

## Social sustainability in urban context: Concepts, definitions, and principles

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**ABSTRACT:** This paper focuses on the concept of urban social sustainability to explore main themes and dimensions by a comprehensive comparative overview. The first objective of this research is to clarify the social sustainability definitions, principles and frameworks through reviewing the existing literature. Later, it attempts to recognize the major factors affecting social sustainability in urban context focusing on satisfaction of human needs. As a result, to connect between theory and practice, Maslow hierarchy of needs has been chosen on the subject of human needs in urbanism. Finally, spatial qualities made by reflecting these needs to space designing such as Comfort, Privacy, Legibility, Diversity, Public Participation, Visual Richness, Sense of Place and Identity. In addition, reviewing studies conducted in different urban scales (Micro/Medium/Macro units) revealed that previous attempts on urban social sustainability emphasized more on Macro Scale (city) and Medium Scale (Neighborhood) units especially emphasizing on urban renewal and regeneration strategies especially in developed countries.

**Keywords:** Sustainability, Social Sustainability, Urban Social Sustainability

### 1 INTRODUCTION

In recent decades, Social Sustainability has gained an increased awareness as a fundamental component of Sustainable Development and Sustainability. There are various studies conducted on social sustainability as one aspect of sustainability or sustainable development. However, concise review of related literature shows that the definitions on social sustainability are quite complex; therefore, this research will provide a clearer framework for achieving a comprehensive definition of social sustainability in urban context. This study is aimed for social sustainability of future and contemporary cities by drawing conclusions on “What are the parameters for enhancing social sustainability in contemporary urban contexts?” In order to answer this question, this article studies theoretical background related to social sustainability, definitions, frameworks, perspectives, dimensions, and finally investigating the concept of social sustainability in urban context. The aim is to present a framework, which can be, considered for wider use of sustainable design by urban designers, planners, and policy makers concerning social sustainability.

### 2 HISTORICAL EVOLUTION OF SUSTAINABILITY

In the 1920s, the ideas of Modernism began to surface in urban planning. By the late 1960s and early 1970s, many planners felt that Modernism’s clean lines and lack of human scale sapped vitality from the community, blaming them for high crime rates and social problems (Smith, 1997). Since the late 19th century, the problems resulted from modern urban development has appeared as different urban crisis in three dimensions of environment, social and economic, which has made these communities unsustainable and instable and made experts think about other methods of urban development patterns. Some planners argue that Modern lifestyles use too much many natural resources, polluting or destroying ecosystems, increasing social inequality, creating urban heat islands, and causing climate change. In this regards, the term of sustainability was first developed by United Nations released the Brundtland Commission Report, which defines sustainable development as development which meets the needs of the present without compromising the ability of future generations to meet their own needs (Sen, 2000; Partridge, 2009). In the beginning, the

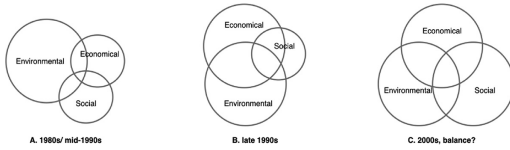


Figure 1. Different dimensions of sustainability and their relative importance through time; A. Importance of Environmental Aspect (1980s/mid-1990s), B. Importance of Economical and Environmental Aspects (Late 1990s), C. Balanced Importance of all three Aspects (2000s)  
Source: (Colantino, 2010).

notion of sustainability was narrowly linked to environmental and resource diminution caused by current ingestion patterns. These very narrow considerations were widened by the UN-Conference on environment and development in the Rio de Janeiro in 1992. For the first time, the Agenda 21 explicitly mentioned the human development and social dimensions of sustainability (Harun et al., 2014). The report suggested that social sustainability is aiming to preserve the environment through economic development and poverty alleviation, but it did not recommend any practical perspective (Landorf, 2011).

### 3 CONCEPTUALIZING SOCIAL SUSTAINABILITY

Sustainability embraces three equally important aspects/pillars—environmental, economical and social, which need to be balanced (Dempsey et al., 2011; Davidson & Wilson, 2009; Mak & Peacock, 2011; Barron & Gauntlett, 2002). Among the three stated pillars, social aspect of sustainability is the least studied (Ghahramanpouri et al., 2015) and only has been seriously considered after the year 2000 as an integral part of sustainability that should distinctively debated (Dempsey et al., 2012; McKenzie, 2004; Lamit et al., 2013). Colantino (2010) argued that, Environmental and economic pillars dominated the sustainability debates since its beginning whilst it is only in the late 1990s that social issues were taken into account within the sustainability agenda (Figure 1). As a result, there are few practical resources that directly address the question of “how to create places that are socially sustainable?” (Woodcraft et al., 2011).

Scholars believe that regarding the social aspect of sustainability; there are still uncertainties in definition, criteria and measurement system until now (Landorf, 2011; Bramley et al., 2009; Bostrom, 2012; Mak & Peacock, 2011; Laguna, 2014). Such vagueness has given rise to many efforts by scholars to recognize the crucial role of social aspects and through the second interpretation; they attempted to discuss social sustainability to become re-socialized (Maloutas, 2003). Today, there is a little consensus over the definition of social sustainability, and many varied definitions have been proposed (Manzi et al., 2010). Such variation can be explained by

Table 1. Translation of the human residence to spatial qualities in urban design. Source: (Authors).

Theoretical Framework	Researchers	Urban Social Sustainability Definitions
Conditions Framework	(Chiu, 2002)	Social sustainability relates to social norms and conditions in that any environmental or economic decision must not exceed the community's tolerance for change.
	(Laguna, 2014)	A condition where an extended set of basic needs are met for all residents regardless of their race/ethnicity, age, religion, gender, socioeconomic status and/or level of ability and the highest possible level of social inclusion and participation in community life is promoted.
Measurement Framework	(Colantino, 2010)	Traditional hard social sustainability themes such as employment and poverty alleviation are increasingly being complemented or replaced by the emerging “soft” and less measurable concepts such as happiness, social mixing and sense of place.
	(Barron & Gauntlett, 2002)	Socially sustainable communities are equitable, diverse, connected and democratic and provide a good quality of life.
Future Focus Framework	(Chiu, 2003)	Social Sustainability is the maintenance and improvement of well being of current and future generations.
	(Magis & Shinn, 2009)	Social Sustainability concerns the ability of human beings of every generation to not merely survive, but to thrive.
Process Framework	(McKenzie, 2004)	Social sustainability is a life-enhancing condition within communities, and a process within communities that can achieve that condition.
	(Holden, 2012)	A process of urban development, supported by policies and institutions that ensure harmonious social relations, enhance social integration and improve living conditions for all groups.

following reasons extracted from previous works as follows: Concept intangibility (Littig & Griessler, 2005), Multi-disciplinary Approach (Colantino, 2010; Ahman, 2013), Multifaceted nature (Ghahramanpouri et al., 2015), Dynamic characteristics (Colantino, 2010; Dempsey et al., 2012), Context-dependent (Maloutas, 2003; Dempsey et al., 2011) and conceptual flexibility (Bostrom, 2012).

#### 3.1 Defining social sustainability

Among those who work on this concept, researchers try to theorize this multidimensional concept in relation to society, people and Built Environment (Woodcraft, 2012). King (2008) and Littig and Griessler (2005) suggest that social sustainability means the satisfaction of basic human needs and the subsequent continuation for future generations. So ‘Human’ is the main focus in the definition of social sustainability concept (Dempsey et al., 2011). Various definitions of this concept have been provided in different frameworks (Table 1).

Due to the extensive applications of social sustainability concept in built environment disciplines, there is an increasing trend among researchers to view the concept from an urban design perspective and identify related aspects that contribute to this concept (Chan & Lee, 2008; Davidson & Wilson, 2009; Dempsey et al., 2011). Studies, in which social sustainability concept is viewed with an urban design lens, usually refers to the physical aspects while evaluating the impacts of built environment design on this concept (Secher, 2014). In the notion of urban social sustainability, The chronological analysis indicates how traditional themes, such as equity, poverty reduction and livelihood, are increasingly been complemented or replaced by more intangible and less measurable concepts such as identity, sense of place and community stability and security (Glasson & Wood, 2009). Urban social sustainability initially had been searched in urban and rural contexts of developed nations. The most prominent example is the one adapted for city of Vancouver in the year 2005 as this framework encompasses definitions and relevant detailed policies. These components are underpinned by equity, security, adaptability and social inclusion and interaction-as the four guiding principles of social sustainability (Ghahramanpouri et al., 2015). In Australia, Porta and Renne (2005) studied the social sustainability of small-scale built environment units (i.e. public spaces or streets) utilizing formal indicator concept. For their measurement, they used some urban fabric indicators including permeability, land use diversity, accessibility, public/private realm, natural surveillance, employment density and number of buildings. Chan and Lee (2008) studied social sustainability of urban renewal projects in Hong Kong and suggested a list of six important parameters including; preservation of local characteristics, townscape design, accessibility, provision of social infrastructure and availability of job opportunities. More recently, studies have been conducted on developing and less developed countries; for instance, Dave (2009) studied seven characteristics including facilities and amenities, living space, health, community spirit and social interaction, sense of safety and neighborhood as a place to live, in order to search the relationship between social sustainability and urban density in a developing country. However, Ahmed (2012) utilized eight criteria comprising layout quality, integration of public spaces, priority to pedestrians, healthy environment, safety, privacy, vitality and social interaction and participatory decision making, while researching in Emirati city. In another study, Karuppanan and Sivam (2011) studied design parameters including accessibility and permeability, open space, safety, legibility, aesthetic and social infrastructure in an Indian neighborhood. Ghahramanpouri et al. (2015) conducted a research in Kuala Lumpur streets and measuring factors including quality of place, participation and accessibility, adaptability, place attachment, legibility, street amenity,

food and economic services, heritage and local culture and permeability.

#### 4.1 *Urban social sustainability indicators*

Reviewing existing definitions of social sustainability in related literature suggested that there are common characteristics: First Factor; Future Focus (or Long-term viability and promotion); it is indicated that social sustainability is primarily about valuing and protecting positive aspects of cultures (McKenzie, 2004) and promoting current conditions-encompassing individuals, communities and societies, and also ensuring the qualities for generations to come. It focuses on continuing ability of an urban setting where survivals of human beings in addition to community thriving conditions are guaranteed for generations for a long time. Second Factor; Satisfaction of needs (basic needs and access to resources); It relates to both human and society; Relevant to individuals, it follows Maslow's hierarchy of needs, and covers physiological (food, water, health and safety), social (relationships, confidence and mutual respect) and self-actualization (creativity and morality) levels (Ahman, 2013). On the other hand, it is about provided opportunities and available resources in society in community level. Third Factor; Socially cohesive and physically integrated urban unit; It is about relational aspects of society but also on individual and personal aspects. The significance of inter-relationships between social and physical worlds is highly elaborated in the current extensive social sustainability literature. In many existing definitions of social sustainability, physical setting is considered as being conducive to social cohabitation, socially integrated and promoting well being and quality of life of the diverse group. Such communities are described as well balanced and well connected that can fulfill a wide range of those living or working there (Bacon et al., 2012). In [table 2](#) different parameters of social sustainability in relation to urban studies have been collected through academic references.

#### 4.2 *Scale-based and approach-based urban social sustainability studies*

Urban social sustainability have been scoped from macro level; regional and city (Barron & Gauntlett, 2002), to medium level urban units such as urban districts (Yung et al., 2011) like "Central Business District (CBD)", "Historical District", neighborhood (Dempsey et al., 2011) and urban public space as Micro scale built environment. Studies on the three different urban units (macro, medium and micro Scales) were brought in [Table 4](#) based on the existing literature, social sustainability of micro-scale urban built environment like public urban spaces of the cities has been identified as the least studies, which needs to further researches. However, another Category that includes social sustainability in urban context is Approach-Based studies. As represented in [Table 4](#), dominant

Table 2. General aspects in reviewing social sustainability in relation to urban context. Source: (Authors).

Aspects (Reviewing "Social Sustainability" in "Urban Context") Related References (Academic References that highlighted related aspect)
<p><b>Social Equity</b></p> <p>Includes equity of access to key services (including health, education, transport, housing and recreation) highlighted in almost every references (Landorf, 2011) (McKenzie, 2004)</p>
<p><b>Satisfaction of Human needs</b></p> <p>Relevant to individuals, it follows Maslow's hierarchy of needs, and covers physiological (food, water, health and safety), social (relationships, confidence and mutual respect) and self-actualization (creativity and morality) levels (Ahman, 2013)(Ancell &amp; Thompson-Fawcett, 2008) (Littig &amp; Griessler, 2005) (Littig &amp; Griessler, 2005) (Laguna, 2014) (Ahman, 2013) (Maslow, 1954)</p>
<p><b>Well-being, Happiness</b></p> <p>(Barron &amp; Gauntlett, 2002) (Castillo, Price, Moobela, &amp; Mathur, 2007) (L.H.Chiu, 2003) (Magis &amp; Shinn, 2009) (Bacon, Cochrane, &amp; Woodcraft, 2012)</p>
<p><b>Quality of Life</b></p> <p>It is the sum of factors that contribute to the social, environmental and economic well being of citizens. It covers aspects such as well-being, happiness and satisfaction.</p> <p>(Weingaertner &amp; Moberg, 2011)(Poles &amp; Stren, 2000) (McKenzie, 2004) (Colantino, 2010) (Weingaertner &amp; Moberg, 2011)</p>
<p><b>Social Interaction, Social Mixing (Cohesion and Inclusion)</b></p> <p>It is about right and opportunities to participate in community and interact with other members of community. It encompasses cohabitation of culturally and socially diverse groups in societies where people involve in a wide variety of social activities and preventing social exclusion.</p> <p>(Colantino, 2010) (Poles &amp; Stren, 2000) (McKenzie, 2004) (Ancell &amp; Thompson-Fawcett, 2008) (Bramley, Dampsey, Power, Brown, &amp; Watkins, 2009) (Dempsey, Brown, &amp; Bramely, 2012) (Bacon, Cochrane, &amp; Woodcraft, 2012) (Colantino, 2010)(Sedaghatnia et al, 2015) (Mehran, 2016 a)</p>
<p><b>Pride, Sense of Place and culture (Identity)</b></p> <p>It is about people's precipitations of a certain place. It mainly relates to a positive sense of attachment, dependent and identity that people feel about the place they live</p> <p>(Dempsey, Bramely, Power, &amp; Brown, 2011)(Colantonio &amp; Dixon, 2011) (Yung, Chan, &amp; Xu, 2011) (Dempsey, Bramely, Power, &amp; Brown, 2011)</p>
<p><b>Sense of Community</b></p> <p>It is about social interaction of people living in a given area, related with sense of community or place attachment</p> <p>(Dempsey, Bramely, Power, &amp; Brown, 2011)(Barron &amp; Gauntlett, 2002) (Castillo, Price, Moobela, &amp; Mathur, 2007) (Bramley, Dampsey, Power, Brown, &amp; Watkins, 2009) (Colantino, 2010) (Landorf, 2011) (Bacon, Cochrane, &amp; Woodcraft, 2012)</p>
<p><b>Future Focus</b></p> <p>Social sustainability is primarily about valuing and protecting positive aspects of cultures</p> <p>(McKenzie, 2004)(McKenzie, 2004) (Magis &amp; Shinn, 2009) (Ghahramanpouri et al, 2015)</p>

studied approaches in urban issues are; Housing and density, urban renewal projects in historical areas, urban form, urban rehabilitation, urban regeneration and restoration issues. Glasson and Wood (2009) highlight the growing array of social sustainability assessment tools within urban Regeneration Strategies in UK. In another study, Yung et al. (2011), examines the attributes and factors that contribute to social sustainability in the rehabilitation of historic districts in Shanghai, China. However, Ancell and Thompson-Fawcett (2007), tried to develop a model of the social sustainability of medium density housing in New Zealand, Australia. However, in developing and less developed countries, Pakseresh and Fazeli (2011) discuss about the need for a social sustainability-based strategy for designing regeneration plans of Tehran, Iran. In another research, Ahmadi et al. (2011), propose the restoration strategies of Naghsh-e-Jahan Square to achieve social sustainability based on users' vision.

#### 4.3 Major factors affecting social sustainability in urban context

Regarding the previous discussions, Social Sustainability in urban context can be considered as "Sustainable City", in which the basic needs of its residents must be met. And, on the subject of human needs in urbanism, generally, Maslow's hierarchy of human needs is popular. On the other hand, it was mentioned that the spatial qualities are defined based on the human needs. In other word, spatial qualities can be made by reflecting these needs to space designing. Table 3 provides a translation of Maslow's hierarchy of needs to the qualities that are intermediated in urban

Table 3. Translation of the human needs to spatial qualities in urban context. Source: (Authors).

Human Needs Residents	Spatial Qualities in Urban Design
Physiological Needs	Comfort/Public Services/Firmness and Balance
Safety Needs	Privacy/Legibility/Safety
Belongingness/Love Needs	Social Amenities/Social facilities/Sense of Place and Identity
Esteem Needs	Inclusiveness/ Preservation of Local characteristics
Self-Actualization Needs	Diversity/Public Participation
Beauty Needs	Visual Richness/Visual Proportions/Visual Distinctiveness

planning and design. According to the Table 3 There are some qualitative factors for each need. It means while a designed space possesses the mentioned qualities, it can establish a long-term relationship with the users to achieve socially sustainable community.

## 5 CONCLUSION

As mentioned above, among the three stated pillars of sustainability (Environmental, Economical and Social

Table 4. General comparison of social sustainability studies based on different Urban Scale and Approaches. Source: (Authors).

Urban Scale/Approach	Macro scale					Medium scale					Micro scale					Urban Approaches					
	City	Community	Neighborhood	District	Public Space	Housing	Renewal	Rehabilitation	Regeneration	Urban Form/Density	Restoration	Housing	Renewal	Rehabilitation	Regeneration	Urban Form/Density	Restoration				
(Mehan, 2016 b)																					
(L.H.Chiu, 2003)																					
(Pongsimas, 2004)																					
(Ancell & Thompson-Fawcett, 2008)																					
(Bramley & Power, 2009)																					
(Dempsey, Bramely, Power, & Brown, 2011)																					
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(Yung, Chan, & Xu, 2011)																					
(Dave, 2009)																					
(Colantonio, 2008)																					
(Bacon, Cochrane, & Woodcraft, 2012)																					
(Yung, Chan, & Xu, 2011)																					
(Sharifi & Murayama, 2013)																					
(Harun, Zakariya, Mansor, & Zakaria, 2014)																					
(Paksesht & Fazeli, 2011)																					
(Bramley, Dampsey, Power, Brown, & Watkins, 2009)																					
(Chan & Lee, 2008)																					

pillars), social aspect of sustainability is the least studied and only has been seriously considered after the year 2000 as an integral part of sustainability. As social sustainability is a context dependent concept, various frameworks for defining Social Sustainability Indicators have been provided as conditions, measurements, future focus and process framework. Reviewing existing definitions of urban social sustainability in related literature suggested that there are common characteristics in scholars' definitions including; Satisfaction of Human needs, Future Focus, Social Interaction, Social Mixing (Cohesion and Inclusion) and improving Quality of Life. It was determined in previous sections that social sustainability literature is fragmented, complex, vogue and chaotic; Such variation can be explained by following reasons extracted

from previous works as follows: concept intangibility, dynamic nature, multi-disciplinary approaches, Context dependent, multifaceted nature and different scale, scopes and perspectives about issue. Reviewing studies conducted in different urban scales revealed that previous attempts on urban social sustainability emphasized more on macro-scale urban places issues like cities. This research concluded that there has been little discussion on micro-scale urban public spaces like streets and public squares. Analyzing the studied urban approaches such as housing, urban renewal, urban form, urban rehabilitation, urban regeneration and restoration in social sustainability literature shows that urban form and regeneration strategies to achieve social sustainability are the most studied issue which shows the context dependent nature of

social sustainability discussions. In addition, since the spatial qualities are defined based on human needs, Maslow hierarchy of needs has been chosen for translation of human needs to spatial qualities in urban design. As a result, Comfort, Firmness, balance, Privacy, Safety, Legibility, Social Amenities, Sense of Place, Identity, Inclusiveness, Diversity, Public Participation and Visual Richness are some of recognized factors affecting urban social sustainability.

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