migrants at relatively cheaper prices. The density is much higher than the planned sectors. Whether the original settlers in slums were squatters or paid for the land, a market was immediately created and properties are now constantly traded. The market regulates the change between residential and commercial uses, streets and open space (Bertaud, 2015).

The above example suggests that there is much to be learned from how informal urban land markets are organized and function, facilitating the arrival of millions of urban migrants. Rather than excluding (or banning) the informal sector, inclusive land policies ought to include slum areas into the city’s planning. This would improve connectivity between new settlements and the center of the city and revise the way new land supply is allocated between private and public uses (Bertrand, 2015). Recognizing and guiding the development of informal settlements could be the best strategy for years to come as argued by Janice Perlman in the case of Brazil’s slums, many of which have undergone positive changes over past decades (Perlman, 2014).

International experience indicates that cities productivity and livability are enhanced by infrastructure investments. Work by Bertaud (2010) on Korea and Annez et al (2010) in Bangkok, Seoul and Hong Kong show the role that massive government investment in infrastructure had not only in supporting industrial activity but also in absorbing the large influx of households with increasingly better living conditions.

Tunisia is another success story as slum housing declined from 23% in 1975 to 2% in 1995 (Hamman, 2015). This progress would not have been possible without massive investment in water and sewer trunk infrastructure by the national utilities. Government intervention to increase the supply of serviced land varies across countries.

The main reason of the systematic lack of serviced land is the lack of financial and planning capacity at local level. In the last ten years, we have witnessed renewed interest in tapping various land-based instruments to finance urban infrastructure. In developed countries, cities look for ways to require developers to pay all or part of the costs of infrastructure for new development through impact fees. Other countries have successfully used other instruments such as land readjustment in Korea, betterment charges in Colombia, land leasing in Hong Kong, tradable development rights in Sao Paulo, land sales in China. While these sources do not provide a steady stream of income, they have allowed many cities to fund large investments in urban infrastructure in the absence of other sources of finance.

FROM SLUMS INTO MIDDLE CLASS

The widespread growth of informal urban settlements became a central policy issue in the last two decades. Images of slums are ubiquitous, as exemplified in the *favelas* of Brazil and the huge, underserved settlements of Lagos and Mumbai. During the 1960s and 1970s, international agencies like the World Bank, and later, UN-Habitat, began to focus their urban development efforts on improving housing and basic services for the poor, but the size

of the problem and the approaches used (mostly top down and expensive) could not keep up with the demand, nor could they prioritize the most needy as the primary beneficiaries of public housing.⁵

Following UN-Habitat's ground-breaking 1996 Report, the issue was taken up seriously by both researchers and journalists. Accounts of the appalling living conditions in slums were published.⁶ Research on how slum residents adapted, survived and exited those conditions was the subject of Perlman's research (*The Myth of Marginality and Favela*). She showed that slum dwellers had the same aspirations, moral values and drive to succeed as any middle-income family. They just lacked resources, opportunities and recognition. More recently, a new analysis examines the history behind various attempts to redevelop the Dharavi district in Mumbai—a vast slum area of about 750,000 people. Redevelopment plans have had difficulty in succeeding due to a complex structure involving the private sector and the slum dwellers. But some see the situation differently—“It is often a good thing that they do” [tend to fail] (Weinstein 2014, 174). If all these people were evicted Mumbai's economy would be seriously hurt, as much of its drivers, domestic workers, garment manufacturers, garbage collectors, and office workers would not be available. The same situation is found all over the world—slum dwellers and the middle class and formal sector depending on each other— but separated by spatial, economic, and social divides.

Are people consigned forever to live in slums? Do they move out of slums and/or transform the slums into “decent” neighborhoods? Longitudinal studies in the *favelas* of Rio (Perlman 1976, 2005, 2010), and in a squatter settlement in Guayaquil, Ecuador (Moser 2009) show considerable movement out of slums and into better serviced neighborhoods as families improve their positions in the workforce through education and economic initiative. These studies show that migration from villages and rural areas to the big cities happens

5. See Buckley and Kalarickal, 2006 for review of the alternatives used.

6. See Neuwirth, 2005; Davis, 2006; Otter, 2007; Boo, 2012.

in a two-stage process. In the first stage, poor villagers move to low-income neighborhoods of cities and in the second stage, they and their families spread outward and find opportunities in the more established parts of the city. The neighborhood to which they first migrate, called an *arrival city* by Saunders, is linked both to its *originating villages* as well as to the established city. “Its political institutions, business relationships, social networks and transactions are all footholds intended to give new arrivals a purchase, however fragile, on the edge of the large society, and to give them a place to push themselves and their children further into the center, into acceptability, into ‘connectedness’” (Saunders 2010, 11). This passage reveals the drama of millions of households, including those who have been involuntarily displaced and may face rejection and segregation wherever they look. While conditions may be harsh within some of these arrival cities, says the author, without them the established cities might stagnate and die.

On the whole, the numbers of slum dwellers over time reflect a steady improvement but the needs are still overwhelming. Currently, an estimated 863 million people reside in slums in the developing world. More than 3 billion lack water piped to their premises. Nearly 2.5 billion lack access to ‘improved’ sanitation (UCLG, 2014, 216). Between 2000 and 2010, more than 200 million slum dwellers gained access to improved water, sanitation and durable and less crowded housing. Between 2010 and 2012 alone, an additional 44 million people were no longer considered to be living in slums (UN 2015). This is a considerable achievement, given the 2 billion people who migrated into cities in the last 30 years and the lack of resources in many of the receiving cities. But the majority did not fare so well!

Dealing with inadequate—or even a total absence of—services is still a challenge for hundreds of millions of urban dwellers, particularly in the developing world. When the state has little or no presence in so many local urban

Box 2.4 — Local Coping Mechanisms

In a study of low-income fringe neighborhoods in Dar es Salaam, Alphonse Kyessi examined the range of actors involved—mostly outside the official water supply agency—in the distribution of water to households on a daily basis. One location, Tungi, had a population of 17,500, and the other a population of about 24,000 in the period around 1999 when the study took place. The author shows that all basic infrastructure, such as water, roads, nursery schools, health facilities and markets, were provided informally or spontaneously. For both settlements, informal subcommittees of local people, working with CBOs dealt with issues of education, markets, water and even conflict resolution. In the case of water, water management committees were set up with considerable help from the Lions Club, local businesses, and even the UNDP. Finding support and labor for acquiring wells and pumps took a great deal of local time, but was successfully managed—almost totally by the communities themselves (Kyessi, 2005).

A more recent study of five other “rapidly growing settlements” on the periphery of Dar es Salaam shows not only the lack of spatial planning in the new areas, but also the extremely diverse strategies (most of them community-based) that residents have deployed to organize essential services. The study comments that, in such a “reactive” system, some individuals or groups, because of their social/political connections or their physical location, are more or less able to improve their immediate neighborhoods. Good connections are extremely important (Andreasen and Møller-Jensen 2016).

communities, participatory processes happen in an organic fashion. Participatory planning becomes spontaneous community-based planning in the Kinshasa, the Dar es Salaam and even the Mumbai of the world. In an article on family life in Kinshasa, Guillaume Iyenda and David Simon write:

“To survive in a city where no state support exists, urban dwellers are expanding their circle of

relationships, since almost nobody in Kinshasa can now rely on salaries alone. Women use their own networks and ties; they trust each other and they have become involved in self-employment in the informal sector as their principal survival strategy. In most cases, women’s working conditions in Kinshasa remain very hostile. Many still face police harassment, vandalism, lack of capital, inadequacies in raw material provision and merchandise, and lack

**Box 2.5 —
Brasilia – The Changing Face of Slums and Informal Settlements**

Lucio Costa designed Brasilia in the 1950s. Inspired by Le Corbusier, Costa used architecture to reflect the democratic values set out in the Brazilian Constitution. The planned city was divided in areas for residential, commercial, banking, and hospital needs, limiting the industrial areas and even the maximum height of the buildings. To prevent migration from affecting the perfection of the original plan, satellite cities were planned.

Over the years, Brasilia became the symbol of segregation and social inequality. The rich inhabited, for the most part, the main city while the satellite cities were populated by the poor, who had migrated from the rural areas of the country. Transportation was deficient and unauthorized settlements in the city strictly forbidden.

Fifty years later, the situation has changed drastically. The satellite cities of Brasilia that had grown both formally and informally as a set of favelas and low-income areas have now changed into active markets and residences for a newly created middle class. In the beginning, these satellite cities were sites for a black economy. Today, the formal and informal sectors of Brasilia interact with each other. The informal sector provides jobs and services, while the formal sector relies on the informal sector to provide cheap labor, without which the whole city would grind to a halt.

Many of the *favela* residents have become middle class due to the income generated by daily jobs in the core city. Between 2002 and 2015, the percentage of middle class families in Brazilian *favela* increased from 37% to 70%. Access to consumer goods has exploded: half of the inhabitants of the *favela* own a washing machine; 90% have a cell phone, 40%, a computer, and 45% are regular Internet users. About 70% go to the malls in the city center and eat out once a week. The imaginary line dividing the formal and informal fabric of Brasilia and other Brazilian cities has acquired a new meaning; it represents a frontier to access the potential for expansion across the informal areas that are now increasingly populated by the middle class. This is reflected in the newborn **slum housing market**, one of the sectors with the fastest economic growth in all of Brazil, with the value of land in the informal areas of Brasilia and other cities in Brazil having quadrupled in just four years.

Source: Rainer Hehl (2014)

of suitable sites from which to sell goods in hygienic conditions in markets and other public areas” (Iyenda and Simon 2006, 234).

On the other hand, the progressive transformation of informal neighborhoods into middle class territory is less written about, although it may constitute the very core of the urban success (Perlman, 2014). Growing under the radar screen of artificial planning and zoning laws and too poor to attract high-end activities, former slums grow “organically” as their residents make more money, improve their housing, and claim and obtain better social services. They benefit from synergies between the large formal sector and those family and informal activities typical of slums in Mumbai, Sao Paulo and Brasilia (see Box 2.5). It may be a question of time, but the informal, ad-hoc settlements of people coming into a city, will very often grow into middle-income neighborhoods if those residents are not blocked from getting into the labor market or forced to accept crippling regulations that are out of their budget range (e.g. minimum housing plot sizes).

MIDDLE CLASS SUCCESS IS PART OF INCLUSION STRATEGIES

Middle-income groups are essential for growth inclusion and labor opportunities. They are the main taxpayers, they care about their city and they have in themselves the entrepreneurial skills that will help activity develop out of a slum or informal settlement. In the last two decades, the middle class has expanded as a result of steady economic

growth. In 2010 the world’s middle class⁷ was estimated at 1.8 billion (OECD, 2010). It is expected to reach 3.2 billion by 2020, with the bulk of growth coming from Asia.

Middle classes play a critical economic and social role. They have vigorously accumulated capital, be it physical (plant, equipment or housing) or human (education or health), and they provide a solid foundation for the domestic economy by driving consumption and domestic demand (i.e., a noteworthy case is Korea in this respect, see Kharas and Pezzini). Kharas (2010) stresses the importance of the strong propensity of the middle class to spend, in fueling economic growth, especially in China and India. In most countries, the marginal propensity to consume durable goods is greater than one, leading to a potential expansion of the domestic market if incomes increase. Others note the important role of the middle classes in providing support to democracy and moderate political platforms, and in redistributive policies that promote inclusive growth (Pezzini, 2011, Fletcher 2013).

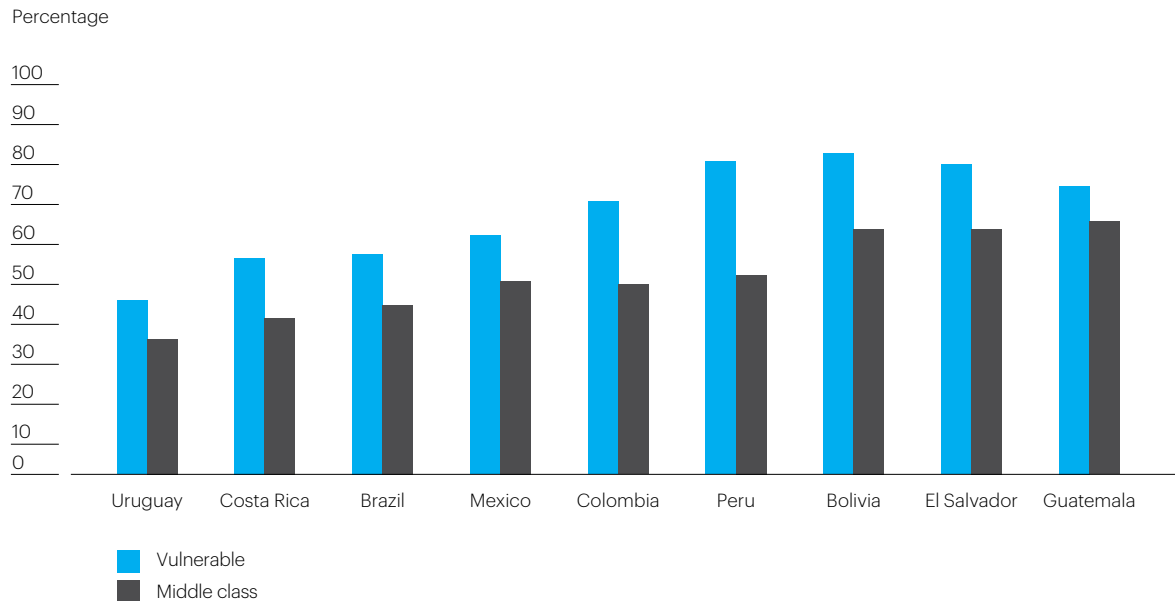
However, middle classes are vulnerable, especially the new entrants to this income group. The expansion that resulted from two decades of sustained growth (Birdsall, 2015) is slowing down due to the global economic slowdown and structural changes in the global economy. In the U.S. average incomes of the middle class seem to have declined (3%) compared with increases in cost of living, including the cost of education, housing and health care. Housing costs in some areas are increasing twice as fast as wages. The situation is aggravated by the polarization of job markets into low-wage labor and highly educated positions, and the high entry cost into small-business environments (Saunders, 2015).

In developing and emerging countries, while the middle sector is rapidly expanding, they face vulnerabilities. Many of the middle class work in informal jobs, and

⁷ Middle class is broadly defined by Kharas (2010) as those whose daily consumption is between \$10 and \$100.

FIGURE 2.1

Informality and the Middle Class in Latin America 2010
(Percentage of middle-income households with no contributor to social insurance)



Source: Lustig, N. and A. Melguizo (2015)

the lower income groups (the strugglers according to Birdsall et al. (2014) are at risk to fall into poverty. Latin America is a good example. In Mexico, 60% of the 44 million people in the middle class are informal workers who have relatively low educational skills and are functioning outside of the social protection system. Less than 15% of informal workers in Brazil, Chile and Mexico are covered by social security and health coverage. This means that when they get sick, lose their job, or retire, they will not be provided for by public health insurance, unemployment benefits or pensions, and run the risk of falling into the ranks of the region's disadvantaged. In fact, the middle sectors are closer to the disadvantaged than to the affluent in many aspects.

Helping the middle class requires a multi-pronged strategy. It begins by revising the bottlenecks that small firms face when starting up a business

activity, especially the taxes, bureaucracy and red tape. The middle class generally thrives in situations where the informal and formal sectors collaborate. Saskia Sassen (2015) reminds us of the creativity found in large cities where informal markets and ethnic enterprises benefit from the combined creativity of some and the purchasing power of others. To encourage the development of a robust middle class, cities need to be mindful of how tax, land and social policies can be used to develop the middle class, notably avoiding the destruction of mixed neighborhoods threatened by the development of modern services and rapidly increase in land prices. In the long-term, the success of the middle class, notably in Latin America, is linked to the need to improve total factor productivity (lagging in comparison with OECD and Asian economies), itself a function of human capital and education levels.

FINANCING CITY INCLUSIVE GROWTH – WHICH SOURCES OF LOCAL REVENUE?

To promote inclusive growth, cities need to deliver public services and invest in infrastructure. Cities fund these expenditures out of their own-source revenues (taxes and user charges), intergovernmental transfers, and external resources. Own-source revenues are critical because they not only allow cities to deliver the services that people want but they also ensure that cities are accountable to their constituents for the services they deliver and the revenues they collect (Bird and Slack, 2014). However, how much cities rely on own-source revenues depends on the city size, economic conditions, and level of urbanization. In Brazil, small cities of 5,000 residents or less, depend on grants for more than 90% of their operational revenues; in the case of cities above one million, grants account for half – 45%. In general, larger cities are more autonomous, reflecting their larger economic and tax base (World Bank, 2013b).

Paying for Services

Own-source revenues include user fees, property taxes, sales and business taxes, vehicle and transit related taxes. **User fees** are the appropriate vehicle to pay for goods and services such as water, energy, solid waste, or public transport for cities at all levels of development. Proper pricing helps consumers decide how much to consume, decreases excess demand and therefore reduces the pressure to invest in additional capacity. Unfortunately, user charges are

subject to local politics and often are set below what is desirable, especially in developing countries (Slack, 2014). They are considered to be regressive when in reality, those who benefit most from underpricing services are those who make the most use of them. This is particularly the case for water, energy and transit.

On equity grounds, in the case of low-income groups who may not be able to afford cost-recovery level tariffs, targeted subsidies may be needed. The poor often pay higher prices per unit of water or energy than do wealthier people. Water vendors in poor urban areas may charge several times the unit cost of modern water service (Klein, 2012). Price discrimination can restore equity by charging rich and poor differently. This can be done by offering different combinations of price quality mix, including access on limited times, or lower quality, or flexible payment. Cities can also provide subsidies for equity but often these subsidies do not increase access to services, since connections are often the most important barrier for the poor to access water. To expand access, subsidies should be targeted to poor people. This can be done by means-testing (as in Chile's water subsidies), by targeting the areas where the poor live or by offering lifeline rates (for reduced service at reduced price). Above all, expanding access will benefit from efficient services that run at the lowest possible cost, itself the result of good knowledge and management capacity, scale economies, loss-control and understanding the advantages of working at multi-locality level (Komives et al, 2005).

Property taxes. The property tax is a good tax for cities at all stages of development. Real property is immobile, and there is a link between the types of services funded at the local level (e.g. security, public lightening, street cleaning, transport terminals) and the benefits to property owner. Property taxes also have an impact on land use; they stimulate the use of the property by increasing the cost of holding unused land (or speculation). This impact may be particularly important in rapidly developing cities, as demand for serviced land leads to an appreciation of its value.

Despite the advantages of the property tax, in developing countries the use of property taxes

is made difficult by the lack of adequate land registration systems, poor assessment practices, and inefficient tax collection and enforcement. These together with the tax high visibility explain the relatively little use (and skepticism) of property taxes in developing countries⁸. Recent advances in technology (such as GIS), and the success registered in Colombia, Uganda and Rwanda are giving a renewed boost to the use of property taxes (World Bank, 2014). Between 2008 and 2012 Bogota updated its cadastral database, reevaluating 2.1 million properties and generating a revenue stream of \$171 million per year (Ruiz and Vallejón, 2010; World Bank, 2013b).

Business taxes. Many countries have local business taxes in the form of corporate income taxes, license fees, and various forms of industry and commerce taxes (Bird, 2003). While these taxes tend to accentuate rather than reduce disparities between localities, they are popular with officials and citizens for several reasons. They produce substantial revenue, are responsive to economic expansion, and local governments have more discretion over the rate and base. Business taxes account for one third of Abidjan's revenues and four-fifths of municipalities' revenue in Hungary. In Latin America, local business taxes are quite common in Colombia, Argentina, Chile and Ecuador.

Local governments have access to other sources of revenues such as vehicle taxes, income taxes and sales taxes. Vehicle taxes or transit-related instruments *such as* parking fees and road tolls are easy to design and can have an impact on reducing traffic congestion (and pollution) while generating revenues (Bird and Slack, 2013). Road tolls and congestion charges have been used in Singapore, Stockholm and London. In developing countries, vehicle registration fees and fuel taxes can also generate revenue. Income taxes are used in Northern European countries (in the form of a 'piggyback' onto higher-level income taxes). The sales tax (while in principle a good tax) is rarely used.

⁸. Property taxes represent between 2.0 and 2.5% of GDP in industrialized countries, and less than 1% in developing economies.

Worldwide, sales taxes are being replaced by VATs that are administered at central level.

Intergovernmental transfers. Transfers from national governments are an important source of local revenue, especially for poor and small localities. In Brazil, small municipalities depend on transfers for 60 to 80% of their revenues. Shared taxes and equalization transfers are in general formula-based to take into account differences in need and potential income and ensure that localities can provide a basic bundle of services to their constituents. Transfers can be a powerful tool to improve inclusion in cities, especially earmarked and matching grants aimed at supporting social policies. However, transfers can become "addictive" and reduce the enthusiasm of cities to levy and collect local taxes and can also be biased by political considerations. Some countries, like China, have explicitly limited the dependence of cities on central government transfers. This explains the reliance of Chinese cities on land-based instruments as well as fees, charges and business taxes as main sources of revenues.

Paying for Urban Infrastructure

In addition to taxes and user fees to pay for infrastructure, cities can use other sources including land-based revenues, and access external resources. Each has its own positives and negatives and often depends on the regulatory and institutional framework of the city. In the land-based revenues, one includes land sales-leases, development charges and land value capture.

Land sales: Cities can leverage the value of their assets (including land) by direct sale (or lease) of public land. Land is often sold through public auctions, generating important upfront cash. Peterson (2009) mentions the auction of 3,100 ha of desert land in Cairo for \$3.1 billion, Mumbai's auction of land in the central district for \$1.2 billion, and Istanbul's sale of an old bus station for \$1.5 billion. Chinese cities have used extensively a system of land leaseholds, collecting 95% of the land leasing revenues. Some caution should be taken against the reliance of Chinese localities on the revenues

generated by land sales, as this may encourage sprawl and unused land in the middle of cities.

Development charges are a one-time levy imposed on developers to finance the capital costs associated with new development (e.g. water and energy connections). It is essentially a cost recovery mechanism. The charge is levied for works constructed by the city and the funds are used to pay for the infrastructure. Development charges are mostly used in developed countries. They need a strong regulatory authority to ensure that the fees are collected and used for the defined purpose.

Land value capture taxes. Land value capture (LVC) has become a standard argument for implementing taxes based on land⁹. The rationale is that the value of privately held land increases as a result of public investments in infrastructure or from a change in regulations. Public investment in roads, transit, water and sewerage systems and other major infrastructure are capitalized into surrounding land values. LVC proponents argue that, governments should use taxes and fees to collect at least some of this increase in land value for public purposes including funding infrastructure. Land value capture taxes work well in rapidly growing cities where there is significant land value to capture, especially as agricultural land is converted in urban land and population density increases (Walters, 2012). The most common forms of LVC taxes are betterment levies, increment financing, and sale of building rights.

a. *Betterment levies* are direct charges on property owners to pay for infrastructure improvements that benefit their properties. The charge is levied on a portion (between 30 and 60 percent) of the land value gain arising from the investment (Martínez-Vázquez 2014). The steps involve assessment of the increase in the property value due to the project, collecting the tax on that amount, and investing the proceeds in the project being planned. Colombia's case is well known (see Box 2.6).

b. Under *tax increment financing (TIF)*, cities earmark any future growth in property taxes to pay for the public investments in infrastructure. For a period of between 15 and 35 years, all or some portion of the incremental tax generated from the investment accrues to the redevelopment agency (or the municipality) to be used for the repayment (Merk et al. 2012). This option is mainly used in the US. Often capital investments are funded through borrowing or issuing bonds against the expected incremental tax increases. TIF funds are used to pay back these bonds.

c. *Sale of building rights.* A variant on the betterment tax has been implemented in Sao Paulo since 1995. In this system, the city identifies the additional development that will be permitted in a given area —by a change in regulation such as the FAR— and issues Certificates of Building Potential (CEPAC) for areas which are then sold through electronic auctions on the Sao Paulo Stock Exchange. A license to build over the current FAR requires payment in CEPACs based on the number of additional square meters that are applied for.¹⁰ São Paulo has obtained considerable revenue from this process. In 2012 the auction of CEPACs yielded \$420 million to local revenues on top of the \$ 2.5 billion from previous auctions (Smolka, 2012).

Despite the rationale of LVC tools (mainly the betterment levies), there are several issues in introducing them to developing countries. First, it is often difficult to determine in advance how a given public project will impact land values, especially when records on land transactions are scarce and imprecise. Second, it may also be difficult to determine precisely which properties will be affected and who should pay the tax. Third, taxpayers may resist to pay a tax without knowing how it will be used (Booth, 2012). An alternative to taxing the increased (and unearned) value in the benefitted properties is to collect (from the same beneficiaries) the amount

⁹. The concept of LVC has been in circulation since J Stuart Mill wrote his treatise in 1848. The consensus is that unearned increments in land value must be recaptured by the community.

¹⁰. This system gets around the problems of estimating the change in land values arising from building rights by relying on what developers are actually willing to pay under competitive market conditions (Smolka 2013).

that is required to pay for the public project. This would be equivalent to a cost recovery mechanism, which is better understood and better accepted by the taxpayers.

A number of countries in Latin America have tried to introduce LVC taxes, the best known being Colombia. Colombia's system of betterment levies was established in 1921 and is now regulated under a 1970 law. In the past fifty years, they generated one-fourth of local revenues in Bogota, Medellin, Cali and financed more than half of Bogota's arterial road network (Uribe 2010). As mentioned before, the main problem of using betterment fees is how to assess the increases in property value due to improvements. This requires good data on sales and prices and institutions for valuation. Box 2.6 summarizes the Colombia experience in designing betterment levies.

The United Kingdom and India have also tried to implement a betterment levy with mixed results. In the UK, several laws have been enacted since 1947 but most have not lasted and have produced negligible revenues. Land owners faced with value capture taxes of 40% to 60% simply withheld land from the market, resulting in land shortages (Booth, 2012). In India, during 1998 and 2002 several cities used betterment levies, beginning with Bangalore, Karnataka, Surat and Gujarat (Mohanty, et al. 2007) followed more recently by Mumbai, Delhi. But betterment changes in India face legal challenges. The courts have interpreted most state laws to require local government to actually make infrastructure investments prior to assessing any betterment charge.

In sum, betterment levies can be used successfully if properly designed and if the tax is seen as a cost recovery mechanism of the public investment, rather than as a pure appropriation of land value gains. Public compliance is also greatly increased if the charge is tied to a specific project. The work by UN-Habitat and the Global Land Tool Network (GLTN) have concluded that effective LVC requires a political champion, a good property tax law, and decentralized authority to implement the system. It also requires effective land use management

systems; adequate training, efficient and timely land valuation.

Borrowing. Borrowing is an efficient way to pay for assets with a long life. Where the benefits of a capital investment (for example, the construction of a water treatment plant) are enjoyed over a long period of time, say 25 years, it is both fair and efficient to pay for the project at least in part by borrowing, so that the stream of benefits matches the stream of costs through the payment of debt charges. Borrowing is a financing tool and not a source of revenue. In emerging and developing economies, local government borrowing is subject to regulations in terms of sources of finance, use of funds and borrowing limits to avoid defaults and over borrowing. Special financing institutions and public banks are often used to help local authorities to appraise and use borrowed funds and evaluation. Often, countries have public credit institutions that lend to municipalities (usually at a subsidized rate). Municipal Development Funds, and special institutions such as FINDETER, a second tier para-public institution that encourages commercial banks to lend to local governments and in this way encourage and help develop the local the local governments capacity to borrow and manage their debt (World Bank, 2013b). Many cities in the world borrow from international financial institutions, but mostly as a forward on-lending from their national governments. Few Brazilian cities have borrowed directly from the World Bank.

Public-private partnerships. Public-private partnerships play an important part in financing infrastructure and providing services. While the financing contribution may never be as high as once expected —Estache (2014) estimates that private investment would finance at most 20% of the infrastructure needs in the medium term— public-private partnerships also bring new ways to do business and improve efficiency in service delivery. Waste management (e.g. landfills management), water and sanitation and transit are sectors where PPPs have been tested and have been successful provided the local governments are able to supervise the contractual arrangement and resist any changes in the contractual terms, notably regarding prices and coverage. Latin America has been the stage for very successful PPPs in energy,

Box 2.6 — Betterment Levies in Colombia: How and Why They Work

Betterment levies in Colombia are a type of LVC aimed at recovering infrastructure costs. Enabling legislation determines that (a) the fiscal base for betterment levies is the incremental value properties experience because of the public investment (b) the amount of the levy must relate to the amount of the investment and should be proportional to the benefit rendered to that property; and (c) the amounts collected must be used exclusively to finance the project generating the benefit and consequent fiscal obligation (Borrero et al 2011).

In 1997, Colombia passed a Law (388) mandating local governments to adopt a master plan and use betterment levies as the main source of income to implement the plan. The legislation requires that cities capture 30 to 50% of the increased value through a levy called Participation de Plusvalias. Through 2009, the effort had been marginally successful. While construction companies were willing to pay taxes, landowners do not want to sell due to the impact of the tax on their expected returns.

Source: Walters, L. 2012

telecommunication and urban transport (e.g. the Transmilenio in Bogota). Chile road concessions between 1993 and 2001 were successful because the rules were transparent and the government had the capacity to enforce them. The situation was not so good in Mexico where 52 PPPs were negotiated between 1987 and 1995. The contracts had been re-negotiated, when the traffic projections did not materialize and the private partner required due compensations. The final result was the cancellation of 23 projects and the assumption of a debt of \$7.6 million (Hodge, 2006 and World Bank, 2014).

In sum, to finance provision of services and investment, cities need to develop their own-source revenue systems, price the goods and services correctly and enhance the information system with accurate and updated information. Transparency is important to encourage residents to pay their taxes. For many cities in developing countries, all the sources described above may not be enough to finance their needs. While PPP (in most profitable sectors) may cover up to 20% of the investment, the remaining 80% will need to be covered by the cities operational surplus, and international grants.

WHAT GOVERNANCE STRUCTURE FOR METROPOLITAN AREAS?

Urban growth, especially in a context of rapid growth, is likely to happen in the form of settlements that organize on the outskirts of an existing city. Over time, these settlements develop and create sets of agglomerations in need of coordination. This coordination is required for planning of trunk infrastructure, delivery of basic services, and planning ahead of the occupation of the available land. Often these areas are given special administrative status and even finance. Examples include, the São Paulo Metropolitan Region with a population of 20 million and 39 municipalities (including the City of São Paulo), the Metropolitan Region of

Buenos Aires with the City of Buenos Aires plus 32 surrounding municipalities. Mumbai Metropolitan Region (MMR) with a population of 22 million, including Greater Mumbai, seven municipal corporations, 13 municipal councils, and over 900 villages.

Metropolitan management is needed on several grounds: it facilitates coordination of services and investment on a regional basis, it allows for some redistribution of tax power and equalization of quality of services delivered across jurisdictions (such as education or health). Metropolitan governance is especially important in highly decentralized settings, as local jurisdictions may be unable by themselves to take care of the inherent externalities across city boundaries. In Dar es Salaam for example, the governance of urban transport is highly fragmented with three lower tiers, a metropolitan tier, and 20 different national and local agencies involved. The metropolitan tier does not have authority over transportation, and there is currently no regional body to address the transportation challenges

for the metropolitan area, including heavy traffic congestion and the resulting problems.

Externalities arising from extreme weather events are another issue that calls for cross-border coordination. A major flood, for example, will have an impact at the physical location of the flood, but it can also result in well beyond the boundaries of that jurisdiction, with disproportional consequences on marginal groups. In these cases, risk reduction measures need to be taken upstream, even if municipalities upstream are reluctant to give up land for river expansion or contribute to the costs of river management. In a fragmented local government system, the benefits of flood management programs may be enjoyed by people in a different jurisdiction than those who are bearing the costs, and there is no easy way to get them to pay for those costs.

While there is a clear need for metropolitan governance, there is no single model for large metropolitan areas.

Box 2.7 — Metropolitan Governance in Brazil

Brazil was one of the first countries in Latin America to define metropolitan areas. In the 1970s, the central government created nine metropolitan regions (MRs). Their main function was to channel investment for infrastructure in support of the industrial policy of the country. Financing was provided by the National Housing Bank and the Federal Transportation Department (Klink, 2008). In the following years, the Brazilian model of metropolitan governance changed considerably. The 1988 Constitution transferred the power to create metropolitan areas from the central government to the state governments, while municipalities were granted full federal status and made responsible for providing (and funding) basic services at local level. Investment for infrastructure became scarce due to the fiscal crisis and several adjustment plans necessary to control inflation.

Metropolitan authorities seemed to lose importance. However, the discussion on the relative responsibility of metropolitan authorities versus states and local governments continues to this day in Brazil. A Secretariat for metropolitan affairs is part of the Presidential cabinet, and the *Observatorio das metropolises* continues to debate how metro governance issues should be tackled. At the same time, Brazil shows impressive coordinating solutions in terms of voluntary cooperation. *Consortorios* for sector policies have been formed by hundreds of municipalities which share knowledge and some investment finance.

Source: World Bank (2015b)

International experience points to several criteria for designing metropolitan governance structures, including efficiency in exploiting economies of scale and ability to reduce negative spillovers across municipal boundaries, equity in sharing costs and benefits and accountability for decision making and local responsiveness (Slack, 2014). Efficiency and equity are best served by larger bodies that could benefit from larger resources and tax base; while accountability is best achieved at a decentralized level as residents will be able to associate their taxes with the body in charge of providing the services. Countries will adopt a structure that best fits their values including the independence of local governments or home rule. Many countries have Metropolitan Authorities to coordinate investment decisions, but most depend on grants from the central government and it is unclear how well they manage efficiency, equity and accountability.

- a. *Amalgamation* happens when higher levels of government merge more than one lower tier of government for purposes of efficiency or redistribution. Examples include the City of Toronto, now made up of 6 lower tier municipalities and a metropolitan tier which were amalgamated with the objective to reduce administrative costs, and South African cities such as Cape Town, Johannesburg, and Durban, amalgamated in order to promote the inclusion of low-income and previously segregated areas. Despite the apparent benefits of larger amalgamations in terms of efficiency and greater fiscal capacity, few cities around the world have organized themselves into regional or metropolitan governments for fear of losing independence and home rule (see Annex 1).
- b. *Two-tier government model*, includes an upper-tier governing body (district or metropolitan area) that covers a large area and a lower-tier of area municipalities. Redistribution is achieved at the upper level. Lower level municipalities contribute with tax revenues to the upper level (as a function of the size of its tax base); and the upper level provides services across the region in line with the needs of the population (rather than in proportion to the revenues) which allows redistribution from municipalities with larger tax bases to those with

smaller tax bases (Slack, 2009). Two-tier models can be found in cities such as London (considered a success), Barcelona, Tokyo, Seoul, Madrid Metropolitan Area, City of Abidjan, and Metro Manila.

- c. *Voluntary cooperation* involves an area-wide body comprising existing local governments in the metropolitan area with no permanent, independent institutional status (Sharpe 1995). These structures are very popular, in part because they are easy to create and easy to disband when they are no longer useful. Voluntary cooperation takes the form of municipal consortia (Brazil), urban communities (Marseille, see Box 2.8), inter-municipal authorities (Spain and Belgium), and core cities (the Netherlands). These bodies can levy taxes, user charges and/or collect contributions from the municipalities. Voluntary cooperation is often encouraged by fiscal incentives from state and federal governments. In the EU, regional development councils (associations of municipalities) were created as a requirement to access the EU development grants. In Brazil, thousands of consortia have been signed since the consortia law was approved in 2005 (Abrucio et al, 2011 and Arretche, 2013). In contrast to the two-tier system, which is usually imposed from above (by the national or state level), the voluntary cooperation model comes from below, because municipalities choose to cooperate (World Bank, 2014). A good example of voluntary cooperation was the creation of the ABC Chamber in São Paulo in 1997 to bring together the mayor, private sector groups, and civil society in seven municipalities to address two issues: the decline of the auto industry and the need for watershed protection (Wetzel, 2013). The shared nature of the problems helped to forge a new regional identity and led community leaders and politicians to tackle the problem of economic decline through a number of initiatives. The ABC consortium has worked because it was able to bring together different stakeholders to solve specific issues. Indeed, the Greater ABC is considered to be a “showcase of successful cooperation” (Arretche, 2013, p. 60). Others include Bologna, Italy —an association of 48 local governments and Montreal, which is financed by contributions of LGs and some grants.

**Box 2.8 –
Urban Community of Marseille from Voluntary Cooperation to Regional Agency**

In France, nearly all urban areas are administered by urban communities (OECD 2006). The best-known case is the Urban Community of Greater Marseille. It began in 1992 with three municipalities – Marseille, Marignane and Saint-Victoret – that created a public corporation (the *Communauté de Communes Marseille Provence Métropole*) focused on roads and traffic. Five years later, 17 other cities had joined, leading to the creation of the Urban Community of Marseille in 2000. It is a metropolitan organization with responsibility over regional economic development, transportation, land use and housing, crime prevention, waste disposal and environmental policies. The member localities have adopted tax-sharing agreements whereby the *Communauté Urbaine* collects a common tax on business, thereby eliminating tax competition among the local municipalities.

Source: Slack (2007)

d. *Special-purpose districts*. Special-purpose districts are used to deliver services that spill over municipal boundaries, mostly in countries with strong and autonomous local governments. In the United States, for example, one-third of all local governments are special districts or school districts. In Europe, several countries use special purpose districts including Copenhagen (for transportation), Randstad (for water), Lausanne and Stockholm (for housing and water). Bogota and Vancouver use special districts and real estate. They are financed by user charges. Special-purpose bodies may lead to the possible proliferation of decision-making bodies, but they prove efficient in terms of accountability especially if their services are funded by user charges.

In sum, neither theory nor practice tells us clearly which model of governance is best for large metropolitan areas. Some authors consider that a strong regional structure encompassing the entire city region is important (Klink, 2008) to address region-wide problems, such as externalities in service provision, transportation and environmental coordination issues. The question is whether a shift from inter-municipal cooperative governance to a regional government structure would be possible politically and would improve political legitimacy. At present, most decentralized countries have resisted moving into regional structures, for fear of additional costs and overlapping responsibilities.

NATIONAL URBAN POLICIES – CAN THE CENTRAL GOVERNMENT PROMOTE INCLUSIVE GROWTH?

Will cities by themselves be able to deal with the stack of issues defined above – massive urbanization, inequality and exclusion, political instability, and climate change? How should the responsibilities to develop urban policies be divided between national and local governments? There are several arguments that justify the formulation of national urban policies, even if their execution is largely local. First, long-term strategic planning for urban areas needs to take place within a national spatial framework in order to gain synergies between sectors and to avoid duplication and conflicts across regions. Second, the financing

needs for investing in infrastructure —especially for cities growing very rapidly— are unlikely to be met by local taxpayers. The central government plays the key role in revenue sharing, the organization of financing pools, and facilitating PPPs to help finance urban infrastructure. Third, issues of poverty, inequality, and climate change need to be dealt with at both central and local levels. Financing anti-poverty programs at the local level often deepens the differences between poor and rich municipalities and may lead to financial imbalances and the exit of wealthier inhabitants. The example of programs such as *Bolsa Familia* in Brazil and other conditional cash transfers are national programs that include well defined targeting, subsidy amount, monitoring, and criteria for success. Fourth, long-term infrastructure has a decisive impact on the organization of the urban landscape. Only the central government has the capacity to coordinate and develop a joint scenario for all the agencies that will collaborate in the design and implementation of such far-reaching urban policies.

In several countries, a long-term vision for urban development is reflected in national spatial planning. Many OECD countries have 5-10 years or more long-term planning goals, e.g. Japan (10 years) and Korea (20 years). In the past, national urban planning was seen as a way to promote regional development through industrial parks, regional infrastructure and choice of specific clusters of activities. In China, the several Five Year Plans that were implemented between 1982 and 1997 were fundamental in defining the “desirable” speed of urbanization, as well as the hierarchy of cities with clear roles for larger and leading cities, the role of the village enterprises, and the structural policies that directed FDI to four coastal special economic zones to encourage free market experimentation (Fujita et al, 2004). Japan and Korea used less determinist but equally clear policies in promoting or limiting urban growth and the organization of the large cities, including Seoul and its nine satellite cities as well as secondary cities.

At present, the role of national governments in urban policy varies a great deal, from little involvement in Canada and the United States, to more direct involvement in Australia, Germany, South Africa and Brazil. In Canada, the creation of a Ministry of State for Urban Affairs in 1971 with responsibility for the Canadian

Mortgage and Housing Corporation, and for general planning of national urban policies, was relatively short-lived, as the Ministry was abolished in 1979. Australia has a central ministry and a Council of Australian Governors that reviews major issues regarding metropolitan development. In Germany, the central government in 2001 established the Standing Conference of Ministers, responsible for spatial planning, which is now the main platform for urban development. One thing is clear, namely, that in countries where urban strategies were relatively well handled, as part of national development goals (e.g., in Korea, Malaysia, Thailand, and China), their policy formulation and implementation were the responsibility of powerful, cross-cutting development planning ministries or equivalent bodies reporting to the Prime Minister.

Urban infrastructure funds have been used by several countries to provide incentives for local governments to coordinate actions. Most OECD federal governments have created special funds for urban and metropolitan financing. Canada has the Green Infrastructure Fund (\$1 billion) and the Municipal Green Fund to provide grants, guarantees and loans for green investments. Australia has Infrastructure Australia, created in 2010. In Germany, urban infrastructure is financed by the states (*laender*) and the federal government. A global fund is available to provide subsidies to regions and states.

South Africa, also a federal country passed a new, post-*apartheid* constitution in 1996. The constitution sets out three “spheres” of government, national, provincial and local, and includes the means of coordination and powers among them. However, there is no requirement for a national urban policy, or for a national approach to all cities and municipalities. As the constitution was being finalized, the South African government developed an *Urban Development Framework* in 1997 but the document had little impact at the national level. After several failed attempts to pass a National Spatial Development Perspective a new urban development framework document was still being discussed in 2014 (South Africa, 2014).

In Brazil, important institutional reforms took place that strengthened the role of the national government in

urban policy. In 2000 the Ministry of Cities was created and the Federal Law No. 10.257/2001, popularly known as the City Statute, was passed, describing the rights and obligations of cities, as well as recognition of the “social function” of urban property. The new Ministry of Cities focused political attention on the questions of land use and the problem of millions of slum dwellers. A National Social Housing Fund was created to provide financing resources for low-income residents in coordination with the housing financing bank (the Caixa Economica Federal). Furthermore, legislation was passed regulating the titling (or right of occupancy) of land illegally occupied. A major program, “My House my Life”, initiated under President Lula in 2009 and extended by President Rousseff in 2011, promised to build and deliver over 1 million houses in three years. In spite of its traditional local autonomy, Brazil urban and land policy have been controlled by the central government.

policies mean the encouragement for cities to have their residents pay fair and transparent taxes, knowing they can make the city accountable for misguided spending or open corruption. Good policies require continuous learning, data gathering, and experimentation. Finance will continue to be one of the most important bottlenecks for cities to extend accessible basic services to everyone in the city. And while poor and small cities will continue to depend on central government and international aid for more than 50% of their needs (especially for investment), it is up to the central governments and donors to impress the need for experimentation and innovation in local tax policy. The new concepts of land-based tax or land-capture value are solid and promising. Their implementation will require good information on prices, land, cadaster, and values the same information needed for an efficient property tax. Good policies require the umbrella of a well defined sustainable policy at national level that will provide the necessary guidance and background for identifying the challenge ahead as well as the tools cities need to face the near future.

CONCLUDING REMARKS

Cities have the capacity and the tools to improve equality and inclusivity among their residents leading to what Rojas (2011) calls the “right to citizenship”. The preceding paragraphs demonstrate that social equality will not be possible in the absence of “good urban policies”. These good policies include the provision of opportunities for everyone to access affordable housing with links to labor market and social amenities. They include good planning that prepares the necessary infrastructure for urban expansion in line with a vision for the city and its residents. Good urban policies also include good finances and good coordination. And these demand clear dialogue across government levels, as finance resources need to be shared and equalization funded through intergovernmental transfers. Good

3 —
**THE ENABLING
ENVIRONMENT
FOR SUSTAINABLE
CITIES**

As engines of socio-economic development, cities inevitably concentrate greenhouse gas emissions, and they are also the most likely to be negatively affected by climatic risks. Much of the health risk and vulnerability associated with climate change is concentrated in informal settlements (IPCC, 2014). Many of these settlements are in areas at risk of flooding and have hazardous shelter structures. Vulnerability to the impacts of climate change is a factor that affects many of the urban poor, notably because of a “shortage of human and financial resources, poor governance, biodiversity loss, and growing inequality” (IPCC, 2014). And even in cities in middle-income countries, the poor suffer most from poor infrastructure and environmental pollution. For example workers in Beijing, Mexico City and New Delhi face severe health consequences from poor local air quality. The 2016 World Economic Forum Global Risks Report emphasizes the inter-connection between climate change and involuntary migration, which links in with international security and often has large and unpredictable impacts.

How distant is the “sustainable city”? The concept of sustainable city that would mirror the definition of sustainable development was first defined by the Melbourne conference and has evolved and become more inclusive. Annex 2 shows the attributes of what a sustainable city would look like. This section reviews key sustainability issues at city and sector level, progress made and envisaged, and new tools that could help cities assess their relative performance in terms of sustainability and long-term investment in sustainability.

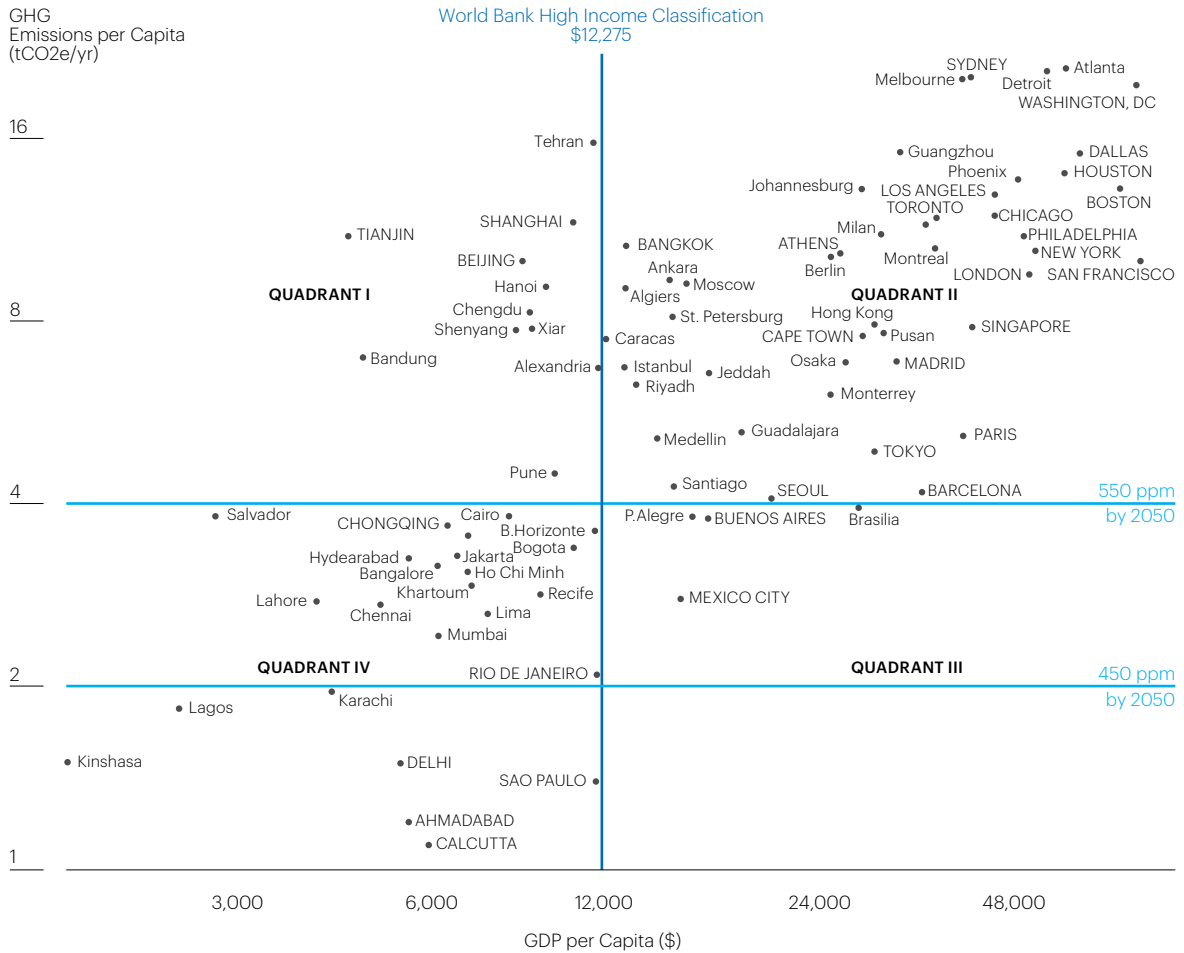
THE ISSUE

While the benefits of urban development are substantial, poorly managed urban growth can reduce the economic benefits of urban concentration and lead to increased costs. These costs arise from urban sprawl, inefficient public transport, energy inefficient buildings, social exclusion, and lack of basic services. The challenge of accommodating an additional 2.5 billion urban residents in 35 years will test the capacity of local governments to invest, prioritize, raise funds and abate GHG emissions while promoting income growth. The challenge is particularly severe as it falls mostly on developing countries where the capacity to invest and plan is relatively weak. The major increases in populations will be in cities.

Available demographic projections (Hoorweg and Pope, 2015) suggest that the next three decades will witness waning urban populations in Japan and much of Europe, but steady growth in South Asia. The largest impact will be in Sub-Saharan Africa, especially in the second half of the century. Cities will also be larger. By 2050 there are expected to be 50 megacities (those with 10 million+ residents); up from today’s 27 megacities; however, much of the growth in populations will be in medium-sized or secondary cities (see Freire, 2014; Yusuf, 2014).

In the absence of changes in technology and urban structure, the expected demographic and economic growth will result in substantial increases in GHG emissions, which is incompatible with the Paris COP 21 agreement to limit global warming to 2°C above pre-industrial levels. The reason for this is that historically per capita income has been strongly related to high emissions. The challenge in the short and medium term is to make future growth less damaging, that is, to create green growth (see Freire, 2014; and Yusuf, 2013). This requires two basic transformations —rich countries already at high levels of emissions need to lower emissions by more than 80%; developing

FIGURE 3.1
Typology of 100 largest Urban Areas, Based on Emissions and GDP



Note: Capitalized city names indicate that data from peer-reviewed metropolitan-level greenhouse gas inventories was used. Greenhouse gas emissions for all other cities were estimated based on sectoral activity and national emissions factors. Values are provided and estimated for the world's 100 largest urban areas as listed on the City Mayors website. Estimates are indicative, and not directly comparable to values from actual greenhouse gas inventories.

Source: Hoornweg & Freire (2013)

countries need to grow without increasing their emissions. Is this feasible?

Figure 3.1 (Hoornweg and Freire, 2013) presents a typology for the world's 100 largest cities, plotting per capita GHG emissions (Scopes 1 and 2) and GDP. The groupings are self-explanatory. In the

first quadrant (low per capita income and high emissions), one finds a few Chinese cities that grew quickly at the cost of substantial increase in emissions (mostly from coal-fired electricity). The second quadrant, high income and high emission, includes most of the large cities in the global North. Australian cities such as Melbourne

with average per capita GHG emission 400% of the threshold; and US cities such as Boston and Dallas emit more than three times the limit. The third quadrant —high income and low emissions is sadly empty. Only Mexico City and Buenos Aires with its low-carbon electricity have kept emissions below the 550-ppm threshold. Finally the fourth quadrant shows all the large poor cities where both income and emissions are below the thresholds but also below the income level. The issue for these cities is how to generate growth with a lower carbon footprint.

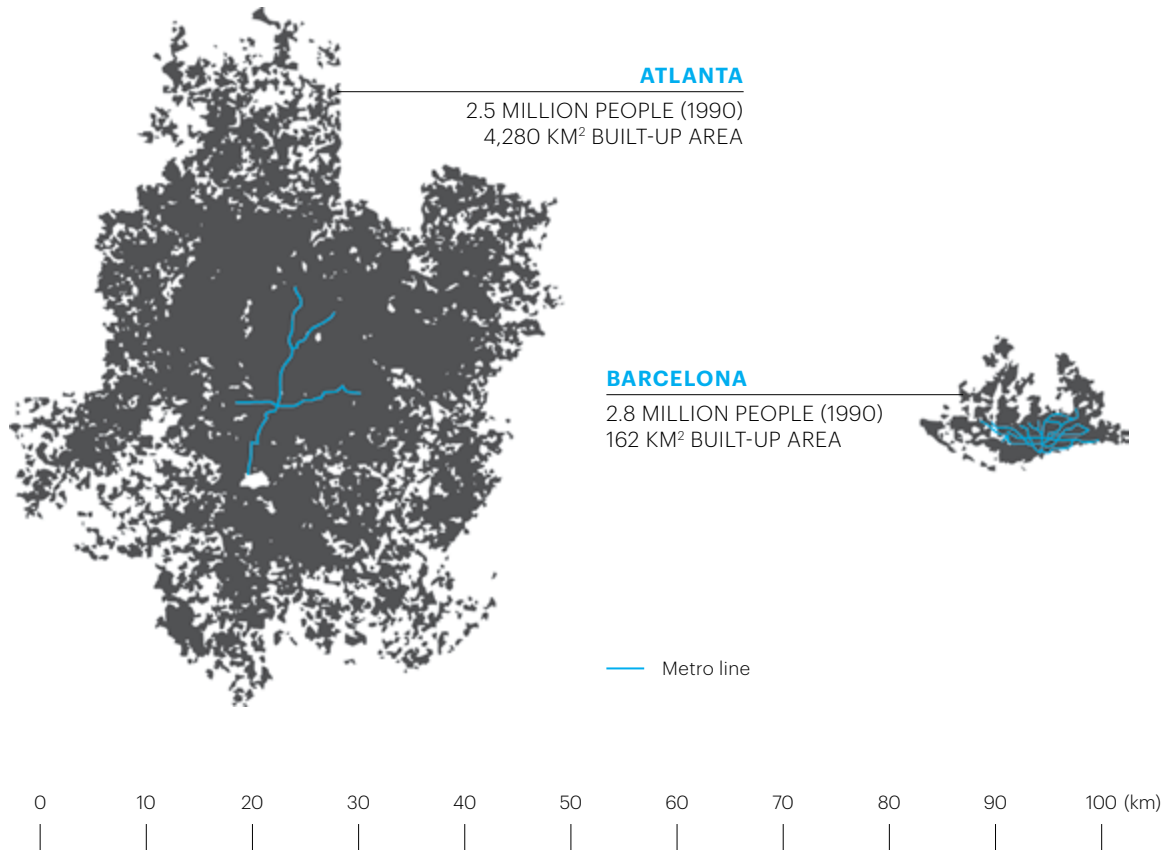
WHAT CAN BE DONE?

A rapidly growing body of analytical work has identified key groups for policy action to help reduce the urban contribution to GHG. These policy areas include: long-term infrastructure and locked-in impact, sprawl and urban form, pressure on environmental services (water, transportation and energy supply), insufficient innovation at a technology level affordable to poor countries, and lack of finance and governance.

- a. *Long-lived urban infrastructure* (mainly civil works) acts as the ‘bones’ of a city, locking in urban form and directing much of a city’s metabolism and material flows for decades, and even centuries. London’s tube (1863), San Francisco’s Golden Gate Bridge (1933), and Rome’s street alignment illustrate this well. The ‘ecological footprint’ associated with cities and their infrastructure will rarely change during the life of the city. Therefore planning and choosing well at the outset has never been more important in terms of global sustainability.
- b. *The role of urban form.* Cities by their design (buildings, traffic, lighting, water pumping, etc.) require large amounts of concentrated energy. But substantial savings in energy and GHG emissions can be obtained by optimizing urban form, building design, and mobility. Bertaud (2004) compares Barcelona and Atlanta (Figure 3.2). The two cities are roughly equal in population, affluence, and climate. Each is served by the same length of rail transport (160 km in Barcelona, 130 km in Atlanta). Yet due to the sprawling nature of Atlanta only 4% of the population can access the rail transit, whereas in Barcelona more than 60% of residents can access transit (‘access’ being within 500 meters). With its compact urban form Barcelona’s greenhouse gas emissions are less than 4 tons/capita, whereas in Atlanta (at more than 20 tones/capita) emissions are five times higher. Compactness is suggested to be the main driver for climate friendly development: it can halve land used per housing unit, lower the costs of providing public services by 10-30%, decrease motor travel and associated costs by 20-50%, and lower congestion, accident and air pollution. Moreover, compactness locks-in energy efficiency, and enables more efficient models of waste management and district heating (New Climate Economy, 2014).
- c. *Water scarcity.* The World Bank (2016) suggested water scarcity will be the most important constraint on well-being by 2050. The issue is complicated by the fact that water is often highly subsidized by governments, with the result that water is often wasted —in Brazil, almost 40% of water is lost through leakage; Hong Kong loses more than 25%; Singapore, on the other hand, wastes only around 6% (WEF, 2015). While there are important breakthroughs in recycling water, the issue remains one of poor quality water to the majority of citizens, inadequate investment by either the public or private sectors, and diversions of water for water-intensive agricultural exports at the expense of local consumption.
- d. *Transportation.* Connectivity is one of the greatest challenges facing cities, an issue that

FIGURE 3.2

Built-up Area of Atlanta and Barcelona Represented at the Same Scale



Source: Bertaud (2004)

is complicated by the need to decarbonize transportation. Mass transit systems take years/decades to develop and often require important cultural changes but many urban areas renewed their mass transit systems with clear success, e.g. Vancouver, Rio de Janeiro, Singapore, Mumbai and Brisbane. Urban sustainability is also influenced by congestion. Improvement in transport systems and urban renewal (to increase density and reduce travel times) are expected to contribute to a decline in congestion (KPMG, 2012).

e. *Energy.* Cities consume more than three quarters of the world's energy. And while a number of cities are moving towards alternative and renewable sources of energy, most continue to depend heavily on oil, coal and gas. Fortunately, new technologies and environmental policies are changing the way cities and urban consumers generate and use power. The introduction of smart meters and smart grids can change consumption patterns and allow utilities to better balance their supply and demand peaks. New forms of renewable generation capacity are

also coming to market.¹¹ These new technologies need to be incentivized, well priced, and increasingly adopted as a way to primarily provide cost-effective energy, and secondarily to help reduce emissions.

The costs of green growth. The World Economic Forum (2013) projects the ‘green growth’ needs for investment in infrastructure at global level of about \$5 trillion per year to keep to the 20C warming scenario. This infrastructure would almost entirely be developed within urban areas. McKinsey Global Institute estimates a \$57 trillion investment is needed between 2013 and 2030 (about \$3 trillion a year). A reasonable estimate is that between 2015 and 2050 global civil works (urban infrastructure) expenditures will exceed \$200 trillion (\$5.7 trillion per year), including remediation of flood losses from rising sea levels and storm events that Hallegatte *et al* (2013) project to be \$63 billion per year by 2050.

The trend towards sustainable cities is gaining momentum. At the national and international level, the progress since the UN climate change conference is evident. In part as the result of UNFCCC’s work, nations have adopted reduction in greenhouse gas targets that are now trickling down to the city level. Most of the industrialized nations and at least 35 developing nations (accounting for more than 80% of energy-related CO₂ emissions) have aggressive plans for CO₂ emissions reduction. Cities are becoming more active in establishing their own goals and sharing tools and experiences in associations such as C40 Cities Initiatives. Since the last major COP in Copenhagen, C40 cities enacted 10,000 climate actions —a doubling of actions in just six years— committing to reduce their CO₂ emissions by 3 Gt CO₂ by 2030, equivalent to the annual carbon output of India.

¹¹ Renewables are growing very fast and costs are coming down but issue is likely less about finance and more about storage technologies, existing grids, and inertia of existing utilities. For example, if you add many EVs to grid they can ‘pollute’ the quality of the grid and start destroying appliances and electronics.

There is good news in terms of new technologies that make infrastructure more energy efficient. In many cities, hospitals, schools and administrative buildings are enjoying the benefits of lower energy consumption through the use of low-energy HVAC, lighting and building materials. The use of renewable sources and energy friendly building design will allow many modern buildings to benefit from clean energy sources and to lessen the demand on distribution systems. So too, will a greater reliance on ground-source heat pumps for heating and cooling. As a result of a shift in demand towards more efficient buildings, leading developers recognize the commercial benefit of energy efficient buildings. Governments and infrastructure authorities are starting to build energy efficiency goals directly into the procurement and contracting of projects, creating strong incentives for developers to innovate. For example, in designing the tender and bid process for the Melbourne Royal Children’s Hospital, the government included an Energy Risk Sharing regime into the contract that bound the developer to deliver and maintain the facility at a certain level of energy usage.

What else is needed? Sharing better practices; prioritizing innovation, encouraging direct investment; exploring new models and approaches; tapping into innovative finance, and involving all stakeholders from politicians to municipality staff. KPMG (2010) identifies two particularly important factors: improving accountability/ coordination and undertaking serious economic assessments. For example, Brisbane and Singapore have developed a coordinated plan for urban infrastructure that takes into account all the pertinent aspects including housing, recreation, water and transport. To provide a realistic profile of the projects that will be financed by the private sector, new models suggest a wider focus for estimating the economic benefits associated with infrastructure projects, such as increased tax proceeds, new jobs and enhanced GDP. The Greater Manchester area, for example, adopted an integrated model for looking at regeneration programs (mainly transport and housing) as ways to increase connectivity, business and labor markets.

NEW TOOLS TO MEASURE PERFORMANCE AND SELECT PROJECTS

Around the world the largest city-building effort in human history is underway. Many older civil-works in the cities of Europe, North America and Japan are being replaced and retrofitted, and new construction is taking place in fast-growing cities. East- and South-Asia is now the world's fastest growing region; Asia Pacific alone is approaching \$5.4 trillion in annual infrastructure spending (PwC, August 2014). Cities of Sub-Sahara Africa are also ramping up growth as the region's urban population is expected to surpass East- and South-Asia's mid-century. Cities and their agencies are expected to spend at least \$100 trillion on infrastructure and urban service delivery by 2050. It is estimated that the amount of steel and cement alone to be used (if building methods are not changed) will use 80% of the remaining carbon budget to keep within a 1.5C global temperature rise.

While this urban infrastructure rush is underway, planetary limits are already severely threatened. Climate change, the rate of biodiversity loss, and the nitrogen cycle are all believed to be beyond sustainable boundaries (Rockstrom et al, 2009). The drivers of ecosystem degradation are mostly by-products of current urban lifestyles, e.g. greenhouse gas emissions, water use, and land clearing associated with agricultural products. This impact is bound to increase as urban populations double. In addition to the need to adhere to planetary physical limits and reduce environmental degradation, socio-economic targets are proposed, and these socio-economic targets and physical boundaries are critical considerations for all urban infrastructure. What needs to be emphasized is that more climate-friendly

solutions can be deployed that pay for themselves and do not hinder economic growth prospects in countries trying to catch-up. This is particularly the case of policy measures aimed at encouraging green or zero carbon buildings (which have an average of 3 years pay off period), compact or dense development, transport-oriented development (which has clear advantages in terms of integrating land markets and enabling the city to use land-base revenues to pay for new development). The work developed by GGKP (in collaboration with OECD, World Bank, UNEP) addresses some of these issues.

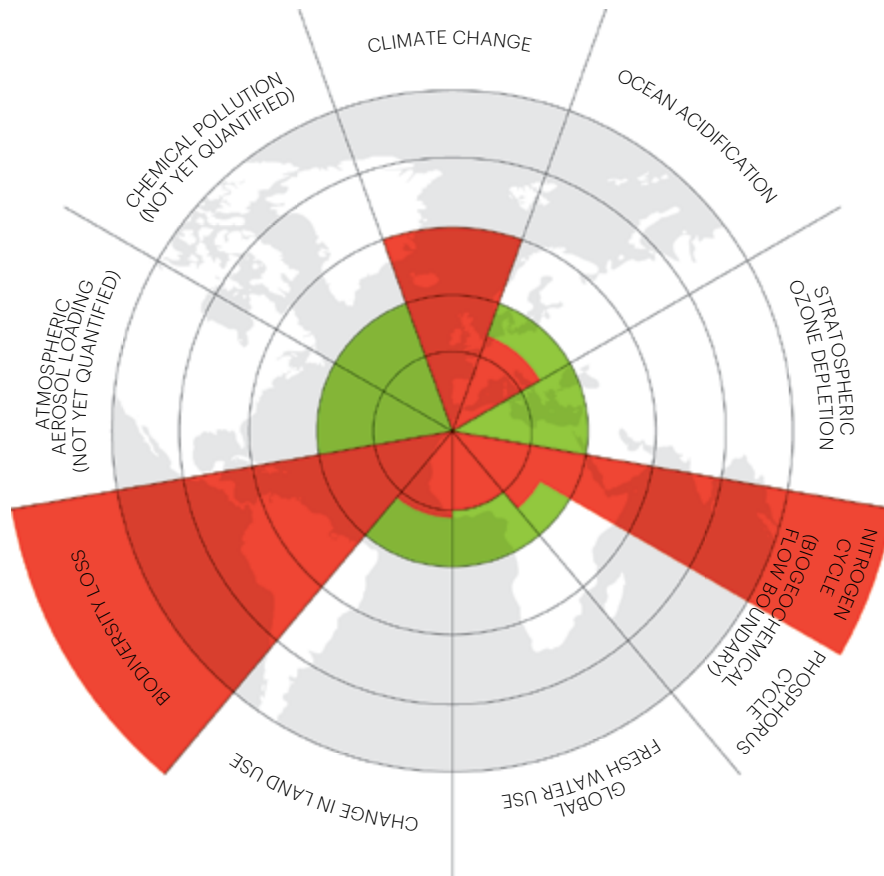
As cities play a central role in increasing sustainability, new metrics and analytical tools are increasingly needed. In this section we will present two models. The first is designed to help cities monitor their performance on several fronts, from the bio-physical to social and economic performance. The second model provides for alternative projects to mark their performance in terms of cost/per GHG emission. Using data regularly collected by projects and cities, these tools allow cities to become better able to make smarter decisions; moreover by sharing this framework with their residents and financiers, it can help build support for new technologies, help the planning process, and improve the choice of technologies.

From Planetary Boundaries to Socio-economic Performance

Assessment of sustainable development requires quantification of both the bio-physical environmental boundaries and social conditions. Rockstrom et al (2009) initially proposed a series of planetary boundary metrics that could be used to easily show progress towards bio-physical limits. Their work identified critical points that exceed the planetary system's regenerative capacities for loss of biodiversity, nitrogen cycle, and climate change. Today the phosphorous cycle and land use are considered to be approaching criticality (Figure 3.3). The framework was updated by Steffen et al in 2015.

FIGURE 3.3

Bio Physical Indicators for the World, Compared to the Boundaries proposed by Rockstrom (2009)



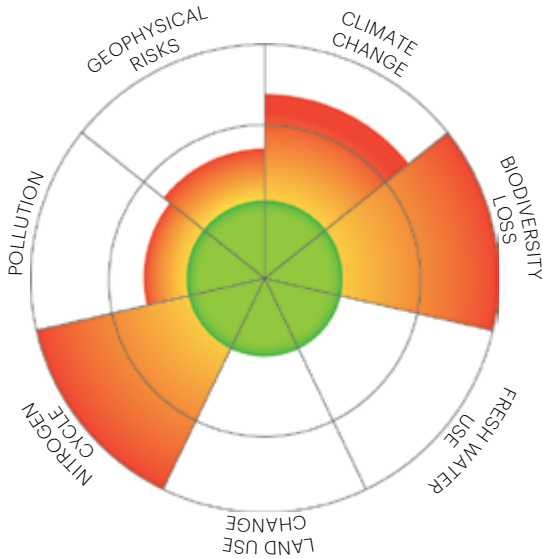
Source: Rockstrom et al (2009)

Based on the Rockstrom framework, one can compute a global aggregate for biophysical limits of the world's largest cities (over 5 million population by 2050), as they tend to have the largest local and planetary impacts. Values are presented in average per capita terms. An additional dimension for geophysical risk reflects seismic and weather related risks that a city might face, such as sea level rise, earthquake, volcanoes, landslides, storms and flooding. The computed value is an aggregate estimate of risk to life and property.

Pollution considerations are added to the boundaries shown above to estimate local (and cumulative) values for air pollution (smog and indoor/outdoor particulate matter), water pollution (COD, BOD, flotsam, and heavy metals) and land pollution (solid waste and brownfields). These locally generated wastes lead to critical pollution problems and related health issues. The values for pollution are expected to vary markedly for assessed cities. The limits are presented as an average for the overall urban area, even though pollution levels can vary markedly within a city.

FIGURE 3.4

Bio-Physical Science Boundaries for Cities in a Global Context (Aggregate Estimates)

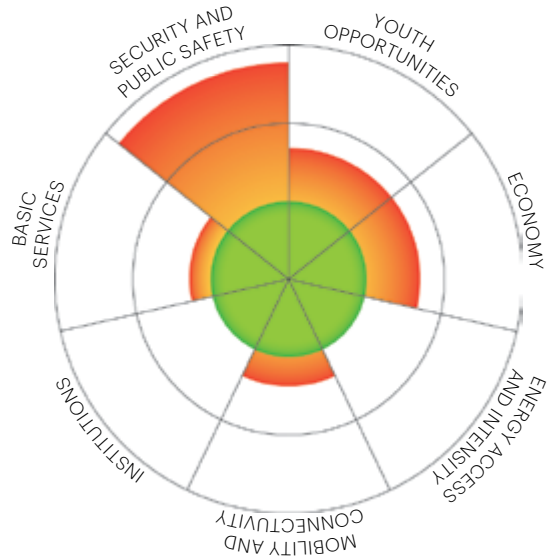


Source: Hoornweg (2015)

Most cities in addressing global threats like climate change will need to respond in ways that meet local imperatives, while also contributing to global objectives. Figure 3.4 illustrates how global biophysical concerns can be viewed from a local (city) perspective. It is clear that by 2050, the largest cities in the world would have exceeded three bio-physical boundaries: climate change, biodiversity and Nitrogen Cycle. Hoornweg applied this (Rockstrom) methodology to five large cities. For example, in Toronto land use, biodiversity impacts, and GHG emissions emerge as priorities, whereas in Dakar mobility and connectivity, security and public safety and (local) economy are priorities. Cities need to prioritize actions consistent with local conditions, e.g. air pollution in Beijing and security in Sao Paulo (consistent with local economic growth imperatives), however they

FIGURE 3.5

Socio-Economic Limits: Global Situation Compared to Targets



Source: Hoornweg (2015)

can do so in a manner that recognizes local and global sustainability objectives

Similar to biophysical limits, socio-economic limits, or boundaries, of sustainability are also proposed with seven metrics: youth opportunity, economy, energy access, connectivity, institutions, basic services, and security and public safety (see Figure 3.5). These proposed boundaries align with the Sustainable Development Goals (SDG) as outlined in Hoornweg et al (2016).

Figure 3.5 provides approximate global socio-economic boundaries —estimated in relation to existing targets and global limits. Most of the data are regularly available through data sets such as the Global City Indicators Facility (World Council on City Data); however approximations may be needed, as values are required for the

TABLE 3.1

World's Five cities- socio-economic indicators (global scale =1)

| Indicators | Toronto | Sao Paulo | Shanghai | Mumbai | Dakar |
|-----------------------------|---------|-----------|----------|--------|-------|
| Youth Opportunity | 1.0 | 1.7 | 0.8 | 1.5 | 1.9 |
| Economy | 0.9 | 1.5 | 1.4 | 2.2 | 3.6 |
| Energy access and Intensity | 0.8 | 1.2 | 0.8 | 1.2 | 1.0 |
| Mobility and Connectivity | 1.0 | 0.8 | 0.9 | 2.1 | 2.9 |
| Institutions | 0.6 | 1.1 | 1.1 | 1.3 | 1.4 |
| Basic Services | 0.9 | 0.9 | 1.0 | 1.8 | 1.1 |
| Security and Public Safety | 0.8 | 7.7 | 0.7 | 1.2 | 3.1 |

Source: Hoornweg, 2015

entire urban area, rather than the individual city alone. These limits are consistent with a hierarchy of sustainable cities (Annex 2) and reflect the foundations of urban service delivery. Three to five indicative measures are used for each limit. Youth opportunity includes metrics targeted to girls to reflect the critical nature of gender in economic growth (World Bank, 2012). In addition to per capita GDP (city-based) the economy limit includes Gini coefficients and population in slums (to capture general equity) as well as the overall city unemployment rate.

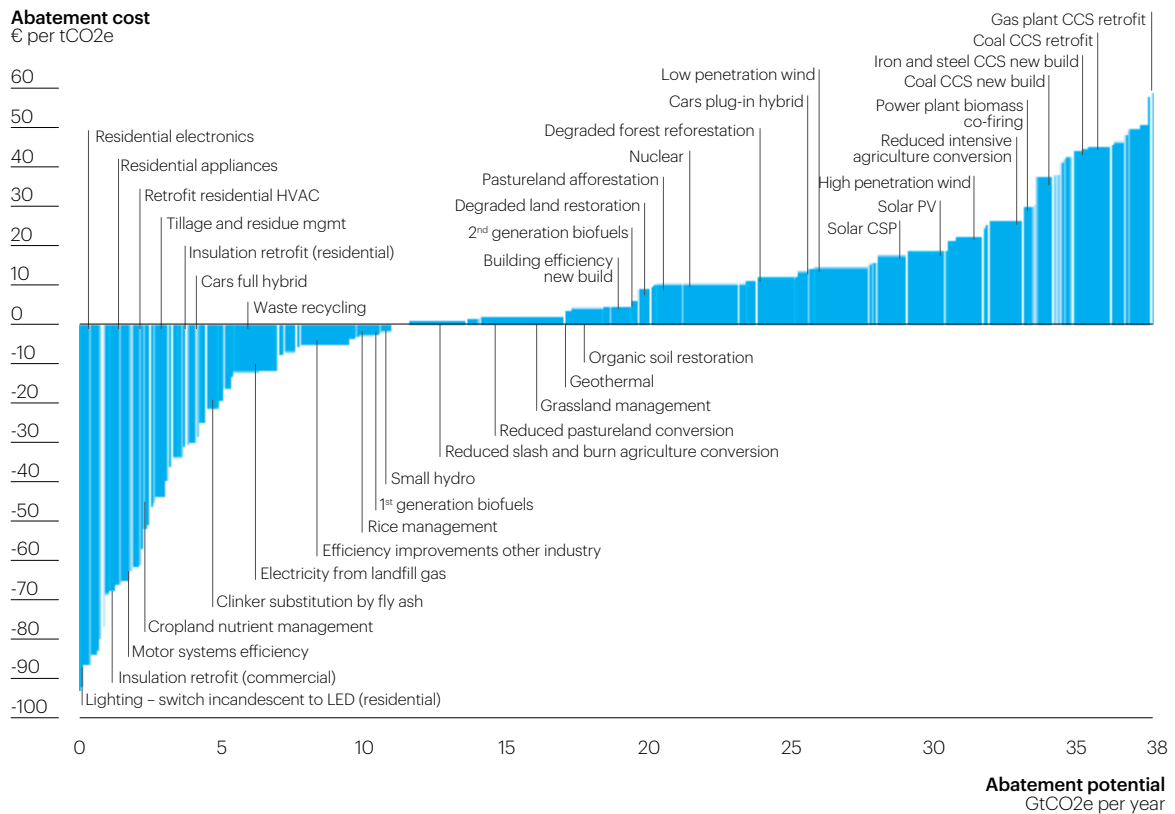
Hoornweg (2015) applied the methodology to five cities —Toronto, Sao Paulo, Mumbai, Shanghai and Dakar. Compared to the global average, only Shanghai has a better level of youth opportunity; Toronto's youth unemployment is highest of the five pilot cities, yet it has the lowest Gini coefficient. Dakar's economic challenges are manifest, reflected by low youth opportunity and low economic performance (Table 3.1).

UNDERSTANDING AND PRIORITIZING SUSTAINABLE URBAN INFRASTRUCTURE

Analyzing and understanding the costs and benefits of sustainable infrastructure is essential for any policymaker deciding on where to invest and how to finance urgent infrastructure, taking into account the impact on climate change related variables. The best-known approach is the marginal abatement cost curve which presents available options for longer term and comprehensive programs such as greenhouse gas abatement. MAC curves (see Figure 3.6) rose in prominence after the 1997 Kyoto Protocol agreement as countries sought ways to optimize delivery of mandated greenhouse gas emission reductions. Various economists, research organizations, and consultancies have produced MAC curves, including Bloomberg New Energy Finance (2010) and McKinsey

FIGURE 3.6

Marginal Abatement Cost Curve - Global Greenhouse Gas Emission Reduction (McKinsey, 2010)



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €60 per tCO₂e if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.

Source: McKinsey & Company (2009)

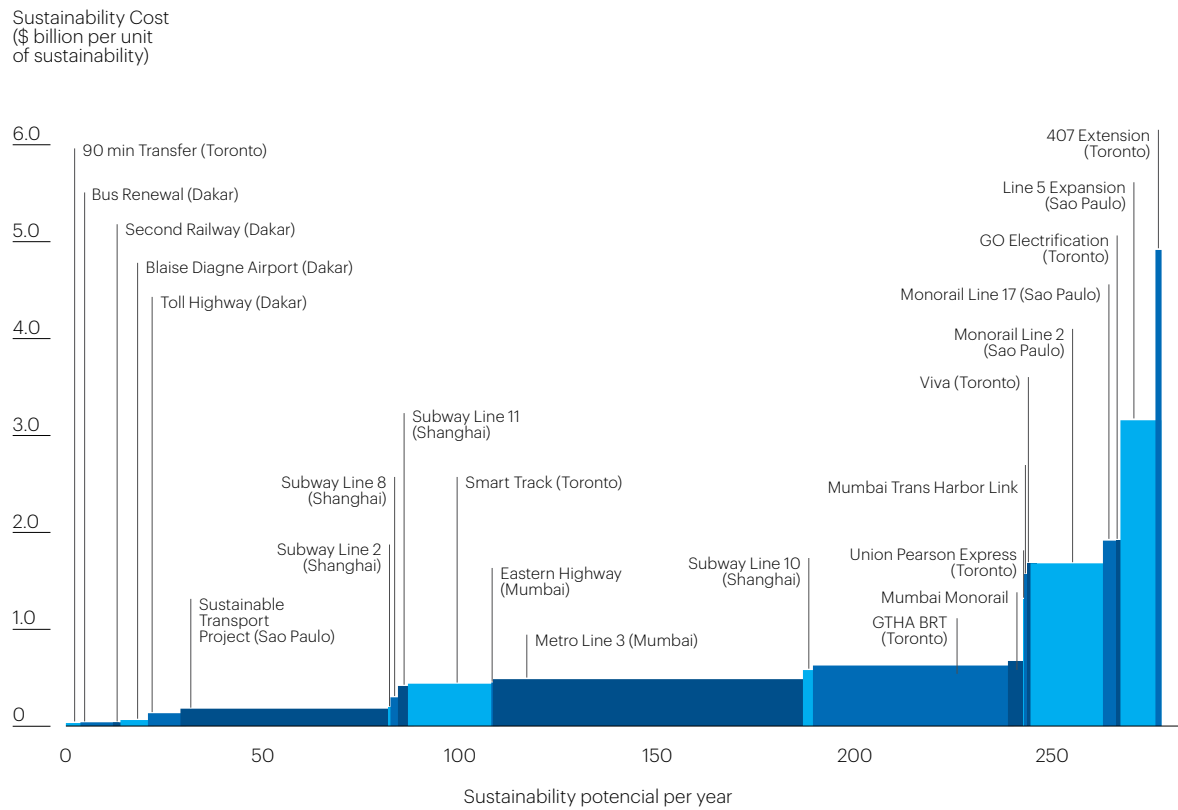
& Company (2012). MAC curves also provide powerful public policy tools for climate adaptation as they illustrate how some interventions have a net positive outcome with very small expenditures (although relatively low impact) while others require more time and larger amounts of finance.

Looking at Figure 3.6, the most cost effective alternatives are those on the left of the curve, especially below the '0' line which indicates that even without a price on carbon these activities are economically attractive. Some, like lighting and retrofit insulation

(in the left side of the figure), provide significant CO₂ reductions while providing impressive rates of return. In three years, the retro-fitting investment would be paid off. The most expensive investments —e.g. gas and coal retrofit— are also those with the greatest impact. Given the public nature of the good (reduction in GHG emission), cities would need financial help given the implicit positive externalities of the investment. This is the concept of green investment funds and green bonds —to allow the public at large to contribute to localized investments that have an impact on the resilience of our planet to climate change.

FIGURE 3.7

Sustainability Cost Curve: Transportation Projects in Five Cities



Source: Hoornweg (2015)

The sustainability cost curve (SCC) is a modification of the abatement (and adaptation) approach, which offers a more comprehensive assessment of sustainability. The SCC estimates the costs and opportunities of increased sustainability accruing from long-lived urban infrastructure. The approach is initially applied to Toronto's transportation sector and then applied to four other cities. The sustainability potential is derived from the project's impact on physical limits and socio-economic targets.

Looking at figure 3.7, it is clear that the infrastructure with the highest sustainability potential and lowest costs is the extension of the metro lines and the

BRT in Sao Paulo. Extension of highways and bus lines are clearly less effective in limiting emissions for a given cost. Similar methodology applied to the city of Toronto (Hoornweg, 2015) reaches similar conclusions. The rapid transit project providing a large-scale surface transit system linked with electric vehicles provides, by-far the greatest sustainability potential of the several projects reviewed. This is due to the project's broad applicability (high user numbers) and significant reductions in GHG emissions.

In sum, the new tools will provide a relatively simple means to more accurately reflect the sustainability

potential of a project (local and global impacts). By providing an overall sustainability assessment for the world's largest cities a much better appreciation of the scope of the challenge emerges. Cities can be evaluated for their relative contributions and priorities to sustainable development. A quick overview of cost effectiveness (vis a vis sustainability) can also be provided. This becomes increasingly important when allocating finance from sources such as the Climate Investment Fund or 'green' bonds.

HELPING ON THE SUPPLY SIDE

As mentioned before the need for urban sustainable infrastructure has been estimated at \$6 to \$7 trillion per year, including the additional cost to finance a low-carbon infrastructure scenario. This is much higher than what many countries and cities are allocating to urban infrastructure. While there is a clear consensus that countries and cities need these resources, the barriers to attracting additional funds continue to exist. Today's capital markets do not provide cities with adequate access to affordable financing suited to low-emission infrastructure, and innovative ways are needed to mobilize the necessary funding. Specific recommendations include: improvements in project preparation (the GIF is one such mechanism); helping cities develop frameworks to price climate externalities, and collaborating with local financial institutions to develop climate finance infrastructure solutions.

The greening of municipal financial instruments, such as congestion charges, is an important step toward achieving greener urban infrastructure. But public sector financing, may not be sufficient

and there is a critical need to mobilize private sector investments to fill funding gaps for many urban green infrastructure projects. To attract and capture private sector investments countries need (1) markets for green urban investment projects, (2) good return on investment and (3) limited risk. These are often found in high and medium income countries. In lower income developing countries, grants, loans and other development finance instruments could be more relevant (World Bank, 2015; OECD, 2015; UN-Habitat, 2014).

National governments can also use grants, matching funds, transfers and subsidized loans to support the investment. To maximize the cost-effectiveness of investments for climate resilience, cities should be encouraged to develop co-benefits such as mitigation of heat island effects, natural cooling and heating, dual use of recreational spaces, and reduction of noise and air pollution. In addition, methods for pricing **climate externalities should** be adopted, including externalities that have a local impact—congestion, smog, and storm water runoff. Financial tools such as user fees, congestion pricing, and land value recovery (targeted property taxes) can help cities to finance needed activities while encouraging improved citizen behavior.¹²

Financing is not only about sources of finance but also about ways to manage resources and select alternatives. Funding is a problem but not the only one. Funding committed to building infrastructure in Africa rose from \$38.9 billion in 2009 to \$55.9 billion in 2010 (Wetzels and Pohl, 2015), but the rate of disbursement fell from 48% to 38%, and although \$55 billion was available it was not used. This staggering amount mirrors the lack of capacity to identify priority projects

¹² Congestion pricing has been implemented in many cities, including London, Singapore and Milan. These fees not only reduced congestion and pollution but generated revenue for the cities and enabled the upgrading of green infrastructure (public transit). Stockholm was one of the early cities to try this method, first on a trial basis imposing fees from \$15 to \$3 to access the city center during rush hours.

and to have the capacity to design, implement and be accountable for those. Improvements in governance, institutions, procedures and internal capabilities are urgent and will contribute to closing the service gap. Cities can also be strategic in how they approach infrastructure issues. Key is to build the right infrastructure while maximizing the benefits of existing infrastructure.

Often governments are overwhelmed with project ideas and financing proposals. Systematic appraisals of proposed projects would help prioritize needs and build community support

The Republic of Korea pursued an approach to link the infrastructure program to social and economic objectives. In 2005 it created the Public and Private Infrastructure Management Center, which developed a standardized methodology and reviewed all major projects. The result has been substantial savings in infrastructure costs due to a consolidated multiyear infrastructure program. In this regard, predictive modeling becomes an important management tool to assess how different scenarios for energy consumption and demographic changes will affect the needs for infrastructure and highlight the most efficient alternatives.

TABLE 3.2

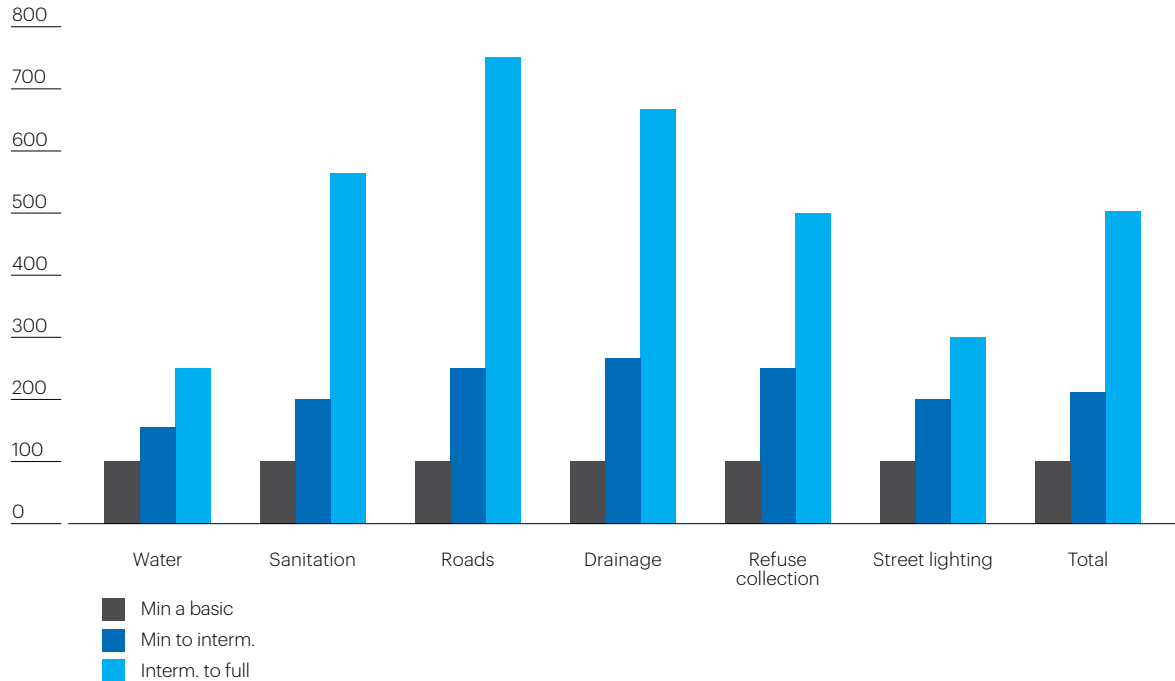
Infrastructure Upgrading: Service Level Options (An African Example)

| Service Level | | | | |
|----------------------|-----------------------------|---------------------------------------|--|---|
| Service | Minimum or existing | Basic | Intermediate | Full |
| Water | Vendor/well | Communal Standpipes | Yard Tap | Metered in house Supply |
| Sanitation | Pan Latrine/Open Privy | Formal Public Latrines | Household Pit Latrines | Waterborne Sewerage System |
| Roads | Space/Informal Share | Graveled and Graded (max width 4.5 m) | Bus/Taxi Routes Paved or Graveled | All Roads Paved |
| Footways | Unsurfaced and Ungraded | Graveled and Graded (max width 1.5 m) | Graveled (max width 1.5 m) | Concrete (max width 2 m) with side drains |
| Drainage | No Formal Drainage | Designed Unlined Ditches | Secondary & key tertiary drains lined | All drains lined |
| Refuse Collection | No Formal Collection System | Communal fixed collection >250 m | Communal Skil or Roro containers@100 m | Bins for Regular Door to Door Collection |
| Street Lighting | No Lighting | Lighting on Main Roads | Lighting on main & secondary roads | Lighting in all roads |

Source: World Development Institute (2014)

FIGURE 3.8

Costs of Infrastructure Upgrading,
Basic=100



Source: World Bank (2015d)

For low-income countries and even for informal settlements, the need for tools and data that can support good decisions are equally important. Daily decisions are made that take into account important trade-offs between cost, quality and coverage. An important decision for policy makers is whether to provide standards of services that would be affordable by only a few, or *functional* standards that would be affordable to many. Standards usually make sense, especially when the needs are large and the resources limited. Functional standards *are less costly* to implement, take less land and require much less disruption. They allow for *progressive* improvement, and respond well to the needs of poor communities. They also lower capital costs and are faster to implement.

Providing alternatives of service levels with stated costs and timelines to local communities would increase transparency and promote collective decision-making that empowers and is in line with their capacity to pay. Table 3.2. is an example of how to display options for levels of service according to sectors. The difference in costs can be substantial.

Figure 3.8 shows various upgrading costs when average costs for the different solutions are used (which depend on the density of the area and the local cost of labor and materials). The example used in the figure (3.8), shows a cost difference of more than 5 times between improving/upgrading a bundle of 6 services from minimum to basic level and from the minimum to the full standards. In other words,

the policymaker would need to decide between providing the full service to a given resident or basic services to 8 residents for the same price. The decision is not easy and depends on many factors including the capacity of the city or the community to contribute with part of the necessary financing. The provision of estimates and simplified models to help decision making seems to be a good strategy to help new communities make efficient decisions and use their resources wisely.

4 —
**FROM ANALYSIS
TO POLICY:
INPUTS FOR
AN INCLUSIVE
AGENDA**

Income inequality has widened in the last three decades as a result of changes in the economic structure, globalization, and how equality is valued by society as a whole. This widening of income inequality between rich and poor is affecting most countries in the world. This inequality affects all cities, leading to segregation, exclusion and divided communities. Fundamental tax and social policies need to be designed at a central level (including income and asset policies, as well as social programs targeted to the most vulnerable).

Nevertheless, cities have a powerful role in tackling inequality and exclusion in their own territories. Typically, local policies such as, land, housing, transport, and delivery of basic services have a direct impact on the wellbeing of the urban poor. By operating close to the residents, city governments benefit from their input, advice and complaints. This must of course be accompanied by funding, and frankly most cities (except for the largest) have very limited “own-source” revenue on which to draw. Thus, they are dependent on revenue sharing and other transfers from national governments. What can motivate national government going forward, however, is the reality that broad economic and social goals like income growth and poverty reduction as well as attainment of SDGs will require progress in cities of various sizes and shapes.

This paper discussed the importance of welcoming the new urban wave that is expected in the next decades. As in the past, new residents will bring determination to be successful, to be included, and to provide their children with greater opportunities. It is up to the cities to help them in the transition by providing urban land that is more affordable; housing that is closer to labor markets (or linked by good transportation). By respecting their desire to build small dwellings (often smaller than the official norm) and enlarge them over time, by asking them to contribute and pay for basic services (such as water, sanitation and waste management), by ensuring that education and health services are available to all (in connection with regional authorities) cities will invest in their own future as well as benefit from the new arrivals.

It is up to the city and its urban planning to ensure that the new solutions are compact while minimizing emissions and enabling cheaper services, while at the same time encouraging more efficient exchanges across the urban actors. The success of locating high technology enterprises and high finance sectors and their attractiveness to our cities can be problematic and has often led to often serious tradeoffs in terms of higher land prices and “expulsion” or dislocation of middle and working classes. It will take political will to design and implement a combination of policies for our cities where the formal and informal urban manufacturing enterprises beneficially co exist with each other. As Frenchman recalls (2014) the modernist ideal of urban planning where zoning separates residence, work and amenities has led to spatial segregation, high-energy consumption and loss of vitality. The model coming from the bottom of old European cities or new creative hubs of New York or Atlanta points out to the advantage of having the artisanal sector of the new city (which Sassen calls Urban Manufacturing) interacting and artistic and benefitting from the development of modern sectors.

Compactness, connectivity and coordination are the objectives proposed by LSE to demonstrate what it takes for cities to be sustainable and inclusive. Annex 3 shares the ideas on what could be done at city levels depending on their urbanization stage. Despite the uncertainty of global economic performance, which could bring additional challenges and political vulnerability, cities have a clear role to play and have the tools to be used. Political inclusion through innovations such as participatory budgeting and co-production of services (with a focus on community organization and confirmation of the right of all residents) can help. In this context, the lessons of the past can provide some clues:

— *Urban Inclusion makes sense not only from a social viewpoint but from an economic viewpoint as well.* Inclusion enlarges markets, improves social capital, increases productivity, and enables scale and agglomeration economies. Removing the division created in cities by imaginary lines of informal markets and social groupings will increase the efficiency of the local economy (WB, 2009).

Promoting the integration of modern technology into traditional sectors of the economy, as well as promoting interchanges among all classes of city residents will lead to lively neighborhoods and creative innovation (Sassen, 2015).

- *Planning ahead is a good investment.* Urbanization will occur regardless of urban policies (Venables, 2016). While there is no consensus on the right sequence of interventions, ignoring massive urbanization (as in Brazil in the 1980s) will lead to unnecessary suffering and exclusion and result in greater costs to accommodate a divided city (Feler and Henderson, 2012), a congested city (Bangkok or Manila) or a polluted city (Mexico) Planning needs are particularly important for emerging and fast growing cities. Taking over large amounts of land without a clear idea about rights way and rough organization of the city will hinder the future delivery of basic services and/ or the implementation of crucial mass transit. Poor planning can lead to rapid escalation of land and housing prices, and the exclusion and marginalization of traditional sectors/workers.
- *The advantages of flexibility and strong coordination of policies.* Urban policies are eminently local, although funding and regulation may need to come from broader levels of government. Urban markets will respond to different conditions of income, economic activity, and supply. Thus, policies and regulations need to be adjusted until the outcomes are achieved, as in the case of Chile's housing policy. Coordination between national development plans and urban strategies can work as seen in the cases of Korea, Malaysia, Thailand and China. But in all these cases the development planning apparatus was well coordinated, politically supported, and an intrinsic part of national policies.
- *Harnessing all urban assets.* In the last decade, there has been an increasing recognition of the role of informal markets and slums in terms of providing shelter and economic activity related to diversified neighborhoods These neighborhoods provide shelter for migrants who cannot afford

formal housing (Bertaud, Annez, 2010), and they absorb the urban manufacturing that cannot compete with the high-technology sector (Sassen, 2015), and they allow for continuous household-level investments (Perlman, 2014).

- *Planning and finance go hand-in-hand.* Developing a clear sustainable vision for the future and using that to guide future investments at all levels of government has high returns. Transportation investments, land use, city shapes, finance and local tax systems need to be well aligned. Regulations need to be appropriate, notably those which concern housing, land, transportation, and small and medium enterprises. An area of great potential is to link the planning of the new land, with preparation of land assessment, prices and the basis to enact property taxes and land value capture instruments. It will take years to establish a system of data collection that will be able to help decision makers on planning and taxing. Combining tax policy with allocation of service land could be very important to improve the fiscal autonomy of these small jurisdictions that will be growing very fast within few years of the first settlements.

To invest in innovative urban infrastructure, local governments need adequate own-source revenues. Large cities, in particular, need greater access to more taxes than they currently have, and they usually need to reform the tax systems they already have (such as the property tax). These measures help to increase local own-source revenues and improve the efficiency and equity of the tax system. User fees need to be increased in most places so that they cover costs. Borrowing is a way to finance long term investments but cities need to have sufficient local and intergovernmental revenues to re-pay the loans. Public-private partnerships may be a way to finance some aspects of infrastructure where user fees are assured (e.g. electricity) but could be problematic for revenue-generating projects where there is resistance to full cost recovery (e.g. water and sewers). Smaller and rural governments need to be treated differently because they are unlikely to be able to take advantage of new revenue sources sufficiently to meet their growing expenditure requirements. Rather, they are more likely to need to rely on transfers from senior governments.

Coordinated governance is also key to addressing problems of inequality and social inclusion as well as sustainability. Although the appropriate governance model will depend on local context, some form of a regional coordination mechanism is needed to address the strong inter-dependencies (economic, social, environmental) among local areas. Redistribution between richer and poorer communities, for example, requires taxing and spending decisions to be made on a regional basis. A regional structure is needed to address disparities among municipalities, externalities in services, provision of affordable housing, and coordination of energy supply, transportation and land use. At the same time, local access and accountability are essential ingredients of good local governance, and these can be enhanced through mechanisms such as neighborhood councils, participatory budgeting, and open government. A balance also needs to be struck between devolution of responsibilities and its financing for superior service delivery versus coordination failures associated with municipalities that are too small and other that are too numerous to allow for effective metropolitan coordination.

5 —
KEY
MESSAGES

The urban settings at present are complex and confusing. While humanity is clearly advancing in access to education, health, income and amenities, underlying economic structures are producing patterns of income distribution that are upsetting to many. In developed countries the upper layers of the income distribution seem to be receiving an increasing share of national income, while the middle class seems to be struggling or uncertain, as technological change may threaten their usual occupation and render their formal education irrelevant for the rapid changes ahead. In developing countries, while there is clear progress in the number of people who exit extreme poverty, millions of families are still living in inhuman conditions without access to basic water and sanitation, isolated from the labor markets by lack of affordable transport. Political conflict just augments the drama, precipitating large migration flows that produce fear and opposition among many.

Can cities help in this scenario? Yes. Inequality harms cities as it erodes the essential ingredients of city progress—agglomeration economies, labor markets and investment climate. Exclusion and inequality, with consequent segregation, lead to violence and disruption. It is to the benefit of all citizens, to extend the benefits of city life to the so-called slum dwellers or to new migrants. To bring that about the analysis endorses five main messages

- Cities need to understand how inequality is affecting their economic dynamics and what are the main constraints for inclusion. Land and housing, services and mass transit are the main sectors that should be on the radar screen of policy makers, both in terms of investment climate and in terms of how inclusive and fluid society is.
- Cities need to learn and be prepared to think ahead. The arrival of 2.5 billion people will be disruptive but can also be creative. Cities have absorbed billions of people over the last 40 years. They will need to do it again, but this time with a better understanding that planning ahead makes sense. Projecting land needs, preparing the rights of way, negotiating with

the informal real estate market, understanding what could be different layouts for the new settlements, taking advantage of the new technologies to explore how green water and energy technologies can help the new cities (especially in Africa) to grow and be vibrant without an increase in GHG emissions.

- Cities need to understand their funding needs and their main revenue sources. Developing too much dependence on aid or central government will be temporary and will delay the much needed independence for preparing tax policies that are fair, transparent and will contribute to the provision of services to everyone. Finance is a fundamental part of bringing about development and cities can access alternative mechanisms helped by the international community, central governments and a powerful network of donors and academicians. The options of international aid, PPPs, special public funds and Municipal Development Institutions are some of the few options that should be explored and discussed. The basis of good finance is the capacity to leverage debt out of a sustainable operational surplus and to invest in projects that will be able to contribute to the timely repayment.
- Cities need to look for coordination and understand when home rule is useful or may hinder progress. The short-term political objectives of many politicians should be set aside in considering which structures should and could be put in place to make regional investments more efficient and services less costly
- Cities have a major role in ensuring a sustainable future, in terms of their knowledge, proximity to tax payers and to economic agents. Because cities are relatively self-contained, a well targeted effort can and should be developed to tailor assistance programs for cities to implement green growth programs based on rigorous projections of future economic growth, emissions impact, alternative technologies and strategies for inclusion and adaptation. The enthusiasm of the international community

to contribute substantial resources to finance green infrastructure and support the green economy is materializing in new ways such as publically funded green banks, green bonds, etc. One fact is clear, however, cities are central in this discussion of policies and actions that will lead to a more sustainable society.

REFERENCES

- Andreasen, M. H., A. y Møller-Jensen, L. (2016). "Beyond the networks: Self-help services and post-settlement network extensions in the periphery of Dar es Salaam", *Habitat International* 53, 39-47.
- Annez, P. y R. Buckley (2010). "Urbanization and Growth: Setting the Context", en M. Spence, (ed.), *Urbanization and Growth*, Washington, D.C.: Commission on Growth and Development.
- Arnott, R. (2009). "Housing Policy in Developing Countries: the importance of the informal economy", in M. Spence, P. Annez and R. Buckley (eds.), *Urbanization and Growth*. The World Bank.
- Arretche, M. (2013). "Governance and Finance in Two Brazilian Metropolitan Areas." In E. Slack and R. Chattopadhyay (eds.), *Finance and Governance of Metropolitan Areas in Federal Countries*. Toronto: Oxford University Press.
- Atkinson, A. B. (2015). How to Spread the Wealth: Practical Policies for Reducing Inequality, *Foreign Affairs*, January/February.
- Au, C. y Henderson, J. V. (2006). Are Chinese Cities Too Small?, *Review of Economic Studies*, 73 (3): 549-76.
- Baker, J. (2008). *Urban Poverty, a Global View*. Documentos sobre temas urbanos. Washington, D.C.: World Bank.
- Banergee, A. (2010). "Investment Efficiency and the Redistribution of Wealth," in R. Kanbur and M. Spence (eds.), *Equity and Growth in a Globalizing World*, Washington DC: IBRD-World Bank.
- Bertaud, A. (2004). "The spatial organization of cities: Deliberate outcome or unforeseen consequence?". Online: http://alainbertaud.com/wp-content/uploads/2013/06/AB_The_spatial_organization_of_cities_Version_31.pdf
- Bertaud, A. (2015). "Converting Land into Affordable Housing Floor Space", in E. Glaeser y A. Joshi-Ghani, *The Urban Imperative: Towards Competitive Cities*, New Delhi, India: Oxford University Press.
- Berube, A., and Homes, N. (2016). City and Metropolitan inequality on the rise, driven by declining incomes, Brookings Paper, January 4.
- Bird, R. (2003). "A New Look at Local Business Taxes," *Tax Notes International*, 30 (7, 19 May): 695-711.
- Bird, R. M. (1995). *Financing Local Services: Patterns, Problems, and Possibilities*. Toronto: Centre for Urban and Community Studies, University of Toronto.
- Bird, R. M. (2001). "Setting the Stage: Municipal and Intergovernmental Finance," in M. Freire and R. Stren (eds.), *The Challenge of Urban Government: Policies and Practices*. Washington, DC: The World Bank Institute: 113-128.
- Bird, R. M., and Slack, E. (2014). "Local Taxes and Local Expenditures in Developing Countries: Strengthening the Wicksellian Connection," *Public Administration and Development*, 34(5): 359-69.
- Bird, R. M., Slack E. and Tassonyi, A. (2012). *A Tale of Two Taxes: Reforming the Property Tax in Ontario*, Cambridge, Mass.: Lincoln Institute of Land Policy.
- Bird, R., M., and Slack, E. (2013). "Metropolitan Public Finance: An Overview," en R. W. Bahl, J. F. Linn, and D. L. Wetzels (eds.), *Financing Metropolitan Government in Developing Countries*, Cambridge, Mass.: Lincoln Institute of Land Policy, chapter 6: 135-158.
- Birdsall, N. (2015). Middle-Class Heroes, The best guarantee of good governance, *Foreign Affairs*, February 2016.
- Blakely, E. J., and Snyder, M. G. (1999). *Fortress America: Gated Communities in the United States*, Washington: Brookings Institution Press.
- Boo, K. (2012). *Beyond the Beautiful Forevers. Life, Death, and Hope in a Mumbai Undercity*, New York: Random House.

- Booth, P. A. (2012). "The Unearned Increment: Poverty and the Capture of Betterment Value in Britain and France", in G.K. Ingram and Y. Hong (eds.), *Value Capture and Land Policies*, Cambridge MA: Lincoln Institute of Land Policy.
- Borrero et al., (2011). *Evaluating the Practice of Betterment Levies in Colombia*. Working paper. Cambridge, Mass.: Lincoln Institute of Land Policy.
- Borsdorf, A., and Hidalgo, R. (2008). "New Dimensions of Social Exclusion in Latin America: From Gated Communities to Gated Cities, the Case of Santiago de Chile," *Land Use Policy*, Vol. 25, 153-60.
- Buckley, R., and Kalarickal, J. (2006). *Thirty Years of World Bank Shelter Lending. What have we learned? Slum Upgrading*, Washington, DC: The World Bank.
- Caldeira, T. (2000). *City of Walls. Crime, Segregation and Citizenship in Sao Paulo*, Berkeley and Los Angeles: University of California Press.
- Campbell, T. (2003). *The Quiet Revolution: Decentralization and the Rise of Political Participation in Latin American Cities*. Pittsburgh: University of Pittsburgh Press.
- Chan, Kam Wing (2012). "Internal Labor Migration in China: Trends, Geography and Policies," in United Nations Population División, *Population Distribution, Urbanization, Internal Migration and Development: An International Perspective*, New York: United Nations, p. 81-102.
- Cheshire, P., and Magrini, S. (2009). Urban Growth Drivers and Spatial Inequalities: Europe – a Case with Geographically Sticky People. LEQS Paper No. 11/2009.
- Cho, Mun Young (2013). *The Specter of "The People": Urban Poverty in Northeast China*, Ithaca: Cornell University Press.
- Dias, N. (2014). *Hope for Democracy – 25 Years of Participatory Budgeting Worldwide*.
- Dickovick, T., and Riedl, R. B. (2014). "African Decentralization in Comparative Perspective," in J. Tyler Dickovick and J. S. Wunsch (eds.), *Decentralization in Africa. The Paradox of State Strength*, Boulder, CO.
- Duranton, G., and Puga, D. (2005). "From Sectorial to Functional Urban Specialization," *Journal of Urban Economics* 57 (2)" 343-70.
- Duranton, G., and Turner, M. (2012). "Urban Growth and Transportation," *Review of Economic Studies* 79 (4):1407-40
- Feller, L., and Henderson, V. (2012). "Exclusionary Policies in Urban Development," *Journal of Urban Economics* 69 (3):253-72.
- Fletcher, P. (2013). Africa's emerging middle class drives growth and democracy, *Reuters*. Online: <http://www.reuters.com/article/2013/05/10/us-africa-investment-idUSBRE9490DV20130510>
- Frayssinet, F. (2013). "Cancelling Fare Hike Fails to Quell Brazil Protests," In IPS Service (June 20).
- Freire, M. (2013). "Slum upgrading," in R. W. Bahl, J. F. Linn, and D. L. Wetzell (eds.), *Financing Metropolitan Governments in Developing Countries*, Cambridge, Mass: Lincoln Institute of Land Policy.
- Freire, M. E., and Garzón, H. (2014). "Managing Local Revenues," in C. Farvacque-Vitkovic, and M. Kopanyi (eds.), *Municipal Finances: A Handbook for Local Governments*, Washington, DC: The World Bank: 147-214.
- Freire, M. E., Lall, S., and Leipziger, D. (2014). "Issues of Africa Urbanization: Issues and opportunities," in Lee and eds., *Africa Development Handbook*, Oxford University Press.
- Frenchmann, D. (2014). "Designing Better Cities," en S. Yusuf (ed.), *The Buzz in Cities*, Growth Dialogue, pp 19-30, Washington DC.

- Fujita, M., Tomoya, M., Henderson, V., and Kanemoto, Y. (2004). "Spatial Distribution of Economic Activities in Japan and China," in V. Henderson and J. Thisse (eds.), *Handbook of Regional and Urban Economics*, North-Holland: Elsevier.
- Global Commission on the Economy and Climate (2014). *Better Growth, Better Climate. The New Climate Economy Report*. Online: http://newclimateeconomy.report/2014/wp-content/uploads/2014/08/NCE-Global-Report_web.pdf
- Hammam, S. (2015). "Housing Matters," in *The Urban Imperative*, E. Glaeser and A. Joshi-Ghani, (eds.), Washington.
- Hehl, R. (2014). *Brasilia a City of Contrasts*. Online: <http://oxygen.enel.com/brasilia-a-capital-of-contrasts/>
- Henderson, V. (2010). Cities and Development, *Journal of Regional Science*.
- Henderson, V. (2015). "Urbanization and the Geography of Development," in E. Glaeser and A. Joshi-Ghani, (eds.), *The Urban Imperative*, Washington DC: The World Bank.
- Hohenberg (2004). *World Urbanization Prospects, The 2003 Revision*.
- Hook, W. (2005). *Urban Transportation And The Millenium Development Goals*, Urban Global Dialogue. Online: <http://www.globalurban.org/GUDMag06Vol2Iss1/Hook.htm>
- Hoornweg, D. (2015). *A Cities Approach to Sustainability*. PhD Thesis, Department of Civil Engineering, University of Toronto.
- Hoornweg, D., and M. Freire. 2013. Building Sustainability in an Urbanizing World. World Bank.
- Hoornweg, D., and Pope, K. (2014). *Population Predictions of the 101 Largest Cities in the 21st Century*, Working Paper 4, Global Cities Institute.
- Hoornweg, D., Sugar, L., and Trejos Gomez, L. (2011). "Cities and Greenhouse Gas Emissions: Moving Forward," *Environment & Urbanization*, Vol. 23, Number 1, 207-228.
- Hough, M. (2008). "Violent Protest at Local Government Level in South Africa: Revolutionary Potential?," *Scientia Militaria. South African Journal of Military Studies* 36, 1, 1-13.
- India. Planning Commission (2012). *Report of the Expert Group to Recommend the Detailed Methodology for Identification of Families Living Below Poverty Line in the Urban Areas*, Planning Commission: Perspective Planning Division, December 2012.
- Iyenda, G., and Simon, D. (2006). "Gender Relations, Bread Winning, and Family Life in Kinshasa," in M. J. Murray and G. A. Myers (eds.), *Cities in Contemporary Africa*, New York and Houndmills: Palgrave MacMillan, pp. 221-36.
- Kamal-Chaoui, L., and Sanchez-Reaza, J. (eds.) (2012), "Urban Trends and Policies in OECD Countries," OECD Regional Development Working Papers 2012/01, OECD Publishing.
- Kanbur, R., and Spence, M. (eds.) (2010). *Equity and Growth in a Globalizing World*, Washington, DC: IBRD-World Bank.
- Kanbur, R. (2010). "Globalization, Growth and Distribution: framing the questions," in R. Kanbur and M. Spence (eds.), *Equity and Growth in a Globalizing World*, Washington, DC: IBRD-World Bank.
- Kharas, H. (2010). *The Emerging Middle Class in Developing Countries*. OECD, Working Paper 285.
- Klein, M. (2012). "Infrastructure Policy: Basic Design Options," Policy Working Paper 6274, Washington DC: World Bank.

- Klink, J. (2008). "Recent Perspectives on Metropolitan Organization, Functions, and Governance," in E. Rojas, J. Cuadrado-Roura, and J. M. Guell (eds.), *Governing the Metropolis: Principles and Case Studies* (pp. 77-134), Washington, DC: Inter-American Development Bank.
- Komives, K., Foster, V., Halpern, J., and Wodon. Q. (2005). *Water, electricity and the poor – who benefits from utility subsidies?*, Washington DC: World Bank
- KPMG International (2010). *Cities Infrastructure – A Report on Sustainability*. KPMG International. Online: <https://home.kpmg.com/content/dam/kpmg/pdf/2012/05/Cities-Infrastructure-a-report-on-sustainability.pdf>
- Kyessi, A. (2005). "Community-based urban water management in fringe neighborhoods: the case of Dar es Salaam, Tanzania," *Habitat International* Vol 29, 1-25.
- Lefèvre, C. (2008). "Democratic Governability of Metropolitan Areas: International Experiences and Lessons for Latin American Cities," in E. Rojas, J. R. Cuadrado-Roura, and J. M. Fernández-Güell (eds.), *Governing the Metropolis, Principles and Cases*, Washington, DC: Inter-American Development Bank.
- Levy, S. (2016). *Poverty in Latin America: Where do we come from, where are we going?*, Brookings Institution, May. Online: <https://www.brookings.edu/opinions/poverty-in-latin-america-where-do-we-come-from-where-are-we-going/>
- Longman, P. (2015). "Regional inequality is out of control. Here's how to reverse it," *Washington Monthly*, November-December 2015.
- LSE Cities (2014). *Cities and the New Climate Economy: the transformative role of global urban growth*. Online: <https://files.lsecities.net/files/2014/12/The-Transformative-Role-of-Global-Urban-Growth-01.pdf>
- Lustig, N., y Melguizo, A. (2015). How Middle Class is the Middle Class in of Macondo? on Labor Informality in Latin America.
- Martínez-Vázquez, J. (2014). "Mobilizing Financial Resources for Public Service Delivery and Urban Development," a paper prepared for UN Habitat conference on The Challenge of Local Government Financing in Developing Countries, Barcelona, June 26-7.
- McCarthy, E. (2016). *Who will pay for our Urban Future?* Land Lines. April, 2016. Boston: Lincoln Institute of Land Policies.
- McKinsey & Company. 2009. Pathways to a Low-Carbon Economy. Version 2 of the Global Greenhouse Gas Abatement Cost Curve. McKinsey & Company.
- McKinsey Global Institute (2013). *Infrastructure productivity: How to save \$1 trillion a year*.
- Merk, O., Saussier, S., Staropoli, C., Slack, E., and Jay-Hyung Kim (2012). *Financing Green Urban Infrastructure*, OECD Regional Development Working Papers 2012/10, Paris: OECD.
- Moore, A. (2013). *Trading Density for Benefits: Toronto and Vancouver Compared*, IMFG Papers on Municipal Finance and Governance, No. 13, Toronto: Institute on Municipal Finance and Governance.
- Moretti, E. (2014). *Are the Cities the New Growth Escalator?*, World Bank Policy Research Working Paper No. 6881, Washington DC: World Bank. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2439702
- Municipal IQ (2015). *Press Release: Comment on Auditor-General (AG) 2013/14 financial year results for local government*. Seen on 11 August, 2015 at: http://www.municipaliq.co.za/index.php?site_page=press.php
- Neuwirth, R. (2005). *Shadow Cities. A Billion Squatters, a New Urban World*, New York: Routledge.

- OECD (2004). *Decentralization and poverty in developing countries: Exploring the impact*. Working paper no. 236.
- OECD (2006). *Competitive Cities in the Global Economy*. Paris: OECD.
- OECD (2011). *Divided We Stand: Why Inequalities Keep Rising*, OECD Publishing. Online: <http://dx.doi.org/10.1787/9789264119536-en>
- OECD (2015). *Financing Green Urban Infrastructure*, Paris: OECD.
- Otter, S. (2007). *Khayelitsha. uMlungu in a Township*, Johannesburg: Penguin Books.
- Perlman, J. (1976). *The Myth of Marginality. Urban Poverty and Politics in Rio de Janeiro*, Berkeley: University of California Press.
- Perlman, J. (2010). *Favela. Four Decades of Living on the Edge in Rio de Janeiro*, New York: Oxford University Press.
- Perlman, J. (2014). "What happens when Marginal becomes Mainstream? How to see the Challenge as an Opportunity," in S. Yusuf (ed.), *The Buzz in Cities. New Economic Thinking*, Washington DC: The Growth Dialogue.
- Peterson, G. (2009). "Unlocking Land Values to Finance Urban Infrastructure," *Trends and Policy Options No.7*, Washington, DC: The World Bank.
- Pezzini, M. (2011). The Emerging Middle Class, in *OECD Observer*. Online: http://www.oecdobserver.org/news/fullstory.php/aid/3681/An_emerging_middle_class.html#sthash.8Db1nJ.d
- Piketty, T. (2014). *Capital in the Twenty-First Century*, Harvard University Press, Boston, Resende.
- PWC (2014). Infrastructure development in Asia Pacific (APEC): The next 10 years. Online: <http://www.pwc.com/gx/en/industries/capital-projects-infrastructure/publications/infrastructure-development-in-asia-pacific.html>
- Rockström, J., Steffen, W., Noone, K. , Persson, Å., Chapin, S., Lambin, E., Lenton, T., Scheffer, M. ... and Foley, J. (2009). "A Safe Operating Space for Humanity," *Nature* 461, 472-475.
- Rolnik, R. (2013). "Ten Years of the City Statute in Brazil: from the struggle for urban reform to the World Cup cities," *International Journal of Urban Sustainable Development* 5, 1, 54-64.
- Rosanvallon, P. (2016). "How to Create a Society of Equals. Overcoming Today's Crisis of Inequality," in *Foreign Affairs*, January/February.
- Ruiz, F. y Vallejos, G. (2010). *Using land registration as a tool to generate municipal revenue: Lessons from Bogota*. Online: <http://siteresources.worldbank.org/EXTARD/Resources/336681-1236436879081/5893311-1271205116054/RuizVallejoPaper.pdf>
- Sao Paulo (2014). "Persiste a alta desigualdade de renda no Município de São Paulo," *Informes Urbanos* No. 19, June.
- Sassen, S. (2015). Bridging Divides. In E. Glaeser y A. Joshi-Ghani (ed.), *The Urban Imperative*, Washington.
- Satterhwaite, D. (2016). Editorial: A New Urban Agenda?, *Environment & Urbanization*, International Institute for Environment and Development (IIED).
- Saunders, D. (2010). *Arrival City. The Final Migration and our Next World*, Toronto: Alfred A. Knopf.
- Sharpe, L. J. (1995). "The Future of Metropolitan Government," in L. J. Sharpe (ed.), *The Government of World Cities: The Future of the Metro Model*: 11-32.
- Slack, E. (2007). Managing the Coordination of Service Delivery in Metropolitan Cities: The Role of Metropolitan Governance, Policy Research Working Paper, The World Bank.
- Slack, E. (2014a). *Innovative Governance Approaches in Metropolitan Areas of Developing Countries*, Barcelona: UN Habitat.

- Slack, E. (2014b). "Financing Services and Infrastructure in Metropolitan Regions," in S. Yusuf (ed.), *The Buzz in Cities: New Economic Thinking*. Washington, DC: The Growth Dialogue, chapter 7: 105-115.
- Slack, E. (2015). "Local Finances and Fiscal Equalization Schemes in Comparative Perspective," in R. Geibler, F. Knupling, S. Kropp, and J. Weiland (eds.), *Das Teilen beherrschen, Analysen zur Reform des Finanzausgleichs 2019*, Germany: Nomos: 283-312.
- Slack, E., and Bird, R. M. (2014). *The Political Economy of Property Tax Reform*, OECD Working Papers on Fiscal Federalism, No. 18, OECD Publishing.
- Slack, E., and Chattopadhyay, R. (eds.) (2009). *Finance and Governance of Capital Cities in Federal Systems*, Montreal: McGill-Queen's University Press.
- Smolka, M. (2012). "A New Look at Land Value Capture in Latin America," *Land Lines*, Cambridge, Mass.: Lincoln Institute of Land Policy.
- Smolka, M. (2013). *Implementing Value Capture in Latin America: Policies and Tools for Urban Development*, Policy Focus Report, Cambridge, Mass.: Lincoln Institute of Land Policy.
- South Africa- Ministry of Cooperative Governance and Traditional Affairs (2014). *Towards an Integrated Urban Development Framework, a discussion document*, Pretoria: Department of Cooperative Governance and Traditional Affairs.
- Steffen, W., Richardson, K., Rockström, J., Cornell, S., Fetzer, I., Bennett, E., Biggs, R., Carpenter, S., ... Sörlin, S. (2015). "Planetary boundaries: Guiding human development on a changing planet", *Science*, 13 de febrero de 2015.
- Stiglitz, J. (2013). *The Price of Inequality. How Today's Divided Society Endangers our Future*, New York: Norton.
- Tepperman, J. (2015). "Brazil's Antipoverty Breakthrough, The surprising success of Bolsa Familia," *Foreign Affairs*, January/February.
- UCLG (United Cities and Local Governments) (2014). *Basic Services for All in an Urbanizing World. Third Global Report on Local Democracy and Decentralization*, New York: Routledge.
- UN-Habitat (2003). *The Challenge of Slums. Global Report on Human Settlements 2003*, Nairobi: UN-Habitat.
- UN-Habitat (2009). *Planning Sustainable Cities. Global Report on Human Settlements 2009*, London: Earthscan.
- UN-Habitat (2014). *World Urbanization Prospects: the 2014 Revision*, Nairobi.
- UN-Habitat (2015). *The Challenge of Local Government Financing in Developing Countries*, Nairobi: UN-Habitat.
- UN-Habitat, CAF, and Avina (2014). *Construction of More Equitable Cities*, Nairobi: UN-Habitat.
- Uribe, M. C. (2010). "Land information Updating, a De facto Tax Reform. Brining up to Date the Cadastral Data base in Bogota," in *Innovations in Land Rights*, Washington, DC: World Bank.
- Venables, T. (2015). *Making cities work for development*, ICG, Growth Brief Services 002, London.
- Walters, L. (2012). *Land Value Capture in Policy and Practice*. Online: http://www.landandpoverty.com/agenda/pdfs/paper/walters_full_paper.pdf
- Weinstein, L. (2014). *The Durable Slum. Dharavi and the Right to Stay Put in Globalizing Mumbai*, Minneapolis: University of Minnesota Press.

Wetzel, D. (2013). "Metropolitan Governance and Finance in São Paulo," in R. Bahl, J. Linn, and D. Wetzel (eds.), *Financing Metropolitan Governments in Developing Countries* (pp. 309-338), Cambridge, Mass.: Lincoln Institute of Land Policy.

Wetzel, J. y Pohl, H. (2015). "Infrastructure: Doing More with Less," in E. Glaser and A. Joshi-Ghani (eds.), *The Urban Imperative*, Oxford University Press.

Williamson J. (1965). "Regional Inequality and the Process of National Development," *Economic Development and Cultural Change*, June: 3-45.

World Bank (2009). *Reshaping Economic Geography, World Development Report, 2009*, Washington, D.C.: World Bank.

World Bank (2012). *World Development Report. Gender Equality and Development*, Washington, D.C. Online: <https://siteresources.worldbank.org/INTWDR2012/Resources/7778105-1299699968583/7786210-1315936222006/Complete-Report.pdf>

World Bank (2013a). *Urbanization beyond Municipal Boundaries. Nurturing Metropolitan Economies and Connecting Peri-urban Areas in India*. Directions in Development Series. Washington DC: World Bank.

World Bank (2013b). *Planning, Connecting, Financing Cities – Now*. Online: <https://issuu.com/pnowb/docs/urbanization-planning-connecting-financing>

World Bank (2015a). *World Inclusive Cities Approach Paper*, Washington, DC.

World Bank (2015b). *Metropolitan Governance in Brazil. Inputs for an Agenda*. Washington DC.

World Bank (2015c). *World Development Indicators*. Online: <http://data.worldbank.org/data-catalog/world-development-indicators>

World Bank (2015d). Mimeo. Sustainable Cities, e-course.

World Development Institute (2014). *Inclusive Cities, Materials to Support E-learning*.

World Economic Forum (2015). *Global Risks 2015 report*. Online: <http://reports.weforum.org/global-risks-2015/>

Yusuf , S. (ed.) (2014). *The Buzz in Citie.*. Washington, D.C.: The Growth Dialogue, pp. 19-30.

Yusuf, S. (ed.) (2013). *Five Cities Going Green: How are They Doing It?*, Washington, D.C.: The Growth Dialogue.

ANNEXES

ANNEX 1

GOVERNANCE MODELS FOR SUSTAINABLE DEVELOPMENT

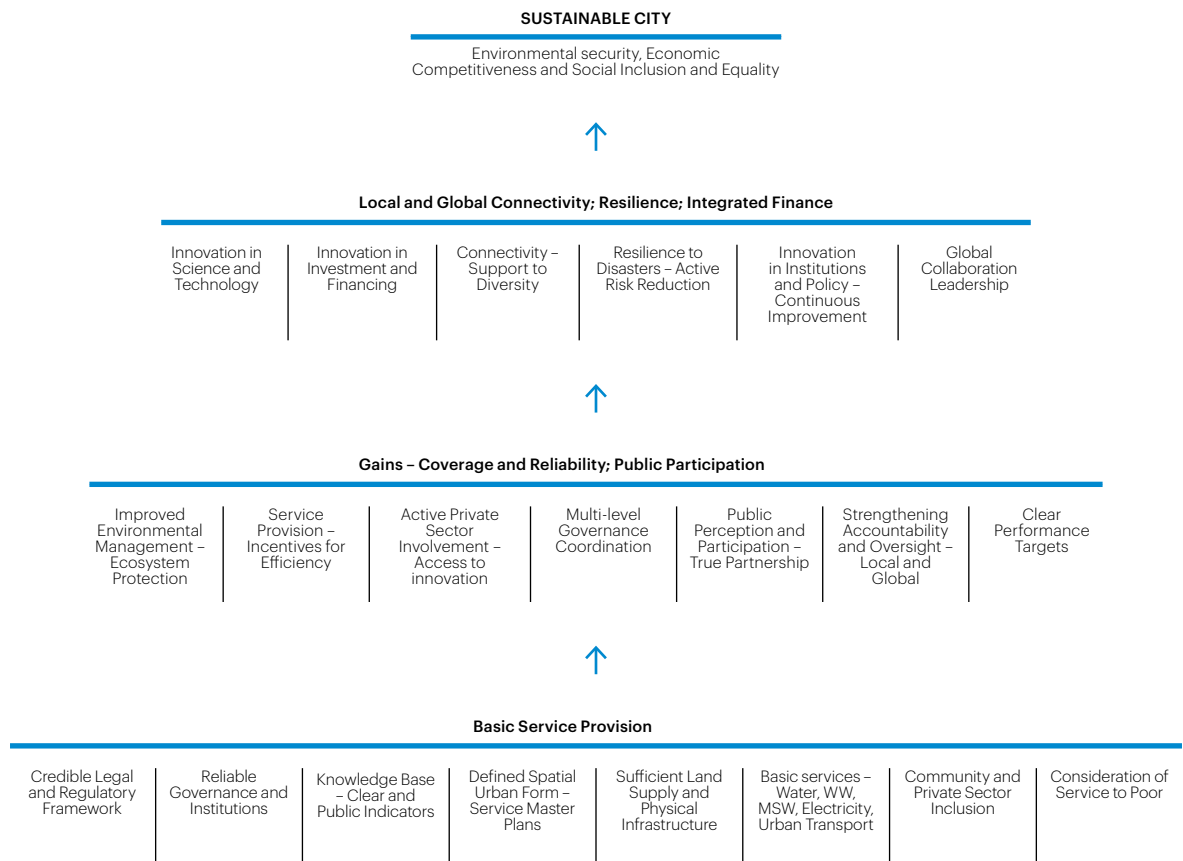
| Governance Model | Examples |
|---|---|
| <p>1. Jurisdictional Fragmentation (Fragmented one-tier government model)</p> <p>General-purpose governments operate in the metropolitan area with independence to choose public services, taxes, user charges and debt financing arrangement. Service delivery is mostly with lower tier of government. Home rule heavy.</p> <p>Pros: close and accountable to constituencies</p> <p>Cons: may prevent economies of scale; too small to enable coordination; may augment regional differences in welfare.</p> | <p>United States: the municipalities and special districts provide services.</p> <p>Copenhagen: 45 municipalities in charge of service delivery and taxation. National capital region has health responsibilities but no tax authority.</p> <p>Paris: 8 million people; 80 municipalities; public companies responsible for service provision</p> <p>Stockholm: 65 municipalities and 5 counties.</p> <p>Mexico City: metro area includes the Federal District and its 16 delegations. The Federal District has the functions of any district but has no taxing powers.</p> <p>São Paulo: 18 million people; includes 39 municipal governments without overlapping metropolitan government. Coordination is attempted by agreements among municipalities and state government.</p> |
| <p>2. Amalgamated (One-tier consolidated government model)</p> <p>Area wide metropolitan government provides general services. In theory, the metro government should be elected and have powers to regulate services and financing.</p> <p>Pros: Greater coordination & equalization.</p> <p>Cons: it reduces the power of local constituencies to influence the local budget, often brings inter-governmental conflict with other levels of governance.</p> | <p>Toronto: Single metro government that provides all kinds of services. The province established Greater Toronto Services Board to oversee regional transit.</p> <p>Tokyo: 12 million people. Below the metropolitan level there are 23 special wards, 26 cities, five towns and one village. The wards carry out service delivery delegated by Tokyo metro government.</p> <p>Cape Town: amalgamated 61 LGs local governments to guarantee more equitable services. Provides water, sewerage and drainage services. Social services shared with province.</p> <p>Istanbul: (73 local governments) – local government must transfer 35 percent of their resources to the metro region to finance its services. In addition, 10 percent are transferred to the metro authority to finance transport investment.</p> |
| <p>3. Two-tier government model</p> <p>Upper-tier provides regional services to promote efficiency (e.g. transportation and solid waste disposal); lower tiers provide local services.</p> <p>Pros: helps finding the balance between efficiency and equity, and accountability.</p> <p>Cons: duplication of efforts may result in higher costs; need for coordination may lead to delays and inefficiencies.</p> | <p>Community of Madrid: Community of Madrid with 179 municipalities and extensive powers.</p> <p>Greater London Authority: created in 1999 as senior level of governments. Mayor elected. Responsibility of transport, economic development, land use planning, environmental protection; 80 percent budget spent on transport; 63 percent financed by central government grants, 20 percent user charges and 10 percent property tax. The 23 independent boroughs provide education, health and other services.</p> |

Continued on next page →

| Governance Model | Examples |
|---|--|
| <p>4. Special purpose agencies</p> <p>Service delivery is the responsibility of a separate public company or state agency.</p> <p>Pros: Firm can run at efficient levels, pay better to its staff, and can make use of debt finance.</p> <p>Cons: accountability to the local government is weakened although municipalities can have representatives in the governance bodies.</p> | <p>Copenhagen Regional Transportation: coordinating body is a joint regional government/municipal agency.</p> <p>Great Vancouver Regional District: consolidates all the functions provided by special districts – solid waste, water, and capital expenditures. Finance comes from user charges. Municipalities are represented.</p> <p>Water boards in the Randstad (Netherlands): responsible for flood control, water quality, and wastewater treatment. Authorities democratically elected.</p> <p>Lausanne and Stockholm: city-owned companies provide services in housing, real estate management, port operations and water utilities. Profits go to the city.</p> <p>Bogota: a special agency takes care of the metro transportation. Operations fully financed by user charges and a surcharge in the gasoline tax.</p> |
| <p>5. Voluntary Cooperation</p> <p>Voluntary cooperation between local governments to establish an area-wide body with no permanent, independent institutional status. Common model in regions where home rule is important.</p> <p>Pros: Easy to establish, respond to the needs of the local governments, have flexibility.</p> <p>Cons: May lack legal approval and decisions are not binding. Brazil consortia are a good model.</p> | <p>Stockholm: several mechanisms from federation to joint provision of services.</p> <p>Metropolitan Vancouver: 21 municipalities (see above). Created in 1967. Member municipalities are free to leave the arrangement</p> <p>Marseille: communities around Marseille formed a special entity with 11 municipalities</p> <p>Bologna: 48 municipalities signed the <i>Accordo per la Città Metropolitana (ACM)</i> that includes the mayors and is chaired by the governor.</p> <p>São Paulo: <i>Greater ABC</i> was formed bottom up by 6 mayors to deal with the impact that the decline of the automotive industry had on employment and income levels.</p> |

Source: Slack (2007), World Bank (2015b)

ANNEX 2 ATTRIBUTES OF A SUSTAINABLE CITY



Source: Hoorweg (2015)

ANNEX 3

IMPLEMENTATION OF THE 3C MODEL IN SELECTED CITIES

| | Compact | Connected infrastructure | Coordinated Governance |
|--------------------------|--|---|---|
| Emerging Cities | <p>Design in compact city features from the start, including integration of industrial and residential areas, and efficient public transport routes.</p> <p>e.g. Chenggong (China)</p> <p>Value capture of land development, e.g. Dar es Salaam</p> | <p>Introduce surface-based public transport based on bus and BRT systems and rapid rail where appropriate, along with provision of infrastructure for non-motorized travel.</p> <p>e.g. Bogotá (Colombia)</p> <p>Strengthen local resilience; adaptation plans.</p> <p>e.g. Jakarta</p> | <p>Build capacity for integrated land use and transport planning, access to private finance and international funds.</p> <p>Policy support from national and regional governments and the international community where appropriate.</p> <p>Develop best practice through city networks.</p> <p>e.g. Curitiba (Brazil), Lima (Peru)</p> <p>Strengthened linkages to neighboring municipalities, e.g. Bogor, Indonesia</p> |
| Global Megacities | <p>Redensify through regeneration of existing city cores and multiple hubs, brownfield re-development, and urban retrofitting.</p> <p>Initiate well-managed growth of urban periphery.</p> <p>e.g. Beijing (China)</p> | <p>Expand existing public transport systems and increase share of public and non-motorized travel.</p> <p>e.g. Mumbai (India)</p> <p>Link travel modes, e.g. Shanghai</p> | <p>Integrate land use and transport planning with regulatory, fiscal and financial policy instruments across municipalities within the metropolitan area.</p> <p>Policy support from national and regional governments.</p> <p>Provide best practice leadership for other cities.</p> <p>e.g. London (United Kingdom)</p> |
| Mature Cities | <p>Redensify through regeneration of existing city cores and supporting hubs, brownfield re-development, and urban retrofitting.</p> <p>e.g. Hamburg (Germany)</p> <p>Increased tree cover in city core, e.g. New York.</p> <p>Re-zoning to promote residential development in city core, e.g. Toronto</p> | <p>Major opportunities to introduce cycling and non-motorised travel (in mature sprawling cities redensification also required to make public transport more cost effective).</p> <p>e.g. Copenhagen (Denmark)</p> <p>Disruptive technologies and practices, e.g. Uber</p> <p>Increase cyber-security and infrastructure hardening, e.g. Paris.</p> | <p>Integrate land use and transport planning, including use of regulations.</p> <p>Policy support from national and regional governments.</p> <p>Develop best practice through city networks.</p> <p>e.g. Barcelona (Spain) and Singapore</p> <p>Enhance trust in policing community. e.g. Chicago</p> |

Extracted from Floater, G., Rode, P., Robert, A., Kennedy, C., Hoornweg, D., Slavcheva, R. and Godfrey, N. (2014): Cities and the New Climate Economy: the transformative role of global urban growth. New Climate Economy Cities Paper 01. LSE Cities. London School of Economics and Political Science.

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