

DOI: [10.38027/N322020ICCAUA316396](https://doi.org/10.38027/N322020ICCAUA316396)

## Human Sustainable Urbanism Against Unsustainable Realities: A Holistic Model <sup>18</sup>

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### Abstract

Sustainable urbanism is explained in many contexts through addressing natural environment and ecological sustainability as the major concern, a condition that is related with the climate change. However, it should not be underestimated that today's realities also include unsustainable realities about social aspects, i.e. inequities between groups of people, undermined local community and social-cultural values, economies and quality of life. These issues imply a more critical state in cities of traditional societies where transformations in the urban level are still visible. This calls for sensitivity to the traditional urbanism and impact of global ideas, practices, and technologies on local social and cultural practices both at the city scale and architecture scale. In line with these, this paper aims to establish an environmentally sound and human friendly framework for 'human sustainable urbanism' integrating ecological and cultural sustainability. In this context, the study firstly provides a conceptual understanding of sustainable urbanism and a critical review of its philosophical and practical framework; secondly, it provides a critical assessment of contemporary approaches to sustainable urbanism; thirdly, the paper analyses the traditional Turkish (Ottoman) city which provides valuable clues for sustainable development, and discusses possible research directions that could help promote the concept of sustainability in the urban and architectural environment of future cities taking into account the fact that cities are never static.

**Keywords:** Human sustainable urbanism; traditional cities; contemporary paradigms; ecological and cultural integrity; future cities.

### 1. Introduction

Dramatic changes that have taken place in the world over the past twenty years, including ecological disturbances and radical changes in traditional settlements have produced cities that are not just chaotic and monotonous in appearance, but have serious environmental problems threatening their inhabitants. In this context, environmentally sensitive design approaches at the building scale has been understood better comparing to those at the urban scale, and there have been significant developments in the field, although the contemporary architectural practice in the developing countries is still lacking many aspects of sustainable building design. On the other hand, the absence of the urban or neighbourhood scale in most of the environmental literature has been masked by the recent obsession with "green" building. On that ground, sustainable urbanism - pattern of settlement - emerges as a sound framework that draws attention to the immense opportunity to redesign the built environment in a manner that supports a higher quality of life and human health.

When sustainable urbanism is characterised in many contexts, what is usually addressed as the main concern is natural environment, and hence ecological sustainability, a condition that could be explained with the climate change, the inevitable environmental crisis. However, we should be aware of the fact that today's unsustainable realities do not only include consumption of huge amounts of land and natural resources, deterioration of ecosystems, production of a wide variety of pollutants and toxic chemicals, creation of ever-growing distances and fuel global warming, but also creation of inequities between groups of people, neglected community and social values, economies and quality of life. These incremental realities imply a more critical state in cities of traditional societies where transformations in the urban level

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<sup>18</sup> This paper is a revised version of the author's chapter titled "Towards Human Sustainable Urbanism: Interrogating the Contemporary Approaches and the Traditional Turkish (Ottoman) City", *Urban Sustainability: Innovative Spaces, Vulnerabilities and Opportunities* (Eds: R. G. Mira & A. Dumitra), Da Coruna: Deputacion, 2014.

are still visible. What is questioned in this paper is that, given our knowledge that environmental sustainability is a crucial need, are the contemporary approaches adequate for all settings? At a time of uncontrolled globalisation in which sense of place, history and cultural distinctiveness is constantly under attack and many cities lack socially inclusive and responsive environments, do these approaches also integrate social-cultural dimensions? These call for a new understanding of traditional settlement patterns as they offer models that could well inform redevelopment and new development in future cities.

On that ground, this paper first provides a theoretical underpinning of sustainable urbanism and a critical review of its philosophical and practical framework; second, assessing contemporary approaches to sustainable urbanism and analysing the traditional Turkish (Ottoman) City, proposes a holistic framework for sustainable urbanism that integrates environmental sustainability with social sustainability.

## **2. Interrogating the contemporary approaches to sustainable urbanism**

The “New Urbanism” and “Smart Growth” are the two late 20th Century paradigms introduced on the basis of sustainable development, a development which safeguards the environment and improves the long-term health of human and ecological systems:”. Each of these movements, however, has revealed certain insularity. Within architecture and urban design, the movement known as the New Urbanism, which appeared in the early 1990s and has become a strong force for re-evaluating the physical layout of communities, cannot be considered efficient and urban, as its focus has been better-designed “suburban” development. New Urbanism cannot be considered new either as it revives many ideas about the city or planning that was mainstream before the Modern Movement. The movement is open to criticism on a number of fronts – in particular for being focused on better-designed suburban development, often for upper income groups, rather than the creation of truly “urban” places, and for not incorporating green building design and landscaping. Furthermore, it can be considered a new type of “ideal vision” conceived, ordained and disseminated from above and not rooted in specific places or local cultures (Oktay 2017).

“Smart Growth” evolved in the mid-1990s as an effort against sprawl in a way that more directly linked the environment, the economy and daily life concerns in pursuit of a positive and sustainable urban growth as essential to the quality of the city and urban life. The movement focused especially on mechanisms to promote more compact, walkable, and economically efficient urban development. Compact cities are argued to offer opportunities to reduce fuel consumption for traveling, as homes, work and leisure facilities are closer together (Jenks et al. 1996; Jenks and Dempsey, 2005). They are also favoured by many in the field of urbanism because urban land can be re-used, while rural land beyond the urban edge is protected. Economic benefits, due to high concentrations of people supporting local economics and easier access to services and facilities, are also suggested. Compact cities with higher densities may also mean that people are more likely to meet each other on the street than in low-density areas, and people may have a stronger sense of attachment to place. However, there are doubts about the benefits of the compactness. As the compact city requires us to ignore the causes and effects of decentralisation, and benefits it may bring, the preference for suburban living in many world cities where the city cannot offer an ideal living environment in its central parts needs to be considered. Further, anti-sprawl strategies have frequently lead to problems in planning, especially concerning green space, and does not make much sense for developing countries as their cities have experienced declining populations and deindustrialization (Oktay 2011).

Sustainability is most certainly concerned with extravagant use of finite resources and the efficient management of the ecosystem. It also addresses the need to ensure that what we do now does not negatively affect what future generations may wish to do. On that ground, what we need is “good mixed-use”, not just in relation to the inner city but equally for the urban edge and new settlements. What is disregarded in all these approaches is that cities also have social-cultural aspects.

The acceleration of globalisation has initiated a process of urban transformation, posing some serious threats and challenges to the public spaces of cities, among others. As cities have grown larger and spread wider, urban functions have disintegrated and public spaces, which are important to a democratic and inclusive society, have lost much of their significance in urban life. Public realm, in this context, is shrinking and losing its meaning in people’s life.

To this point, we have to ask ourselves what specific measures need to be taken to create sustainable urban environments, and how environmental and social concerns can be brought together into one convincing scenario, in which everyone benefits. In this context, it is important to understand that the idea of sustainability is not new, and the traditional cities are excellent examples to learn from regarding various dimensions of sustainable urbanism. On that ground, the following section will focus on the Ottoman (Turkish) city, which teaches many lessons that can contribute to meeting contemporary and future planning and design needs provided that their viability is checked for each case and in a time-based perspective.

### **3. Learning from the traditional Turkish (Ottoman) city**

The traditional Turkish, or the Ottoman city, built collaboratively by various cultures on a geographical setting extending from Middle Asia to Anatolia, from Mediterranean to Balkans, demonstrates sensitivity to local topography, Islamic and Christian philosophies about the natural world, and local habits and traditions built from a multitude of human values over centuries (Cerasi, 1999). Its most significant characteristic was its compartmentalisation by mahalles (neighbourhoods). The mahalle was both a geographical entity and a homogeneous community encouraging a powerful socio-cultural environment with exemplary collaboration among neighbours. The mahalle was self-sufficient as well through the presence of a variety of functions, and as a result of the closed economy, every household produced their own foodstuffs. The efforts of numerous private builders (masters) in residential areas were guided only by a few simple rules of civility, assuring peculiarities of the neighbourhood. It is a remarkable lesson that every house in the Ottoman city was different, even as there is an overall unity and consistency in building technique, scale and character. As such, despite the lack of an organising development plan at the governmental level, that is a must in today's development practices, the respect to local environmental and social values made the Ottoman City a sustainable settlement regarding many points.

The space of the traditional (Ottoman) city was, at a functional level, clearly divided into public and private realms. The public realm, often in the town centre, contained all the collective activities of the town, such as trade and commerce, religion, education, administration, and urban facilities, resulted in a fine-grain mixed-use character. The main public node and the representation of people's power were bestowed to the citadel, the Friday mosque and its courtyard, and the bazaar. One of these elements, the main street or streets of the city, the bazaar or arasta, functioned also as a communication channel, connecting these to each other and top the less important activities such as public baths, water storages, and educational centres, hence creating a vivid public realm in a spatial continuum. This space was the meeting place of the local people with each other, with the political, religious, and economic hierarchies, and with the outside world.

The street system in residential areas was mostly pedestrian and had a hierarchical order: from the main streets spread out narrower streets that themselves had dead-end branches that lead to individual houses. In this system, only the main through-fares separated the urban fabric. This system was achieved through a process of organic growth in which the street pattern was gradually adjusted and changed according to the peculiarities of the land and needs of the local people, where there was no need for wider streets and a low level of accessibility was required. Moreover, the hierarchical pattern of streets with dead-end branches serving a group of houses created privacy for the dwellers (especially for women - as a significant need at the time) and helped create a strong sense of belonging to their neighbourhood. From an urbanistic point of view, this organic character of the street, in the state of continuous becoming, produces an effect of great expressiveness, and therefore, enhances the character in the Ottoman city. Fountains of running water were found at many street corners where women had the chance to meet their neighbours and have a chat whilst getting water every morning and evening.

On the other hand, *avlu*, the courtyard of each house, an isolated environment that is well defined and well protected, served a variety of uses including social gathering, such as wedding and circumcision parties, women's preparing winter food together, or just spending time together, and helped create a more cohesive community in the *mahalle* (Eldem 1987; Cerasi 1999).

The Ottoman city possessed various attributes that generated an ecologically sustainable environment. Regional climatic characteristics were reflected on the patterns of settlements, and accordingly every region produced its own characteristic urban fabric and architecture. The pre-existing topographic character of the site was apparent at the urban scale even in intense built-up areas. The green gardens, i.e. vegetable gardens and patches (*bostan*), orchards, and so forth, implied a green belt dividing the quarters and bounded the town (Aru 1998, 12), and contributed to the self-sufficiency in general. The small squares at the intersection of streets with trees created opportunity for access to nature in the public realm as well. The streets that were defined by high walls of the residential courtyards provided a protected and comfortable space and being divided into two by a typical medieval gutter in the centre for rain and waste-water, helped water gardens, and prevented the rainwater from flowing into the courtyards.

### **3. Towards human sustainable urbanism**

Based on our critical review of contemporary approaches to sustainable urbanism and our analysis of the traditional Turkish city as an ideal model for sustainable urbanism, I would advocate that new urban planning and design endeavours should comprise a human dimension and demonstrate respect to regional characteristics. Figure 1 illustrates the essential aspects of human sustainable urbanism based on our holistic understanding.

*Context-sensitive compactness and de-fragmentation*

It cannot be expected that cities should all fit the same formula for a more sustainable way of life. What is needed is not a radical set of measures, but by a complete diagnosis of the territory, identifying local characteristics, specificities, demands and dynamics, and an estimating and evaluation of the urban development processes, through comparing the demand and the offer for urban growth, and consideration of the issues of “where” and “how” the urban settlement grow. Inspired by the Ottoman city and *mahalle*, the contemporary city could be thought as an entity made up cohesive and identifiable districts, and smaller towns of functional diversity could be created in the vicinity of the city rather than reaching unacceptable levels of density and population. In this context, density should be related to design in such a way that its advantages and disadvantages are investigated by considering local social and environmental values, and new scenarios for “de-fragmentation” where open growth may find its placement.

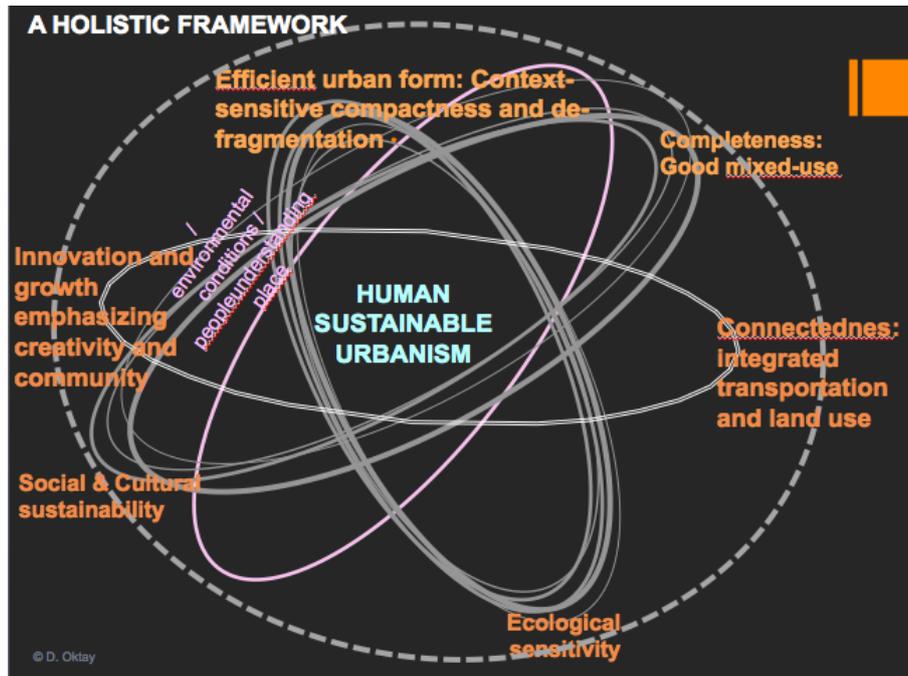


Figure 1. A holistic framework for human sustainable urbanism

#### *Good mixed-use*

Good mixed-use was an important component of the public realm in the Ottoman city and is useful. In that context, containing all the collective activities, the central parts of the city revealed a fine-grain mixed-use character and helped the local people meet with each other and with the outside world. The main street and the bazaar or arasta in the Ottoman city, functioned as a communication channel, connecting the main activities to each other and top the less important activities (i.e. public baths, water storages, and educational centres), and created a vivid public realm in a spatial continuum. These characteristics can be re-interpreted as a model when planning and/or re-designing our cities whose central parts are deteriorating owing to the lack of diversity of main functions (business, commerce, housing, recreation) and the effects of privately owned, intraverted spaces of modern urban commerce and design.

#### *Connectedness*

In a sustainable urban environment, the varied transportation options would increase access to services and facilities, help reduce car dependency and thus congestion and pollution, achieve a reduction of energy consumption and help maintain a high-level of energy-efficient and environment-friendly mobility inside the city or city region. Pedestrian-oriented communities can support sustainability of resources, both natural and economic, and lead to casual interactions and socialisation, physical fitness, safety and amenity, hence more liveable urban environments (Khandokar, 2009; Oktay, 2001). In the Ottoman city, the walkability of the streets was enhanced by human scale, physical convenience due to the narrow and winding streets following the natural contours of the land, and pleasant continuity of the outer walls of the houses and courtyards that. From these, one important lesson for the contemporary city is designing the city streets first for people taking into account the functional and aesthetic needs of people rather than complying with cars only.

### *Ecological sensitivity*

As observed in the Ottoman settlements which reveal an ideal integration with the natural environment and climate, sustainable urbanism seeks to connect people to nature and natural systems, even in dense urban environments. In this context, an attempt at integrating such features as edible landscapes of fruit trees and large vegetable patches (allotments) into the city would be beneficial for dwellers in terms of lower heating and cooling bills, lower food costs, and reduced risk of flooding and landslide damage. When a more flexible design is possible, the traditional concept of courtyard can be reinterpreted and modified in the new housing developments, and walk-up type housing blocks can be arranged around a semi-private courtyard space in some areas in a diverse typological pattern. In order to eliminate safety problems and to enhance the sense of place, the design of the residential complex should be based on the principles of responsive urban design by providing active edges, with mixed-use if possible, along the streets and encouraging active use of the courtyards by residents (Oktay, 2014; Oktay, 2004).

### *Sustainable public spaces*

Although public spaces form a crucial feature of sustainable and liveable cities, contemporary urban environments frequently lack enough space kept aside for them, and most of those spaces which are introduced as “public spaces” miss spatial, ecological and social qualities. Inspired by the Ottoman city, new urban areas could be planned and designed around a hierarchy of spaces for different purposes, the idea of main shopping strip could be revived in order to prevent the shopping malls to be the norm, and the street pattern could be organized in a way that each street has an identity through the continuity, design and functional layout of buildings (Oktay 2014). In the contemporary city, streets, squares and public parks are the only places where people truly meet as equals, and a high-quality public realm may help create a sense of belonging and collective identity (Oktay 2019).

### *Social-cultural sustainability*

Social-cultural sustainability is a system of social-cultural relations in which the positive aspects of disparate cultures are valued and promoted and there is widespread participation of citizens not only politically but also socially in all areas of urban life environment. Its success depends on the level of people’s expectations, behaviour, value systems, transparency and accountability in both public and private decision-making. As the most appealing aspect of sustainable urbanism is to be the sustainable neighbourhood with its societal benefits, we must widen our definition of the sustainable urban neighbourhood to include social as well as environmental concerns as reflected in *mahalle*, the cohesive neighbourhood unit in the Ottoman city. However, we should not ignore the great changes that happened in the daily life of people, i.e. significant increase in percentage of working women, women’s equal participation in almost all aspects of life, and so forth.

## **4. Conclusions**

As cities are under an incredible challenge with globalisation, popularisation, climate change, safety and security, inequity and the widening gap, and our environments have often been damaged both in ecological terms and social-cultural terms, there is an urgent need for a radical shift towards a holistic approach to sustainable urban planning/design. This necessitates a reevaluation and reinterpretation of traditional urbanism and impact of global ideas, practices and technologies on local social and cultural practices, which paves the way towards ‘human sustainable urbanism’ integrating ecological and cultural sustainability.

Compact cities can obviously contribute to a more sustainable way of life, particularly in industrialised societies. However, since cities are all different in form and structure owing to a host of place-specific factors, it cannot be expected that they should all fit the same formula when it comes to the question of a sustainable urban form. The degree of compactness and/or defragmentation should therefore be context-sensitive. Inspired by the Ottoman city and *mahalle* that comply with local environmental and social-cultural values of the time, the contemporary city could be reconsidered as an entity made up of cohesive districts, and smaller towns of functional diversity could be created in the vicinity of the city rather than reaching unacceptable levels of density and population. A sustainable community endeavours to promote multi-functional rather than mono-functional settlement patterns by providing compact urban behaviours, with a broad range of services and amenities in close proximity. This reduces the need for vehicular and public transport, thereby decreasing demands on infrastructure and energy resources, while promoting walkability.

In the course of environmental transition, cities could attempt to keep as many as possible of the environment-sustainability ingredients, including green spaces. In that sense, an attempt at integrating such features as edible landscapes and directing some of the efforts of greening towards streets would be beneficial.

We can move towards more inclusive urban design approach that not only views the public realm as an outside room with equitable access, but also as a welcoming place where a variety of users benefit from it and place a value on it as they interact with other people and their own prior experiences. We must widen our definition of the sustainable urban

neighbourhood to include social-cultural as well as environmental concerns as reflected in *mahalle*, the social-spatial unit in the Ottoman city, without ignoring the great changes that happened in the daily life of people. Naturally these ideas and principles will not achieve their objective without an appropriate application strategy. Urban planning/design is a shared responsibility and putting aims into practice depends on evaluations within a far broader political-economic context.

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