

# Chapter 1

## Balanced Urban Development: Is It a Myth or Reality?

**Basant Maheshwari, Vijay P. Singh, and Bhadranie Thoradeniya**

**Abstract** A major challenge we face globally is that cities are growing rapidly and most of this growth is inevitably occurring in peri-urban areas. The concept of balanced urban development is complex and is linked to liveability of urban areas along with water, food and energy security. Increasingly, liveability is becoming important for urban planners and governments at all levels. There are many environmental, economic, political and social challenges if the goals of achieving sustainable, liveable and productive urban regions are to be achieved. The concept of sustainable development and liveable cities symbolise the big visionary ideas for urban planning and balanced development but implementation of these popular visions can encounter a host of conflicts due to a range of interests and stakeholders involved. The process of achieving balanced urban development may require learning from the past successes and mistakes to identify what makes a good practice for balanced urban development and guide local governments, planning agencies and developers to plan and design future cities that are highly liveable. At present there is insufficient policy focus on the challenges of the peri-urban areas of growing mega-urban regions around the world, because they are not recognised as an integral part of the functional activities that drive the growth of these urban areas. Thus, policies for peri-urban regions have to be given priority at both national and global levels, if ‘globally just urban places’ are to emerge.

**Keywords** Liveable cities • Urbanisation • Peri-urban fringe • Balanced urban development • Food security • Water security • Land management • Urban agriculture

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## 1.1 Introduction

A major challenge we face globally is that cities are growing rapidly, with current forecasts indicating strong growth in the urban fringe well into the future (Cohen 2006). Most cities around the world play an increasingly dominant role in the national economy in terms of both production and consumption but the urban growth, particularly in developing world, so rapid in the 10–15 years that it is putting a question mark on the capacity of most cities to provide adequate services and amenities for their residents. Our local, state and federal governments are faced with the complex task of creating future urban areas that are sustainable and liveable. Most of the future urban growth will occur in peri-urban areas that are complex to manage and have significant impact on the liveability of cities. Urban growth is inevitably linked to peri-urban areas, the zones of transition from rural to urban land uses located between the outer limits of urban and regional centres and the rural environment. The boundaries of peri-urban areas are porous and transitory, as urban development extends into the rural and industrial land. Irrespective of how the boundaries move, there will always be peri-urban zones.

There are growing concerns about water and food security to meet increases in population in urban areas. The pressure of urbanisation is enormous in the Asia-Pacific region which includes six of the world's most populous countries, viz., China, India, Indonesia, Pakistan, Bangladesh and Japan, and include over 55% of the world's total population (CISS 2013). The population growth and ensuing urbanisation, particularly in this region, has obvious implications for water and food security and liveability of cities. For cities to be liveable and sustainable into the future there is a need to maintain the natural resource base, food production and the ecosystem services in the peri-urban areas surrounding cities. The development of peri-urban areas involves the conversion of rural lands to residential use, closer subdivision, fragmentation and a changing mix of urban and rural activities and functions. Changes within these areas can have significant impacts upon ecohydrological functions, environmental amenity and natural habitat, supply and quality of water and water and energy consumption. These changes affect the peri-urban water and land management and food production.

By the middle of 2009, the number of people living in urban areas exceeded the number living in rural areas and according to the UN estimates, by 2050, two out three people in the world will live in urban areas (United Nations 2009). Therefore, peri-urban development as a consequence of urbanisation is inevitable. There are challenges of water availability for urban irrigation, for drinking and a number of other uses. The future liveability of urban areas is very much linked to water availability along with a number of other factors. There is some sort of 'revolution' taking place around cities and towns around the world to build new suburbs partly to accommodate more people but it is also encouraged by government policies and financial assistance (e.g., the first home buyers grant in Australia) to maintain a "healthy" economy.

The growth of urban areas is now dominated by vertical expansion around the main city areas and horizontal expansion in surrounding areas, mainly into peri-urban zones (McGee 2009). We still do not fully appreciate how the liveability of cities is impacted by land and water use changes and consequent changes we cause in natural vegetation and wildlife through urbanisation. The growth also has influence on peri-urban food production and range of other services. The urbanisation process presents unprecedented complex environmental, social, economic and political challenges, especially in terms of keeping urban areas greener and cooler and thus more liveable. Although, there are some differences in terms of local conditions and scales, the problems of urbanisation are similar for cities and towns across different countries.

## 1.2 What Makes a City Liveable?

Liveability is becoming important now-a-days for urban planners and governments at all levels. The definition of liveability varies depending upon the purpose of why it is being considered in the first place and by whom, yet the common goal of liveability is that how we direct our actions, planning and designs that will make a place enjoyable to live in (Ruth and Franklin 2014; de Haan et al. 2014). The idea of a liveable city is to bring community together for healthy living, enhance their interaction among themselves and surrounding environment and promote their productivity and wellbeing in a sustainable way. Liveability is often related to the values and preferences local community places for amenity, wellbeing aspect and sense of place or belonging. However, it must be noted that the meaning of liveability may vary, depending upon the needs of the community and local environment and place-related factors. The main purpose of balanced urban development is to improve liveability, and for this we need to plan for an appropriate access to drinking water and sanitation, healthy waterways and efficient and environmentally friendly transport networks. When urban development is well balanced with different needs, it will provide opportunities for businesses and commerce to grow, create jobs and facilitate affordable housing and living for different levels of society. Furthermore, such development will result in access to surroundings that appeal to local residents, provide ample opportunities for strong social and cultural networks, and foster a sense of place and belonging (Goldberg et al. 2012).

## 1.3 Urbanisation is Inevitable

Urban expansion is accelerating with projections that cities will accommodate more than 70% of the global population by 2050 (United Nations 2011). The growth of urban areas will be dominated by vertical expansion of mega cities and horizontal expansion in surrounding areas into peri-urban zones. It is not fully appreciated that

what occurs in peri-urban areas affects both the urban areas and surrounding rural communities. The urbanisation process presents unprecedented complex environmental, social, economic and political challenges. Although there are diverse local conditions and scales, the problems of expanding cities have similarities worldwide, e.g., loss of productive agricultural land, changes in the hydrology of the place due to more areas under hard surfaces and loss of natural habitat.

In the period up to year 2050, the growth of urban population will occur primarily in the developing countries of Asia and Africa (McGee 2009). This region could contribute up some 60% of urban increase in this period. The growth of urban places will be dominated by two spatial processes. First, the growth of central cities in mega-urban regions, and second an ongoing process of horizontal urban expansion into surrounding hinterlands creating peri-urban regions that will contain-up to 70% of mega-urban regions population by 2050. This latter process presents many environmental, economic, political and social challenges if the goals of achieving sustainable, liveable and productive urban regions are to be achieved.

## 1.4 The Role of Water in Peri-Urban Landscapes

Water is a vital input to the liveability of cities but there are many other factors related to population growth, competition for land and water resources, globalisation and climate change that need to be overcome for enhancing and sustaining the liveability. When we see green space, it is pleasing to the human eye and indoor and outdoor areas that contain green spaces benefit community in a range of ways, including promoting physical activities, relieving mental stress, cooling environment through transpiration, and biodiversity (Schebella et al. 2012). For maintaining green space, urban irrigation is critical and the provision of water that is secure and fit-for-purpose is essential. In addition to significant changes in the local water cycle, with urbanisation, there are also water policy and regulatory aspects that impact the water sources available for irrigation, the places that are irrigated and the management of irrigated spaces.

Provision of green spaces is increasingly considered important and promoted as part of planning process in many urban growth areas. Functional green space is a core element of liveability and therefore maintaining healthy vegetation, which often requires irrigation, is essential for aesthetics, sport and exercise activities, natural environment conducive to relieve everyday stress as well as a range of other benefits (Fig. 1.1). Therefore, the role of water in maintaining soil moisture, thus to support green space vegetation, is becoming more important in urban growth areas.

Water Sensitive Urban Design (WSUD) systems is another approach that is being considered in many new growth areas to cope with future water scarcity. The water supply systems that incorporate rainfall harvesting and reuse need to provide reliable water supplies to support green spaces. The planning and design of urban areas need to consider strategies for water supply during periods of low rainfall and drought to maintain irrigation, when the value of green space to maintain liberality



**Fig. 1.1** Public open spaces will be quite important in the future and so will be maintaining them green, especially during the periods of drought

becomes greater. In future, potable mains water may be limited for urban irrigation and so the use of recycled water may play an important role in securing water for urban irrigation in new growth areas. To ensure sustainable use of this water for irrigation, the chemical quality of the recycled water and the soil chemical properties need to be technically assessed in terms of suitability for soil and plants to maintain sustainable landscapes.

To sustain future urban areas liveable, we need to emphasise the following points related to water for future urban planning and policy making:

- Irrigation is central to future successful peri-urban development;
- Provision of secure and fit-for-purpose water for irrigation is essential;
- Capacity building of the irrigation and water industry is important in developing viable and sustainable solutions; and
- Greater advocacy by the irrigation industry of the specific requirements of irrigated green space will assist in informing planners and developers of the specific needs of sustainable sites.

## 1.5 Key Challenges of Sustaining Future Urban Areas

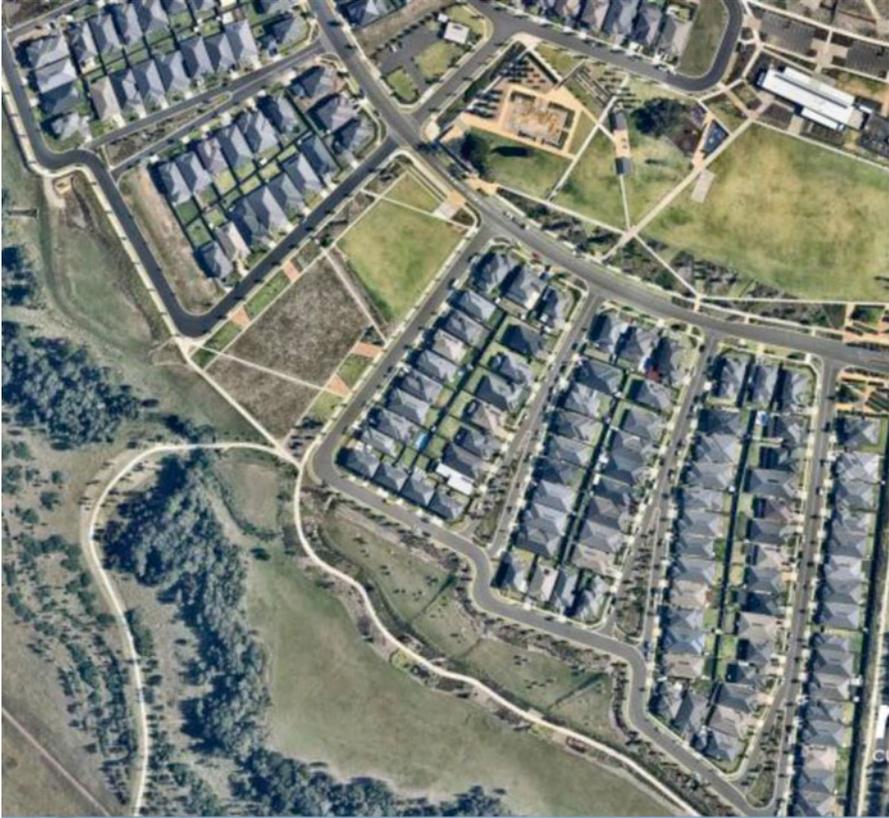
The planning in the past has focused on community character and sense of place, but there was little attention to protecting the environmental, social equity, and place-based economic development (Berke 2002). The current rate and complexity of urban expansion often results in ad-hoc and fragmented policy and planning at the city or state level. There is no clear vision or policy related to urban water, especially related to the rainwater harvesting, reuse of water and the overall need to keep new urban areas greener in the longer term.

The planning strategies and processes, during the urbanisation process, are often more focussed on subdivision of land, building roads and some basic necessities but urban irrigation is something that is added at the end. There is a need for holistic thinking about how we are going to sustain urban irrigation. It is important to base urban irrigation as part of liveable city agenda integrating perspectives from natural and social sciences, economics, government, industry and community.

The key question we need to ask ourselves in relation future peri-urban areas is ‘how do we want to ‘do’ sustainable urban development successfully? Urban irrigation is an essential component of green space and by giving it due consideration during urban development will result in holistic environmental planning and eco-friendly living. The common green space will be critical in the future if future urban designs are focussed on high density housing (Fig. 1.2). It is important that decision-makers are made aware of how urban irrigation and green space benefit the community through health and wellbeing.

The International Conference on Peri-Urban Landscapes: Water, Food and Environmental Security ([www.periurban14.org](http://www.periurban14.org)) was held in Sydney from July 8–10, 2014. Various issues and challenges, including governance were addressed at the Conference, and it was attended by over 150 policy makers, researchers, planners, government officials, NGOs, private sector specialists and community groups from 16 countries. The conference concluded that peri-urban development as a consequence of urbanisation is unstoppable, and that it requires special and urgent policy and governance attention to meet the challenges of water, energy, food, environment and liveability of cities we face now and into the future. The conference identified a number of key challenges and actions for policy and planning future urban areas.

- The rate and complexity of urban expansion often results in ad-hoc and fragmented policy and planning with inequitable investment across the effected landscapes and unsustainable development.
- Vertical expansion of housing cannot alone meet the demand for urban expansion, and so there will be continued pressure on non-urbanised lands.
- Given their transitional status and rapidity of change, peri-urban areas face unique challenges. In particular, there is a need to address multi-dimensions of poverty in emergent urban societies.
- Unless governments take immediate actions to address the resulting challenges, current and future generations will suffer massive escalating economic costs, ecological degradation, political disruption and cultural dislocation.



**Fig. 1.2** New development areas such as the one shown in this picture from Western Sydney are now focussed on smaller backyards and so the public open spaces will be integral to urban living

- Governments must address the complex challenges posed by expanding cities as an essential element of UN Post 2015 sustainable development and poverty alleviation goals. We welcome the recent inclusion of a specifically urban goal in the draft list and urge further work to ensure it has practicable and appropriate content.
- All levels of government need to work with the private sector and communities to develop integrated strategies and plans, based on local engagement and transparent decision making.
- Global and local investments in built and ecological infrastructure and services should be directed to ensure equity between people occupying urban and peri-urban landscapes.
- Regional planning strategies and processes should be based on trans-disciplinary research and integrate perspectives from natural and social sciences, economics, government, industry and community.
- National and international indices of “liveability” and “sustainability” should be developed to guide future urban planning strategies and measure effectiveness of urban development.

### ***1.5.1 Knowledge and Capacity Building Actions for Future Cities***

- Governments and knowledge providers must come together to generate, maintain and enhance knowledge bases on ecological, socio-economic, political and cultural dimensions to build baseline conditions and test future development scenarios.
- The education and planning sectors must address the shortcomings of existing planning processes and management by developing innovative curricula and delivery mechanisms for professional and community actors.
- Governments, R&D bodies, NGOs and donors are urged to make significant investments in research and development to support and integrate hard evidence into sound decision making.
- Emerging tools and techniques need to be customised and implemented to tackle these challenges. There should be an integrated approach, for example, the 'Circles of Sustainability' method used by the United Nations Global Compact Cities Programme, Metropolis and other organizations.

## **1.6 The Process of Balanced Urban Development**

The concept of sustainable development and liveable cities symbolise the big visionary ideas for urban planning and balanced development but implementation of these popular visions can encounter a host of conflicts due to a range of interests and stakeholders involved (Godschalk 2004). The process of balanced urban development requires transdisciplinary approach and engagement of a range of stakeholders (Fig. 1.3). In broad terms, the balanced urban development is concerned with three key themes: place, people and planning. The aim is to help policy makers, local governments, developers and service providers through development of the various planning tools and models that help to analyse and visualise different options and scenarios. The overall goal of the balanced urban development is to deliver liveable, sustainable, resilient and affordable areas.

Urban development can impact health and wellbeing of people in the medium and longer-term. During the process of achieving balanced urban development, we can learn from the past successes and mistakes to identify what makes a good practice for balanced urban development and guide local governments, planning agencies and developers to plan and design future cities that are highly liveable.

Engaging community in the planning, design and development of future growth areas is equally important. In particular, we need to put in place planning processes that will effectively engage stakeholders and will assist them to understand constraints and options for the future development and have their input in what the new residential areas will look like and function as liveable places. This will particularly help in better economic, social and environmental outcomes, while minimising the need for costly redevelopment in the future.

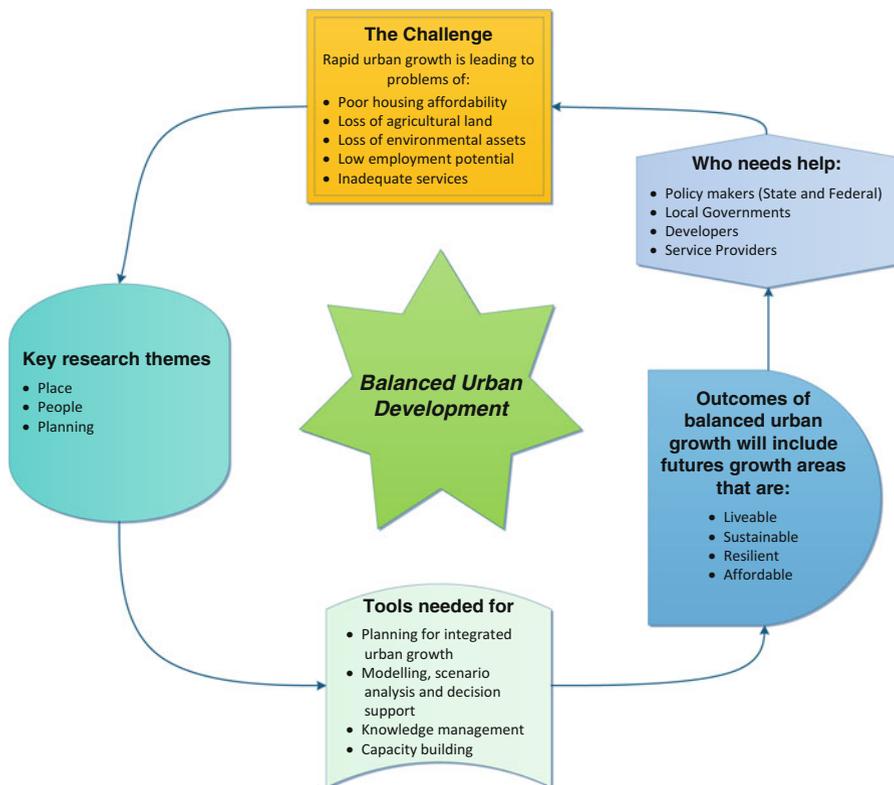


Fig. 1.3 The process of balanced urban development

Developing liveable cities does not stop at planning, design and establishing the new urban areas but the ongoing monitoring, refinement and learning need to continue in the future. Liveability of a place can change due to range of factors over time and so what is liveable now may not be so in the future. Therefore, it will be important to regularly collect data that will assess liveability, community health, wellbeing and the range of factors that contribute to a better quality of life in a given urban areas.

Another important area related to liveability is the social infrastructure and community interactions and their impact on access to quality health, educational, social, cultural, business and recreational facilities in the area and overall in promoting social interaction and a sense of community place and belonging. For sustainable development, we need governance, policy mechanisms and investment and infrastructure approaches that will facilitate resilience in future cities, not only from the point view of economic but also from environmental, social and cultural points of view. The future liveable cities must also have climate change adaptation and risk management strategies, particularly taking care of natural disasters, such as flooding and wildfire.

From food security point of view, the process of balanced urban development also needs to explore opportunities to maintain and develop existing agricultural enterprises, together with the spin-offs for landscape value and environmental amenity. The process need to examine alternative approaches to the protection of agricultural land of strategic significance and the options for improving the profitability of agriculture in areas that are inappropriate for urban development, such as floodplains. Biodiversity and ecosystems services are equally important in the development process. Both biodiversity and ecosystems services are quite complex and can be impacted by growth of new urban areas and may impact the broader catchment health, including impacts on flooding, fire hazard, erosion, water quality, salinity and biodiversity and the cost of delivering services over longer distances and broader areas.

## 1.7 Concluding Remarks

At present there is insufficient policy focus on the challenges of the peri-urban areas of growing mega-urban regions around the world, because they are not recognized as an integral part of the functional activities that drive the growth of these urban areas. Policies tend to focus on making the central city more globally connected and internationally competitive, often absorbing a large proportion of national budgets for urban development. There is a need to create more balanced budgetary allocation, so that challenges of peri-urban regions can be met. Further, there is a need for more innovative research that can be fed into the formulation of peri-urban policies that will make cities liveable and sustainable, while they are secure in terms of water, food and energy. Thus, policies for peri-urban regions have to be given priority at both national and global levels, if ‘globally just urban places’ are to emerge.

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