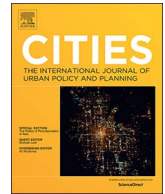


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# Future cities: Conceptualizing the future based on a critical examination of existing notions of cities

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## ABSTRACT

Assigning labels to cities that evoke desirable features has become increasingly popular in recent years with city administrators promoting various notions of the desired city. This article examines the various labels used to classify cities and identifies the key characteristics that each label tends to highlight. It is contended that as proponents of variously labelled cities pursue certain aspects of sustainability, their focus may be too narrow to cover the broad spectrum of sustainability.

A literature review of various notions of desirable cities promoted under various labels suggests that cities of the future would need to be dynamic and intelligent in every aspect of social, economic and environmental sustainability. Therefore, it is important that all aspects of sustainability are considered in envisioning the desired future in which to conceptualize the cities of the future. It can be assumed from the past trends of urbanization that future cities will continue to uphold and build upon common goals and values of existing cities such as promoting pleasant urban form, community engagement, economic opportunities, and technological advancement and cultural diversity.

This paper reports on a systematic critical review of literature of twelve popular notions/labels of desirable cities as apparent from a scan of citation indices of peer reviewed articles. It identifies the level of consideration of various aspects of sustainability in the central focus of proponents of each notion. It then maps out the concern for sustainability along ten dimensions of sustainability.

The findings of the study demonstrate that not all notions/labels of desired cities consider sufficient breadth of the sustainability spectrum. Similarly, in cumulative terms, the various notions of desirable cities amount to different levels of consideration for various aspects of sustainability.

The paper concludes by pointing out the need to ensure that the overall focus of scholars dealing with the built environment at any given time provides a balanced regard to all aspects of sustainability.

## 1. Introduction

Cities have always been seen as centres of commerce, culture and innovation. Today, cities have become the growth centres of population, consumption, and resource use (C40, 2016; WWF, 2016). Cities attract people by providing better economic opportunities and urban facilities to their citizens. Currently, only 600 urban centres generate about 60% of global gross domestic product (WWF, 2016). In developing countries, significant numbers of people migrate from rural to urban areas each day. China alone aims to build 400 new cities by the year 2020 to accommodate its anticipated urban growth (Bullivant, 2012). While in 1800, only 3% of humanity lived in cities, at present more than half of the population lives in urban areas with 70% of humanity projected to be living in cities by 2050 (UN, 2013).

As cities grow, they impose significant impacts on the surrounding

environment and beyond. Cities consume around 75% of the world's natural resources, generate 70% of all waste and emit around 70% of greenhouse-gas emissions globally (Ramsar, 2012; UN-MEA, 2006). Cities are often blamed for the undesirable consequences of global climate change. Already, 70% of cities are affected by the adverse impact of climate change while nearly all cities are at risk (C40, 2016). Over the past few decades, increasing socio-economic disparity has led to concerns about polarisation of quality of life within cities (Fainstein, 2001; Sassen, 1991). In recent years, increasing occurrence of terrorism events in cities across the world have added a further dimension to the importance of tackling urban crime (Glaeser & Shapiro, 2001; Paizs, 2012). Planning for future cities, therefore, demands greater attention to not only towards combating effects of natural phenomena such as climate change but also the changing socio-economic and safety landscape of the urban reality. These concerns need to be addressed in

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planning literature and debated in relevant fora to progress towards sustainable urban development.

Over the years, various labels have been used to conceptualize 'ideal' cities, such as, garden city (Howard, 1902), creative city (Yencken, 1988), global city (Sassen, 1991), compact city (Breheny, 1995), liveable city (Lees & Demeritt, 1998), zero carbon city (Hayter, Torcellini, & Deru, 2002), regenerative city (Girardet, 2004), compact city (Neuman, 2005), smart city (Giffinger et al., 2007), age-friendly city (WHO, 2007), eco-city (Cheng and Hu, 2010), resilient city (Newman, Beatley, & Boyer, 2009), zero waste city (Zaman & Lehmann, 2011), safe city (van den Berg, 2006), sharing city (Agyeman, McLaren, & Borrego, 2013), and so on. Labels such as these, highlight different notions of cities, promoting distinctive features defined by their urban form, political and economic set up, social and cultural aspects, and environmental and technological aspects.

It is obvious that cities in the future must strive to achieve sustainability along various dimensions: efficiency and self-sufficiency in resource use; the equity and social wellbeing; synergy between natural and built environment; and resilience in the face of adversity. Regardless of what labels are assigned or how cities of future are branded, the underpinning shared value or purpose of all cities is founded on the prime objective of delivering optimum and most desirable urban experiences to its citizens. While various labels tend to highlight specific aspects of sustainability that need attention at any given moment in history, a plethora of labels and brands of city visions competing for attention could also potentially hinder the conceptualization of the bigger picture for the sustainable future city.

It is contended that the features, forms and functionality of future cities will be based on a sustainable transformation of existing cities to best serve the needs of the popularly envisioned futures under various labels. The nature and extent of the transformation will be largely determined by the scholarship and research currently carried out today and therefore we need to ensure it is well rounded. It is important to ensure that the pursuit and active promotion of the various notions/labels of cities does not render the collective focus of the literature patchy nor neglect the pursuit of any significant aspects of the broader urban sustainability spectrum.

A recent study by Ahvenniemi, Huovila, Pinto-Seppä, and Airaksinen (2017) comparing smart city assessment frameworks to urban sustainability assessment frameworks further highlights the need for this study. Their findings confirm that smart city frameworks focus much more on technology and its application in areas such as ICT, governance, health and safety and cultural diversity compared to urban sustainability assessment frameworks. The findings also point out that while smart city frameworks thus serve to highlight social and economic aspects of cities more compared to urban sustainability frameworks, they tend to be lacking in their focus on environmental indicators. The study concludes by proposing an expansion of the label smart city to ensure a more balanced focus in terms of overall sustainability of cities (Ahvenniemi et al., 2017).

The aim of this study is to critically analyse the desired characteristics of cities classified under different labels to identify fundamental commonalities and differences among them through a systematic literature review. It sets out to measure the extent to which various aspects of sustainability are emphasized by proponents of each city label. It then paints a cumulative picture of the main areas of sustainability covered by the aggregation of currently popular labels or notions of good cities to help identify any aspects of sustainability that are possibly being neglected in the current planning literature.

## 2. Defining cities and desirable notions of cities

Defining cities or urban regions is problematic, involving consideration of numerous fluctuating dimensions such as shifting administrative boundaries, expansion or shrinkage of population and various degrees of heterogeneity across regions and over time, among others.

Brenner and Schmidt (2014) highlight the various issues that are confronted in developing a definition of cities and the process of urbanization. They recount how, over decades, there has been a tendency among scholars and researchers to define cities in terms of their size, whether absolute or relative to the rest of surrounding settlements, downplaying the impact of geographical locations and spatial boundaries of cities and metropolitan regions. They also caution that although United Nations agencies collect and disseminate enormous amounts of empirical data and analyses on urbanization and cities based on flawed assumptions or urbanization processes, "influential authors and organizations appropriate [the findings] uncritically, as though they were offering an unmediated window into 'raw facts' of the global urban condition ..." (p.740 Footnote 1). The contemporary "urban age metanarratives are grounded upon updated data" but they still perpetuate a "methodologically territorialist model of world urbanization from the 1960s" (Brenner & Schmidt, 2014, p.738). They quote Manuel Castells who labelled such publications as "expressions of a 'statistical empiricism'" promoted by agencies that tend to use "criteria of administrative practice" for analytical purposes" (Castells, 1977 in Brenner & Schmidt, 2014, p.739).

In this paper, however, we are essentially scanning and analysing contemporary literature dealing with a number of notions of a desirable city popularized by a wide array of proponents. The focus, therefore, is less on the actual physical, geographical or administrative configuration of the city itself but rather on the desirable features that cities, however defined, could be envisaged to adopt. For the purposes of this paper, we conceptualize the city merely as an expression of location of significance with sufficiently tangible differentiation from its surrounds that serves as the context for concentrations of citizens. We treat cities simply as spaces that serve as physical, geographical and cultural contexts or containers for promoting certain lifestyles and notions.

The key constituents of a city, which are people, infrastructure, institutions and services, haven't changed significantly from the time of the ancient city of Jericho developed nearly 9000 BCE near the Jordan River in the West Bank, to the twenty first century city of Masdar initiated in 2006 near Abu Dhabi (Mark, 2014; Reiche, 2010). However, the concept of the city has evolved over time reflecting the changing emphasis on values and factors such as economy, mobility, connectivity, environmental pollution and sustainability. Certain notions have been popularized over others due to their perceived significance, relevance and applicability.

## 3. Towards visioning future cities

Sustainable cities are "cities where people want to live now and in the future ..." (KeTTHA, 2011). Cities are concerned to provide a socially diverse environment wherein economic and social activities overlap and where communities are focused around neighbourhoods (Riffat, Powell, & Aydin, 2016). Cities of the future would also continue to promote collective wellbeing of citizens.

The increasing awareness of adverse effects of infrastructure development on the ecosystem that eventually affect citizens' welfare will necessitate cross-sectoral development approaches for future cities to assess and mitigate them. Enhanced technological capacity to promote further synergies between the natural and built environments will enable planners to seriously consider the interrelationship of urban form with its environmental factors, promoting closed-loop urban resource flows. Cities are most likely to pursue industrial production systems that are restorative by design and promote collaborative consumption practices.

Further technological advancements in information and communication technology (ICT) are bound to occur in the areas of mobility, safety and security, potentially transforming the very nature of urban society. Rapid technological advances and emergence of new safety and security concerns, are already transforming the forms of urban management and urban governance in many cities around the world

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