



Provisions for Urban Social Sustainability in City Planning: A conceptual framework

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Abstract: The success of sustainable urban planning lies with the accomplishment of environmental, economic, and social sustainability in urban areas. However, the requirements of a socially sustainable city are very unclear. This paper aims to bridge the existing theories on urban social sustainability across disciplines to provide planning pathways for socially sustainable cities. Critically reflecting on the current literature, this paper offers a detailed exploration of sustainable urban planning through the social lens. The study results in a conceptual framework by delineating three aspects: social environment, accessibility, and social infrastructure, as key contributors and discussed in detail.

Keywords: Urban Social Sustainability; Socially sustainable city; Urban Planning Framework

1. Introduction

The three aspects of sustainability are not integrated holistically [1] owing to a lack of a clear definition and understanding of social sustainability as the other two dimensions. Equality in the three sustainability models is an ardently discussed subject; whether or not social sustainability research should be given equal weightage to economic and environmental sustainability remains primarily unsolved. Social dimensions of sustainability, usually known as social sustainability, continue to be an essential aspect of sustainable development discourse [2]. Social sustainability is a versatile concept staying relevant in various scales of the built environment, with individual building blocks of a city constantly contributing to the impact of the social sustainability of cities. This potential could be explored and harnessed with the urban planning of cities. This study argues that further conceptual understanding of the social components of city-level sustainable development via planning is necessary. Long term, such a model will provide a robust basis for development that is both egalitarian and sustainable.

2. Research Methods

Using qualitative techniques, a comprehensive literature study was conducted to acquire a complete picture of the social sustainability scenario and to investigate how these themes may be addressed in future city planning prospects. Forty-three studies were discovered and analyzed using academic databases and bibliographies of published

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papers. These studies varied in terms of type, scope, discipline, scale, and sources. They were categorized into theoretical and conceptual, empirical with case studies, and relationship analysis between social sustainability indicators or urban aspects.

3. Exploring Social Sustainability in City Planning and Design

The area being least researched in sustainability: the social, emerges as a complex concept proving difficult to define [3]. The process of recognizing the practicality of social sustainability entails multiple dimensions of research across disciplines, including urban planning engaging the city [4], urban design involving the urban neighborhoods [5] and rural neighborhoods [6], and architectural scale referring to individual building units [7]. It also indicates that conceptualizing social sustainability at multiple scales ultimately benefits the social sustainability of cities. The literature analysis reveals commonality in the key dimensions considered for social sustainability in cities in quantitative (such as urban form, density, and physical factors of built environment), qualitative (such as personal factors and opinions), and a combination of both as discussed in Table 1.

Table 1. Contributing factors for Urban Social Sustainability of cities as identified in the literature grouped thematically; Sources: [4], [8]–[11]

Qualitative Indicators	Quantitative Indicators	Qualitative and Quantitative Indicators
Social Cohesion	Social Capital	Social inclusion
Equity	Access to open spaces/recreation	Community participation
Procedural fairness	Equal access to job opportunities	Safety
Fair distribution of income	Equal access in connectivity	Health risk and well-being
Pride of Place	Equal education access and opportunity	Environmental justice
social mixing/ cultural unity	Affordable housing	Social segregation
Safety and trust	Access to local services	Safety and security
Citizenship	Basic needs, facilities, and opportunities	Social interaction
Cultural diversity	Availability of open recreational spaces	Living environment
	Stability/Demographic change	Education and training

The earliest social sustainability indicators were "equity, community and urbanity" [8] and extended later. While some researchers have identified the relationship of the neighborhood to its context as key indicators such as equity and choice, access to facilities, infrastructure, etc. [4], [11], [12], other researchers have focussed on the factors within societies of qualitative nature such as sense of community, social interaction, housing satisfaction etc., as indicators [2], [5], [13]. Few researchers have questioned this approach and have proposed an integrated set of indicators shortlisted from quantitative and qualitative aspects of community living [10], [14].

4. An overarching conceptual framework for Urban Social Sustainability in City Planning

Based on the analysis, the conceptual framework proposed for including social sustainability in planning delineates three key dimensions: Social environment, accessibility, and social infrastructure.

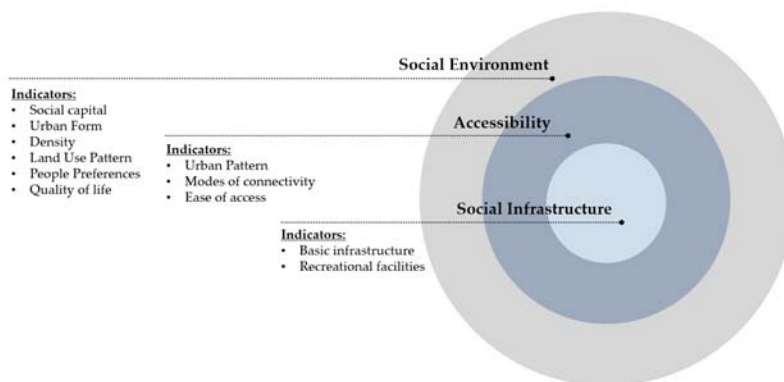


Figure 2. The overarching conceptual framework for Urban Social Sustainability in City Planning

4.1 Social environment

The leading social sustainability indicators focused on design parameters and individual perception [15]. In contrast, the social sustainability indicators in the built environment shifted towards responsiveness to social needs, responsiveness to cultural values, quality of life, adaptability, safety, security, participation, and accessibility (inclusive/universal design) [16]. Furthermore, fairness, sustainability awareness, involvement, and social cohesiveness are considered contributors [17]. To provide a clear unifying and quantifying measure to the social environment dimension, the study identifies six indicators: Social capital, Urban Form, Density, Land Use Pattern, People Preferences, and Quality of life.

4.2 Accessibility

Accessibility implies not just making it simple for community members to travel to (and from) the center, but also being universally accessible and providing direction and easy access to various facilities. Equity in access to basic services and recreational facilities determines the social success of the community. Drawing upon literature, three indicators are proposed for quantifying the accessibility dimension of urban social sustainability in cities: Urban Pattern, modes of connectivity, and ease of access.

4.3 Social Infrastructure

In many cities, infrastructure has been used as a catalyst to encourage the rise of community settlements. In addition to urban infrastructure, social infrastructure refers to the foundational services and networks that benefit societies, such as the education system, health care, and the administration of education and health services, which comprise the notion of basic social infrastructure. Considering the significant role of urban and social infrastructure, the study puts forth two indicators for planning practices: Basic infrastructure and Recreational facilities.

5. Conclusion

It is argued that social sustainability requires different operational frameworks at different scales of the urban environment. This study adds to the expanding body of research on social sustainability by giving an overview of the concept and related ideas at a city scale and identifying social sustainability dimensions for planning and associated quantifiable indicators. These underlying characteristics at the forefront of urban social sustainability discourse are social environment, accessibility, and social infrastructure.

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