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Quality of Life Parameters - An Urban Design Perspective

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ABSTRACT: Quality of life (QoL) is an important goal that needs to be achieved by an urban society in general and a neighborhood in particular. The physical space and the QoL of a community are related to a very significant extent. Physical space provides a setting for community living among the residents. There is a sense of place attachment through the way people interact and engage with the physical space. This sense of space becomes even more important in the present context, because of the rapid process of urbanization, which has negatively impacted the QoL in Urban areas.

This paper attempts to identify the connection between urban design parameters and Quality of life (QoL) through a literature survey. The attempt is to review various definitions and dimensions of QoL as discussed in the contemporary urban design theories and approaches, both objective and subjective. Furthermore, this paper discusses methods put forward by various researchers to quantify the qualitative aspects of QoL. Finally, a matrix is proposed to establish a set of parameters that includes physical, social, environmental, and psychological concerns of Quality of life in urban neighborhoods. These parameters may act as a guide for the analysis of the urban neighborhoods from the perspective of Quality of Life (QoL)

KEYWORDS: Urbanism, Urban Design, Quality of Life, Public space, Community

I. INTRODUCTION

Urbanism is not a new term with respect to cities. The term is associated with skillful and planned interventions of the growth and development of cities. During the 1980s, technological advances, especially in the IT sector and globalization brought in diversified economic processes and triggered accelerated urbanization. Many global cities developed worldwide, as a result. In the last five decades, several researchers have attempted to study the relationship between social processes and city form. They include the work of Jacobs and Hall in the 1960s, and more recently, those of Gehl, Dovey, and Habraken in recent times. They emphasize that a conceptual framework for socio-spatial urban design, which is sensitive to the production of urban space with a sense of place, safety, and control, is highly important. Urban design has to create a congenial environment for enhancing QoL. This paper uses the descriptive analytical approach to literature review to identify the general concepts of Quality of life and sustainable development. It analyses the recent urban planning theories and practices, that have been applied to many case studies across the world, for enhancing the Quality of life. Through this analysis, principles of urban design which promote Quality of Life (QoL) in urban neighborhoods, have been deduced.

II. QUALITY OF LIFE (QOL)

The term quality of life in urban areas describes the relationship between physical features of the built environment and the sense of wellbeing in that environment. Many theorists from various disciplines have attempted to identify elements that constitute Quality of life. Quality of life is ''the satisfaction in your life that comes from having good health, comfort, good relationship, etc., rather than from money''. “The personal satisfaction (or dissatisfaction) with the cultural or intellectual conditions under which he lives” [1]. Within a context of a given time, place, and society, some elements of Quality of life are held in common by members of that society. Otherwise, community quality of life is often used to explore community factors, resources, and services that community members observe as factors influencing their life quality or assisting them in coping with each other. Myers (1987:

108-109) writes that "a community quality of life is constructed of the shared characteristics residents experience in places (for example, air and water quality, traffic or recreational opportunities), and the subjective evaluations residents make of these conditions."[2]

Social interactions are potentially crucial for a positive impact on QoL. Several aspects of the design of the neighborhood affect the QoL of the residents. There are several Concepts that are often used as synonyms for QoL. These include a) liveability, b) living environment quality, c) Quality of place, d) residential perception and satisfaction, e) the evaluation of the residential and living environment, and f) sustainability. The crucial feature of the built environment which has a bearing on the QoL is the spatial condition of the public spaces, which provides opportunities for interaction for the people. Functional diversity, in other words, varieties of functions/ activities, has been found to be a significant factor, in facilitating user interactions and Quality of life. Links with the spatial and social environment and a sense of acceptance by the neighborhood community are essential determinants for social belonging. Since many essential aspects of people's lives, such as the quality of the urban environment, feelings of security or social solidarity, sentimental attachment, and the quality of neighborhood relationships, are challenging to measure only through objective indicators, subjective perception of the QOL requires assessment [3]

The most popular way to gauge or evaluate urban QOL is via indicator-based evaluation tools. [4] Core aspects of QoL Viz social, environmental, and economic are typically used to categorize the numerous QoL domains and subdomains. The majority of these evaluation methods make use of a set of QoL criteria (indicators, domains, and subdomains) that quantify the many aspects of urban QoL. [5] The body of research review demonstrates how complicated and multifaceted the concept of quality of life is. [6] Therefore, a comprehensive and multidimensional instrument is required to capture its numerous dimensions. The body of research has highlighted the need for theory-based, multidimensional QoL assessment methods. [7]

URBAN THEORIES ON QUALITY OF LIFE (QOL)

Urban theories propound that Quality of life (QoL) could be measured by evaluating the built and social environment using quality-of-life indicators. Kevin Lynch (1960) considers four criteria for the visual Quality of the environment which include a) Legibility, b) Building the Image, c) Structure and Identity, and d) Imageability. [8]

Jane Jacobs (1961), an American-Canadian journalist, author, and activist, pronounced the four necessary physical conditions for dynamic Quality of urban life. They are a) multifunction neighborhoods or districts, b) promotion of social life and safety of urban inhabitants, c) essentially short blocks, and d) buildings that differ in age and conditions [9] Jacobs and Appleyard (1987) suggested that "The urban environment should be an environment that encourages people to express themselves, to become involved, to decide what they want and act on it" [10]. These urban designers and theorists suggest five physical characteristics must be present for positive urban life which include the following a) streets and neighborhoods which promote the health and safety of the residents; b) a minimum density of development and intense land-use patterns; c) Multiple land use/integration of many activities; d) encouraging pedestrian needs e) many separate, distinct buildings with complex arrangements and relationships rather than a few buildings or superblocks

Jan Gehl (1987), a Danish architect and urban design consultant, created 12 quality criteria for the structure of open spaces, under three primary headings Viz: protection, comfort, and enjoyment.[11] Under the heading of protection, the subheadings were related to required preconditions for people to stay in the open space. These included criteria of assurance against a) traffic and mishaps, b) crime and violence, and c) disagreeable sensory experiences. The heading of comfort, dealt with requirements for people to spend more time in the open space. These included criteria of possibilities for a) walking, b) standing and staying, c) sitting, d) seeing, hearing, and talking, e) play, and f) unfolding activities. The third heading of enjoyment encompassed criteria of potential outcomes for enjoying positive aspects of a) climate, b) aesthetic Quality, and c) positive sensory experience. Carr et al. (1992), an architect/ environmental designer, have recognized people's needs in public spaces to encourage Quality of life, which include a) comfort, b) relaxation, c) passive engagement, d) active engagement, e) discovery, and f) encounter with a place.[12] The six main categories of community needs and quality criteria in public spaces developed by Tara Smith and Maurice Nelischer (1997), an American philosopher and landscape architect, include a) livability, b) character, c) connection, d) mobility) personal freedom and f) diversity. [13] Project for Public Spaces (2000), an NGO based in New York dedicated to helping people create sustainable public spaces that build stronger communities, suggests four essential qualities/criteria for high-quality environments in public areas, which include a) access and linkage, b) uses and activities, c) comfort and image, and d) Sociability.[14]

Quality criteria developed by Matthew Carmona (2010), an architect, planner, and researcher, relate to public spaces and deal with social, economic, and environmental characteristics [15]. The criteria include a) inclusiveness, b) cleanliness, c) tidiness, d) accessibility, e) vitality, f) attractiveness, g) comfort, h) viability, I) function j) distinctiveness, k) safety and security, l) robustness m) greenness, n) unpollutedness, and 0) capability for fulfillment. Ewing & Clemente (2013), from the field of urban studies, have

explored qualities of urban design that are applicable to streets as public spaces. They mention five intangible qualities of spaces viz a) Imageability, b) visual enclosure, c) human scale, d) transparency, and e) complexity. [16]

Vikas Mehta (2013), professor of urbanism, university of Cincinnati, has worked on the role of planning and design in creating a more responsive, equitable, supportive, and communicative setting and recognizes the five dimensions for evaluating the Quality of public spaces which includes a) inclusiveness, b) meaningfulness, c) safety, d) comfort, and e) Pleasureability.[17] Seema Praliya, and Pushplata Garg (2019), researchers from the Indian Institute of Technology Roorkee have devised eight quality criteria for evaluating the Quality of public space. They are a) attractiveness, b) accessible and linked, c) maintenance, d) appeal, e) comfort, f) inclusiveness, g) activity and user, h) purposefulness, and i) safety, and security.[18] Kostas Mouratidis (2021), professor at the Norwegian University of Life Sciences, Department of Urban and Regional Planning, researched potential strategies for improving Subjective well-being through urban planning, thus enhancing the Quality of life, and identified the following measures.[19] a) Integration of various forms of urban nature; b) providing accessible and inclusive public spaces as well as communal spaces; c) maintaining upkeep and order in vegetation, d) urban space, and transport systems; e) implementing noise reduction strategies; f) developing aesthetically pleasing buildings and public spaces; g) reducing socio-spatial inequalities and h) having good urban planning processes

III. DISCUSSIONS

Table 1. Provides the parameters for QoL, developed by urban design theorists, and reviewed in this paper.

Urban design theorists	Parameters						
	Legibility	**Safety and security**	**Opportunity for varied activities**	**comfort**	**inclusiveness**	**cleanliness**	**Others**
Kevin Lynch	✓						Building the Image, Structure, and Identity
Jane Jacobs		✓	✓				Blocks must be short, and Buildings that vary in age condition.
A. Jacobs and D. Appleyard		✓	✓				Density, Distinct Buildings with complex arrangements and relationships
Carr et al.			✓	✓			Relaxation, Discovery, Encounter with a place.
Bramley and power		✓	✓				Community Stability, pride/sense of place
John Gehl		✓	✓	✓			
Project for Public Spaces	✓		✓				Character, Diversity, Continuity and enclosure, Ease of Movement, Adaptability
Matthew Carmona		✓	✓	✓	✓	✓	Accessibility, Attractiveness, Vitality and viability, Distinctiveness, Robustness,

							greenness, Unpollutedness, Capacity for fulfillment
Vikas Mehta		✓	✓	✓	✓		Pleasureability
Seema Praliya, Pushplata Garg		✓	✓	✓	✓	✓	Accessible and linked, Attractiveness and appeal, Purposefulness
Kostas Mouratidis			✓		✓	✓	Aesthetically pleasing, integration of good transport network, noise reduction strategies, good planning processes.

The table reveals that one parameter that is commonly mentioned by all the theorists is opportunities for varied activities (pronounced with various nomenclature).

This parameter promotes better Quality of life in any urban setting. Most researchers have considered safety and comfort for enhancement of the Quality of life in an urban built environment. Some researchers have considered inclusiveness, legibility, and cleanliness as significant features for improving and assessing the Quality of life. The other qualities proposed by researchers were related to the particular kind of public space they were studying. We may therefore conclude that there are vital qualities that hold good for all types of public spaces, irrespective of the scale and size of the public space, whereas others are of significance in specific types of spaces.

IV. QUANTIFYING TECHNIQUES

It is pertinent to note that several researchers have attempted to quantify the measures related to Quality of life (QoL) in urban settings. In his research related to the evaluation of the cityscape by the public, Jack L. Nasar (1990), an Academy Professor of City & Regional Planning, The Ohio State University, developed evaluative maps through face-to-face interviews and phone interviews and arrived at five desirable features for cities.[20] Dr. Derya Oktay et al. (2009), in their research on the Quality of urban life, adopted a systematic sampling procedure and conducted face-to-face interviews [21]. They have used the Five points Likert scale to measure the general neighborhood satisfaction

Vikas Mehta (2014), from the University of Cincinnati, used structured and semi-structured observations to understand the characteristics of the public space.[17]. He also observed the importance of various characteristics, which aided the public in assigning weightages to the variables. More than forty variables were developed to capture the use and perception of public space, among which thirty-two variables were observable and hence rated by the researchers. Thirteen were perceptual, and thus rating was obtained by users. The research used a rating scale ranging from 0-3. Handan Turkoglu (2015), from the Department of Urban and Regional Planning, Istanbul Technical University, in her research, has conducted a physical survey using Arc GIS to map the physical environmental indicators for assessment of the quality of community life. Face-to-face interviews were conducted as a part of the social survey technique. [22]

Craig A. Talmage et al. (2018) used the questionnaire Survey method of seven Point Likert Scale to assess the Neighbourhood quality of life using Place-based indicators.[23] The indicators used, focus on individual and community participation in their environments and their feelings. The data thus obtained is analyzed using t-test and chi-square tests, and linear regression analysis. Seema Praliya and Pushplata Garg (2019), researchers from IIT Roorkee, have used the Observation method and photo documentation for evaluating the quality of public space, apart from obtaining user responses on a five-point Likert scale.[18]

Analysis was done based on the Pubic space Quality Index, which the researchers developed by averaging the feedback received, assigning weightages, and calculating the overall performance score of different public spaces under study.
The data collection techniques, adopted by various theorists are a) Observation and photo documentation - what, How & where—activities and behavior, b) structured and semi-structured observations at activity nodes and movement spines, c) survey Interviews & questionnaires –why and how---- to get people's perspective, random sample, use of interval, ordinal scale, or Likert scale are preferred to for accurate response for data analyses and presentations, IMB SPSS software is mainly used. Evaluative maps are developed and used for graphical representation by some researchers. The data obtained by the survey is mapped based on the preferences expressed by the user for both objective parameters and subjective parameters, and conclusions are drawn.

V. CONCLUSIONS

In the last five decades, several research works have indicated the connection between the design of urban spaces and the Quality of Life (QoL)of the people who use them. The feeling of sense of place, safety, and control are important for enhancing the QoL. Social interactions are extremely important for QoL and the design of public spaces has to facilitate them. The design has to enhance functional diversity which will provide richer interactions and promote QoL. The feeling of protection, comfort, and enjoyment are of primary importance to QoL and urban spaces need to be designed to augment them. Visual aspects of urban spaces like human scale, sense of enclosure, and a certain level of complexity are also of relevance. All theorists have mentioned the requirement of 'opportunities for varied activities being a promoter of QoL. Several attempts have been made to quantify the measures related to QoL so that rigorous statistical analysis and inferences are possible. There is a need to draw on these experiences of researchers and test the validity of principles in the Indian context, which is the current ongoing work of the author.

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