

# **Cities as innovation: Towards a new understanding of population growth, social inequality and urban sustainability**

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## **1. Introduction**

Cities are one of humankind's most creative innovations. Like the wheel, the water pump, the airplane or the computer, they cannot be attributed to a single individual but to the collective efforts of people working to solve the particular problems of their time. In their origins some 10,000 years ago, cities evolved as a result of other innovations such as farming, trade and organised warfare: farming produced enough surplus to create a class of people who did not need to live directly off the land, trade enhanced specialisation and fostered accumulation, and city walls were erected to protect people and property as a response to warfare.

Cities continue to be essentially hubs of innovation and improvements in individual and collective welfare (Glaeser, 2011). Physical proximity facilitates access to services such as health and education, while urban economies lead to increased productivity and rising incomes. For producers, higher costs (rent, labour) are more than compensated by the value of increased output resulting from the availability of more skilled labour, more plentiful capital, and larger localised markets for their products (Quigley, 2009).

Despite the bad press that they often get from the popular media and a long legacy of romantic depictions of rural life as idyllic, cities usually embody the best of any society, providing dwellers with a greater range of opportunities than sparsely populated rural areas. Because of the sheer concentration of activities and people in one place with all the diversity that this implies, cities can of course also magnify some of society's worst traits, such as inequality in access to material wealth, violence and pollution.

Like all human inventions, cities have to be nurtured, managed and guided so their contribution to present and future societies can be maximised. This means not merely thinking about what future generations will inherit from current generations, to paraphrase the well-known definition of sustainability advanced by the Brundtland Report (World Commission on Environment and Development, 1987), but also what this entails in terms of what other people living concurrently might gain or lose from them. We cannot examine the issue of sustainability in one country or even one continent without asking what this means for societies elsewhere. The high levels of material consumption and high energy intensity of richer societies today can only be sustained by importing large volumes of fossil fuels, food and consumer goods from exporting countries whose population is often left with little more than pollution and low wages.

In this chapter I sketch some of the dominant population and economic trends in urban development in the countries of the so-called Global South, and try to discern what the future might hold for subsequent generations. I then outline some of the areas where we may need to focus our research efforts in the next ten years or so with a view to making cities more sustainable and socially just. These areas, I argue, should help guide us in our

central task as educators of the next generation of urban planners and urban practitioners.

## **2. Are cities in the Global South still growing and if so, how?**

A central area of concern for planners and policy makers at both the national and regional scales is the current and future growth of population and, more specifically, where it is happening. Monitoring changes in population is essential for any state if it is to fulfil its duty as guarantor of the survival of capitalism (Harriss-White, 2006). A popular perception is that the main cities in Sub-Saharan Africa and Asia are growing inexorably and at a very fast pace, swamped by newly arrived rural dwellers who find a home in a shack in the city's periphery. This image, often perpetuated by the media (Johnson, 2013), is not new and was especially prominent in the 1960s and 1970s in Latin America. The problem is that it is only partially accurate, if at all.

In examining urban growth trends it is worth remembering that city population changes are the net result of three factors: the difference between in-migration and out-migration (net migration); the difference between births and deaths (natural growth); and the effect of changes in urban boundaries (re-classification). Popular perceptions tend to leave out the last two factors while giving primacy to net in-migration, even in countries and cities where it contributes only a small proportion of net growth. For some policy makers, and for many of those who have settled in cities for a generation, outsiders are often seen as the source of 'problems': crime, overcrowding, higher prices of scarce goods such as housing and food. And yet, the evidence rarely supports this view (Martine et al., 2008). For example, natural growth contributed 75 per cent of urban growth in African cities in the 1980s and 60 per cent in India in 1961-2001. Reclassification of city boundaries represented the equivalent of 26 per cent of urban growth in Africa in 1950-1980, and 20 per cent in India in 1961-2001 (Beauchemin and Bocquier, 2005). Similarly, in-migrants are often more entrepreneurial and more highly skilled than locals, but it is easy to blame people who look different for what are perceived as growing social ills.

The widely held perception that all countries in the Global South are urbanising rapidly is also inaccurate (Satterthwaite, 2007). Urbanisation in several Sub-Saharan African countries is advancing more slowly than predicted, with some countries like Benin, Mozambique, Senegal, Zimbabwe, Mauritania, Burkina Faso and Niger urbanising very slowly, while the urban share of the total population in Zambia, Côte d'Ivoire and Mali dropped in the 1990s (Potts, 2009). Migration to cities is only one dimension of the population movements that characterise life in some national and regional economies. In the francophone countries of West Africa, for example, where population growth is one of the highest in the world, in the 1990s and early 2000s capital cities attracted fewer migrants than in the 1970s, secondary cities experienced negative migration rates, and some rural areas gained population as a result of both rural and urban migration (Beauchemin and Bocquier, 2005). The perception that rural migrants fuel urban growth is also challenged by evidence from this region showing that international migration represented three quarters of urban growth in Abidjan and almost 40 per cent of growth in Ouagadougou in the 1990s and early 2000s (*ibid.*).

So, with some exceptions such as Nairobi, Kampala, Cairo and Accra, large cities in the African continent are not growing as fast as is widely believed. A similar picture emerges from Latin America, a continent with higher shares of urbanisation and where rapid urban growth took place in the 1960s and 1970s. Today, urbanisation is driven largely by natural growth, with some medium-sized cities (especially ports or those linked economically to metropolitan regions such as Sao Paulo, Mexico City or Santiago)

growing faster than larger cities. The picture is more diverse in Asia, with many Chinese cities experiencing fast growth largely due largely to migration from the countryside, especially medium sized cities linked to the faster growing industrial centres. Rapid urbanisation will soon be accompanied by rapid ageing of the population, a result of the government's one-child policy. Much of Chinese urbanisation over the past two decades has been driven by the surge in industrialised exports, mainly of consumer goods, to the richer nations.

India is expected to experience a rapid urban transition over the next generation, with much urban growth also taking place in medium sized cities; growth is not expected to be as rapid as in China, partly because migration has not been historically controlled as in China, but largely because much of the economic basis for urban growth will be domestic consumption, a much weaker and erratic driver than international consumption. As in other regions of the world, climate change may become an additional factor of rapid urban growth, as drought or flooding drive large numbers of refugees out of their land and villages onto neighbouring regions and countries (Revi, 2010).

### **3. Are cities becoming more unequal, and does it matter?**

One of the defining characteristics of global development is the growing interpersonal income inequality that has accompanied the extraordinary rates of material wealth creation over the past few decades. The rise in inequality is not only a moral issue but it also has consequences for economic development: “income inequality is now widely thought to retard growth and development... (and) unequal societies are less likely to sustain growth over a long period” (Balakrishnan et al., 2013, p. 28). A less skewed distribution of wealth in a given society implies a larger domestic market for local goods and services, less economic volatility, and greater rates of economic growth.

Although historically marked by the highest rates in the world, inequality in Latin America has improved over the past decade or so, partly driven by notable improvements in Brazil under the governments of Presidents Lula da Silva and Rousseff. In Asia, however, inequality has been on the rise; whilst incomes have been growing as a result of often extraordinary rates of economic growth sustained over two decades, the incomes of the poorest tiers of the population have not risen as fast as those in the upper ones. The growing income results from a complex set of factors including higher demand for skilled labour, low taxation levels resulting in low levels of social spending (health and education), and a deliberate bias towards capital-intensive industries and a corresponding growth in low-income informal jobs (Balakrishnan et al., 2013).

Growing inequality is increasingly reflected in cities. The appearance of ‘gated communities’ for the very rich and growing proportions of the middle classes is a particular manifestation of this. For over a generation now the largest metropolitan areas in Latin America have seen the appearance of exclusive developments modelled on US cities, with guarded entrances, walled boundaries, and expensive amenities similar to those found in private sports clubs. Political pressure from what are generally regarded as vocal and influential voters, tax payers and influential interest groups mean that politicians and urban planners rarely ban such developments, welcoming them instead as part of the solution to the growing challenge of having to supply basic services and policing to a sprawling metropolis. India, China and more recently Africa have been catching up. Private self-contained developments with exotic names and hyperbolic advertising containing shopping centres, golf courses, swimming pools, gyms and even hospitals, are appearing in cities like Kigali, Nairobi, Kampala, Accra and Lagos, often designed by firms based in Moscow or Beirut (Watson and Agbola, 2013; Johnson,

2013). They often have their own sources of underground water to irrigate lawns and golf courses, thus capturing a disproportionate share of a scarce public good for their own use. As most developments are on the outskirts of cities where public transport is often non-existent, commuting is done by private car, at a high relative cost in terms of energy consumption and pollution.

Private developments represent attempts by the very wealthy and some members of the middle classes to dissociate themselves from the rest of the city, to isolate themselves from the dirt, noise, crime and chaos that they believe dominates daily life in the old city, and to provide their children with an environment more akin to that of Hollywood films, clean air, well-tended lawns, sports cars, servants, and the latest electronic gadgets. In so doing they risk creating a generation of children who grow up believing that the world they inhabit is strangely homogeneous, where the only other human beings who do not belong to their tightly-knit social group are there to serve them. Insofar as they are likely to inherit the wealth and associated political power of their parents, it makes one wonder what effect this might have on their capacities as political and economic leaders when they reach adulthood, and what this might mean for the industries and political systems they are likely to lead.

What do these recent trends mean for urban researchers and professional educators? In the concluding two sections of this chapter I highlight some on-going experiences in planning education, and outline some areas where I believe we still need to deepen our understanding of cities and their implications for a more sustainable urban future.

#### **4. Education for a new generation of urban practitioners**

In a review of planning education in Africa, Watson and Agbola (2013) argue that “planning is the most important tool that governments have at their disposal for managing rapid urban population growth and expansion” (p. 2). They further note that change “depends on planners who are innovative problem-solvers and willing to collaborate with all parties involved in the development process, including local communities” (ibid.). And yet, planning education, where it exists, tends to look back to the traditions and models of European and US cities, with an urban legislation often dating from colonial times.

A new continental effort, led by the Association of African Planning Schools (AAPS), seeks to redress this in the hope that future urban practitioners are better equipped to respond effectively and meaningfully to urbanisation. Rather than attempting to re-create an alien dream for a wealthy minority, planning schools ought to be teaching students about the daily realities of the majority of urban dwellers: the informality of labour and housing, precarious and confused land tenure systems, the growing threat of climate change, the need to establish collaborations between planners, communities, civil society and the private sector, the mismatch between spatial planning and infrastructure planning (Ngau, 2013).

Elsewhere, planning schools draw on a mixture of imported models and demands from an increasingly robust local government that seeks to respond to the demands of national and international capital, local residents, and central government treasury departments. In Latin America, planning schools (most of which run only postgraduate programmes) increasingly draw on the ‘successful’ examples of good urban design, planning and management within the region, with frequent visits by lecturers and students to cities in other countries. This has given rise to a constant dialogue among academics and practitioners throughout the continent, with a shared know-how of good urban practices

that drew initially from US and European cities (such as Boston, Barcelona and Bilbao) but increasingly looks inside the continent for inspiration.

In India, central government budget cuts are increasingly driving planning schools towards a form of privatisation that may lead them to respond more readily to the demands of private sector developments than to a local government in partial retreat and overburdened by bureaucracy and rapid urban expansion. Notable among new attempts to tackle the forthcoming challenge of rapid urban growth in this vast country is the Indian Institute for Human Settlements (IIHS). This is a private education institution “committed to the equitable, sustainable and efficient transformation of Indian settlements” built on the premise that “the chief impediment to the orderly growth and transformation of urban and rural India is the availability of sufficient numbers of well educated professionals committed to the common good who can play the role of change-makers and entrepreneurs”.<sup>1</sup> Partly due to limitations of time and information but largely due to their enormous heterogeneity, it is more difficult to generalise about emerging trends among planning schools elsewhere in the Global South.

## **5. Research challenges for a more sustainable urban future**

Urban scholarship about the Global South dates back over half a century. Originally driven by the concerns of practitioners and academics in universities in France, the UK and the US, these included attempts to systematise (rapid) urban growth (Davis, 1965), understand squatter settlements and self-help housing (Mangin, 1973; Turner, 1976; Massiah and Tribillon, 1987; Ward, 2012), characterise poverty and social change (Lewis, 1973; Osmont, 1978), and identify the livelihood and institutional implications of gender relations in a context of urban poverty (Moser, 2009; Levy, 1992; Chant, 2007). Although much urban scholarship continues to be driven by universities and research centres in richer countries, their agenda increasingly responds to local needs and uses local capabilities. Urban research is less and less the preserve of a small minority of white male academics and has broadened its remit and involvement beyond academia to NGOs, organised communities, governments and private firms in the Global South.

Bearing in mind the above caveats (and my condition as a male academic in a top university of a rich country), I will venture some ideas on what I see to be important topics for future research. The list, by no means exhaustive, is based on my experience as a practitioner and as a researcher interested in practice and for whom empirical and theoretical scholarly research is best done in close and respectful collaboration with local partners in the Global South (including academics but not restricted to them).<sup>2</sup>

In no particular order of priority, areas where research needs some deepening include, firstly, the growing role of the expanding middle classes in shaping urban form, governance, consumption and environmental change, and the governance responses to this. I have sketched above what some scholars and journalists point out as current trends in large African and Asian cities, and yet much more needs to be understood about this phenomenon. This has been more broadly documented in Latin America, partly because it has been observed for at least two decades, and partly because this region has the human resources to examine it critically. Much recent research arising

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<sup>1</sup> [www.iihs.co.in](http://www.iihs.co.in) (accessed 1 August 2013).

<sup>2</sup> This is a modus operandi that I share with my colleagues at the Development Planning Unit, University College London, where a rich legacy of research projects has been built through collaboration with academics, NGOs, community organisations in urban informal settlements, and consultancy companies. A list of recent research projects can be found at [www.bartlett.ucl.ac.uk/dpu](http://www.bartlett.ucl.ac.uk/dpu)

from the UK has focused on urban poverty though, as Harriss-White (2006) points out, a concern with the broader issues of development “has been reduced to an assault on poverty, apparently driven by international aid, trade and financial agencies and festooned in targets” (p. 1241). Little research has been done on the impact of a growing urban middle class as drivers of consumption and inequality, but also as generators of jobs and local government revenues. This will continue to be urgent, because as incomes continue to rise, so will the importance of Asian and African cities as centres of global consumption of imported goods, including food (Blas, 2013).

A related area of research is the growing role of the formal private sector in urban development. This does not refer as much to local service, manufacturing and construction industry firms, as to the growing interest of multi-national investors (including pension and sovereign funds) and consultancy firms in the potentially vast opportunities for profit arising from a growing process of urbanisation and the infrastructure needs associated with it (Sagalyn, 2012). Large service and consultancy firms like Siemens, Cisco, Arup, KPMG and McKinsey, have discovered that there is a significant potential to be tapped in these rapidly growing markets. For some these ‘global technology companies’ even hold utopian ambitions to drive the next capital accumulation wave (Swilling, forthcoming). Although there is no doubting the value of the skills and the technology that these firms bring to the management of cities, the question arises whether their focus of interest is only the ‘formal’ city, the corporate sector and the new gated communities where profits can be maximised, as opposed to the large areas of cities where the vast majority of the poor live.

Another area of research relates to the conditions and capacities to generate urban innovations that advance the goals of sustainability. This does not refer as much to the amazing array of new tools derived from an increasingly sophisticated use of digital technologies and new materials (such as crowd mapping and simple technologies such as using balloons to map informal settlements, manipulating ‘big data’ from tweets or mobile phone signals, or nanotechnology to improve paints), as to the social and governance conditions under which technology, old and new, can be used in a manner that benefits the largest and most disadvantaged sections of an urban population. Given the commercial opportunities described in the previous paragraph, there is a risk that technology becomes reified and sold to local governments as the ‘smart city’ solution to their problems (Hajer, forthcoming).

And yet there is still much to be learned from a few urban contexts that have opted for appropriate local solutions. In the case of urban mobility, for example, rather than looking for new transport technology, old ones are being considered for their potential, perhaps overlooked, to contribute to urban sustainability, and make it more accessible and affordable to the vast majority of users. Favouring non-motorised rickshaws in Dhaka over private cars could help reduce inequalities and pollution (Hasan, 2013). Encouraging cycling provides mobility in choked-up urban centres that might avoid the large-scale use of more costly and polluting motorbikes, such as exists in Ho Chi Minh City. Going overhead with cable cars in Medellín substantially improves the mobility of low-income residents in densely built hilly areas (Dávila, 2013). And, of course, walking is being reconsidered, though certainly not for the first time. There is a trend to avoid low urban densities and to encourage mixed land uses that increase the practicality of walking; the result can be a reduction in the use of polluting transport modes, a more efficient use of land for urban purposes, and health co-benefits (Rydin et al., 2012). Effectively favouring cycling in a city like Nairobi or non-motorised rickshaws in a city like Dhaka will require the compliance of the middle class, whose demands for motorised

vehicle access will have to be compromised.<sup>3</sup> Increasingly, collaboration between local authorities and local communities emerge as alternatives to privatised, profit-driven capital intensive operations; known as ‘co-production’, these include basic services such as water supply, which are estimated to include up to 40 million users in Latin America (Allen, 2012).

Another area where much remains to be done is in the fruitful interaction between health and built environment researchers. My own experience in two recent projects shows the huge potential for advancing knowledge and policy when professionals from markedly different epistemological traditions join forces to understand the complexities behind health and well-being in cities, including an understanding of the conditions in which infectious and non-infectious diseases develop. The first one was a two-year desk study commissioned by the prestigious medical journal *The Lancet* to an inter-disciplinary group of UCL-based academics from medicine, epidemiology, anthropology, philosophy and a diversity of professionals concerned with the city (Rydin et al., 2012). The second one is an on-going five-year collaboration among an equally diverse group of researchers to understand the medical, social, institutional and physical conditions in which a pathogen (*Escherichia coli*) is transmitted from animals to humans and from humans to humans in cities, using Nairobi as a case study.<sup>4</sup> The thinking behind such ‘transdisciplinary’ forms of research (Klein, 2014) is that by pushing the boundaries of individual disciplines, breakthroughs can be made to enable scientific discoveries to take account of the social and institutional complexities in which contagious diseases develop.

It is unlikely that future generations will tire of the amazing human invention that is the city. With all they embody in terms of individual and collective advancement, most cities are likely to continue offering opportunities to a growing proportion of the world’s population for many decades to come. But, like other human inventions, they will need continuous nurturing and even occasional reinvention if they are not to become growing burdens on the natural environment, instruments of inequality and inefficient sites of wealth generation. Local governments need to play a central role in this, and they must do so in close collaboration with local communities.

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<sup>3</sup> I am grateful to Michael Mattingly for his suggestions about this issue.

<sup>4</sup> See [www.zoonotic-diseases.org/home/research/urbanzoonoses](http://www.zoonotic-diseases.org/home/research/urbanzoonoses)

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