



Critical review

City planning deficiencies & climate change – The situation in developed and developing cities



Yosef Jabareen

Faculty of Architecture and Town Planning, Technion – Israel Institute of Technology, 32000 Haifa, Israel

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ABSTRACT

In recent years, many cities have been grappling with climate change using master, strategic, and action plans aimed at mitigating greenhouse gas emissions and adapting to the anticipated, albeit uncertain, impacts of climate change. Despite the monumental significance of these plans, however, analysts have yet to assess their nature and impact at the national and cross-national levels and their possible effect on the environment and society. This paper examines these plans and asks critical questions about their nature, vision, practices, and potential impact. Our sample is composed of twenty city plans from around the world, where our findings suggest that the vast majority of our contemporary cities continue to employ traditional planning approaches. Furthermore, our cities are not doing all they can to fortify themselves against uncertainties, climate change, and natural and environmental hazards. Our cities may end up being deathtraps for millions of residents when disasters occur.

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1. Introduction

Both the international community and the climate-change related discourse of local and international environmental civil society look to cities to play a leading role in coping with climate change (Jabareen, 2015; Parr, 2015; Isaksen and Stokke, 2014). This expectation is premised on three main factors. The first is the scale of our contemporary cities, which will become home to the vast majority of humanity in the coming decades. Whereas only 29% of the earth's population lived in cities in 1950, the figure today has reached 51%, and by 2050 an estimated 70% of the global

population (6.3 billion people) will live in urban areas (UNDESA, 2011). The second is the fact that today's cities have become a major source of greenhouse gas emission and are responsible for more than 70% of global energy-related carbon dioxide emissions (WRI/WBCSD, 2014). The third is the phenomenal risk that climate change poses to city populations and their social, economic, ecological, and physical systems (IPCC, 2014), impacting urban security and threatening the safety, the well-being, and the very existence of urban people (Barnett and Adger, 2005; Leichenko, 2011; Rosenzweig et al., 2011). Without a doubt, cities as territorial entities represent one of the most promising vehicles and scales for tackling the challenges of climate change today.

E-mail address: jabareen@technion.ac.il

Nonetheless, we currently lack both the empirical foundation necessary to determine the scale of emissions reduction that cities could potentially achieve, and sufficient evidence regarding past progress indicating what emissions would or would not have been had mitigation measures not been undertaken (Kennedy et al., 2012). Another essential question is whether cities are contending with climate change in a suitable manner by adequately reducing their emissions and improving their readiness and adaptation measures to face the uncertainties and threats it presents. A critical component of any answer to this question – one which the literature has thus far overlooked – must be an assessment of overall city mitigation and adaptation policies, as reflected in their master and strategic plans. Our fundamental premise is that urban plans possess an unrivaled potential to contend with the impacts of climate change.

In recent years, many cities have been grappling with climate change using master, strategic, and action plans aimed at mitigating greenhouse gas emissions and adapting to the anticipated, albeit uncertain, impacts of climate change. Despite the monumental significance of these plans, however, analysts have yet to assess their nature and impact at the national and cross-national levels and their possible effect on the environment and society. Thus far, assessments have gone no further than reports on the climate change-related activities of cities – such as ARUP for the C40 (2011) and Castán et al. (2013)–based on information not gleaned from city plans, pertaining only to general activities and experiments conducted at the city level.

Some may argue that local governments operate under many constraints, resulting in city plans that represent a bland path of least resistance, and that we should, therefore, not put great faith in the planning documents. I argue that planning should be taken seriously in the context of climate change due to their unique power to integrate policies of mitigation, adaptation, land use, and other related urban measures within one statutory, binding document: the city plan.

This paper examines recently issued inclusive, master, strategic, and climate change action plans of cities around the world and ask critical questions about their nature, vision, practices, and potential impact. Do they adequately address the risks and uncertainties posed? How do they contribute to the worldwide effort to reduce greenhouse gas emissions (see also Parr, 2015) More specifically, our analysis places special emphasis on the mitigation and adaptation policies that these plans propose. Our sample, composed of twenty city plans from around the world, consists of large cities – all with large populations and eight that are state capitals – from the developed and developing world that have recently issued and approved city plans for the coming decades.

2. City visions and the challenge of climate change

All the plans considered present long-term visions for their respective cities that extend years and decades into the future. The visions advanced by these cities say a lot about their seriousness regarding climate change issues. Our analysis indicates that many cities do not take climate change into consideration when planning their policies for the future. Some cities based their visions primarily on the risks and uncertainties stemming from climate change, while others offered visions that address other threats, such as those related to growth and urban expansion. In *PlaNYC*, New York City calls for the development of a “greener, greater New York”, and adequately addresses local and global climate change as a central concern of planning and future development. The *Paris Climate Protection Plan* (2007) confirms that the City of Paris has committed itself to a “factor 4” approach with the aim of reducing total emissions by 75% of their 2004 level by

2050. With its target year of 2031, *The London Plan* (2011) asserts that London should “excel among global cities – expanding opportunities for all its people and enterprises, achieving the highest environmental standards and quality of life and leading the world in its approach to tackling the urban challenges of the twenty first century, particularly that of climate change.” Barcelona’s *Plan 2011–2020* strives to “position Barcelona in approximately 2020 as a highly competitive city,” and to improve the health of the planet by increasing energy efficiency and reducing greenhouse gas emissions.

Other cities, however, completely ignore the issue of climate change and instead emphasize economic development and growth. For example, *The Master Plan of Moscow 2025* advances a vision of growth and spatial expansion aimed at allowing its population to enjoy a standard of living comparable to that of other major European capitals; while the vision of *Beijing Master Plan, 2004–2020* is “to build Beijing into a World City” and to promote Beijing as an “internationally influential” city through the services it provides. Similarly, the vision of *Master Plan for Delhi 2021* is to make Delhi “a global metropolis and a world-class city, where all the people would be engaged in productive work with a better quality of life, living in a sustainable environment” (see also Isaksen and Stokke, 2014). The *Amman Plan* and *Tel Aviv Plan* dismiss climate change issues altogether. The climate change issues were not even mentioned in these plans.

3. Mitigation and adaptation: aspirations

The levels of GHG reduction proposed by the plans range from 0 to 70%, as reflected in Table 1. The *Paris Action Plan* is “very ambitious,” aiming for a 25% reduction in greenhouse gas emissions in the city (in comparison to European targets of 20%) by 2020. The *London Plan* strives for a 60% reduction in London’s overall carbon dioxide emissions, to bring them below their 1990 levels, by 2025. In 2008, Barcelona signed the European Union’s Covenant of Mayors, committing to reduce CO₂ emissions by 20%, to increase energy efficiency by 20%, and to ensure that 20% of its energy will come from renewable sources – all by 2020. In 2007, New York City set the goal of a 30% reduction in citywide GHG emissions by 2030, and since then the city has achieved a 19% reduction from its 2005 baseline. New York City also updated its targets and is now committed to a “pathway to 80” (80% carbon emission reductions) by 2050 (*The City of New York*, 2013). Unlike the Paris, London, and Barcelona plans, the plans for Beijing, Delhi, and Amman provide no data regarding emissions reduction. The *Delhi Plan* offers no target figure for GHG reduction and only acknowledges that “the air quality has been responsible for a number of respiratory diseases, heart ailments, eye irritation, asthma, etc.”

Furthermore, as shown in Table 1, none of the plans take adaptation measures seriously. Paris, London, and New York have all advanced limited adaptation measures, and none of the cities have adequately addressed the uncertainties relating to climate change and their expected local impacts, despite their recognition of the dramatic threats they pose to their cities (Parr, 2015). London’s plan acknowledges that by the 2050s, the city could see an increase of up to 2.7° in mean summer temperature, a 15% increase in mean winter rainfall, and an 18% decrease in mean summer rainfall over the 1961–1990 baseline. The plan also recognizes that “heat impacts will have major implications for the quality of life in London, particularly for those with the fewest resources and living in accommodation least adapted to cope,” and that the city will also witness an increased probability of flooding, with higher sea levels, higher and more frequent tidal surges, significant increases in peak flows of the Thames and other rivers, and the potential for more surface water flooding. As it stands, there are already 1.5 million people and 480,000 properties in the floodplain.

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