



Social Sustainability of Residential Neighbourhood: A Conceptual Exploration

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ABSTRACT: Sustainability has been embraced in various fields and drawn attention by international and national organizations to achieve a greener and more sustainable future. In most of the urban strategies, they mainly target environmental and economic sustainability, and rarely consider social sustainability. Literature suggests that while environmental sustainability is essential, a sustainable plan cannot be successful in the provision of residents' well being until it addresses social sustainability. However, most of the studies investigated environmental and economic dimension of sustainability; slightly less attention has been paid to social sustainability. As some researchers claim, the social sustainability discourse is not "science-based" and is challenging to be formally studied and understood. Although the idea of social sustainability is extensive, increasing numbers of studies have suggested that by enhancing certain design elements of the built environment such as accessibility and permeability, positive effects can be created on the social sustainability dimension leading to the improvement of the people's well-being. Therefore, social sustainability is essential, and there is an urgent need for further research in the design domain. An objective of the exploration through review of literature, is to develop understanding of social sustainability definition, its role and contribution of sustainable society in built environment and how social sustainability contributes in enhancing peoples well being.

Keywords: Social sustainability, Communities, Neighbourhood, Social capital, Social Cohesion, Quality of life, Urbanization

I. INTRODUCTION

Cities and their physical environment are manifestations of our society. Built environment of cities exists in co-relation to ecological and social environment and has great impact on sustainable future. Recent sustainability discourse has recognised social sustainability as one of the important pillar of sustainable development. Indian culture and traditions have reinforced the idea of sustainability from ages through its social practices and religious beliefs. Environmental awareness and social justice are inherent to Indian societies [1]. After economic reform policies and start of 20th century India experienced fast growth having focused on market driven economic strategies while ignoring environmental issues. Most of the cities have expanded to a unmagabale size, where land speculation are main reason for that. Until recently projects of enormous size and complexity, which can be described as "demolish and redevelop", have signified a vitalshare of urban planning practices. Over the duration, the traditional societies were destroyed, and groups and their wisdom of place has also disappeared. Mere building up houses and availing infrastructure facility do not allow for developing sensible, meaningful and social interactions. "Our understandings of the social functions of cities have struggled to keep pace with the growth" [2]. Fast pace development happening at, magnitude and conelixity of unpresidented scale, puts heavy pressure on land, existing infrastructure, natural resource and the same time disturbing our own traditional socio-cultural set up, which supports a typical quality of life of Indian societies, which can lead to un sustainable practices in cities. The very essence of traditional society, closenit relations, interaction, and sense of belonging attributes are slowly

dimishing. This makes us to realize and consider sustainability, recognizing the importance social sustainability while planning and development of our built environments. Very few research is done to understand social sustainability with resoect to neighbourhood built environment. This paper attempts to understand the social sustainability of the neighbourhoods in relation to the Indian context.

II. RESEARCH METHODOLOGY

This research is based on existing body of knowledge and past research done in the area of social sustainability. Author have reviewed research papers, books, government plans and policies for specific concern. Authors focused on developing understanding about social sustainability concept, different them and approaches to define social sustainability and how it is assessedin different kind of environment. This review paper focused on emerging themes pertaining to developing countries regarding social sustainability

III. SUSTAINABILITY CONCERNS

Sustainable progress is a constant enhancement of life quality that guards and impart stabilitiesin the economic, social and ecological environments. A description by the World Commission on Environment and Development mentions for making up for satisfying today's requests without compromising the requirements of generations yet to come. So, it is an effort to afford for the best results for the living beings and natural surroundings both now and into the long-run future. Advanced living standards, social equity, ecological health, environmental quality and better quality community services are all necessary constituentsfor a sustainable development. Thus, for the assessment of sustainability, a conceptual

approach to measure the built environment is needed. As per the existing national and international research, sustainability has been localized at various levels of development.

IV. SUSTAINABILITY IN NEIGHBOURHOOD

Neighbourhood sustainability largely depend on quality of built and unbuilt environment of neighbourhood, which accomplish the well being of residents. Some of the important aspects of sustainable neighbourhood reflected in previous studies are; walkable and accessible to local amenities; safety from crime and accidents; aesthetics environment such as active landscape; affordable price of properties, mix land use; opportunity for social participation and interaction; favorable environmental conditions such as low level of all kind of pollution, clean air, low level of noise, enough opportunity for business and employment of residents. An address to these possible issues will ideally ensure a sustainable neighbourhood.

V. THE CONCEPT OF NEIGHBOURHOOD IN AN URBAN CONTEXT

Availing better living opportunity is not a new perception for the lives of citizens — practiced concepts of a neighbourhood begun to get documented with formal definitions, in the early 19th century. The neighbourhood has been explored and derived by numerous eminent and expert planners towards making provision of improved living standards and better quality of life for a mass to be settled. In the words of Mumford, a neighbourhood is an “important organ of urban life in which people are bound together, interlinked, and live interdependently like all living organisms” [3]. Later, Keller mentioned it as “a combination of geographical boundaries, ethnic or cultural characteristics of the inhabitants, psychological unity, or concentrated use of an area’s facilities” [4]. Goodman defined a simplified version of the neighbourhood as “a small urban area where socioeconomic effects and services within influence residents” [5]. Hallman then identified it as “A sub territory of a larger area in which people reside and interact with each other” [6]. Making the term contain a broader perspective, Chaskin defined it as “a geographical unit where inhabitants can share access to construction within” [7].

According to Nicolas Particios, among the top most and remarkable break throughs of urban planning 20th century is the neighbourhood design theory. Turning the perception of a neighbourhood into an applied design approach was first addressed by Clarence Perry in the year 1929. The two main original approaches of the neighbourhood design of the west are the neighbourhood unit by Clarence Perry and Clarence Stein and Henry Wright’s Radburn Model. A neighbourhood unit is considered a successful one that becomes the base of New Urbanism and sustainable neighbourhood approaches today. The success factors of the neighbourhood unit approach can be summarized as the central area, clear neighbourhood boundaries, protective stripes, open spaces distributions, pedestrian-oriented, mixed land use and high density. The Radburn model is a hierarchical design approach consists of four levels which are; enclave, block, superblock, and neighbourhood. In summary, the Radburn model principle is a pedestrian-oriented, tangible centre,

open spaces, high density, clear boundaries, mixed land use and safety.

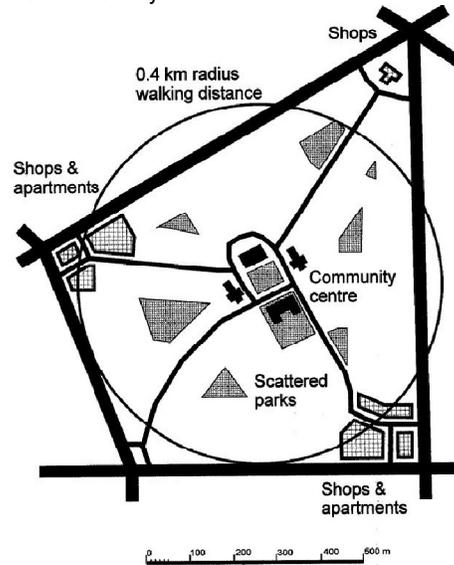


Fig. 1. Clarence Perry's Neighbourhood unit [8].

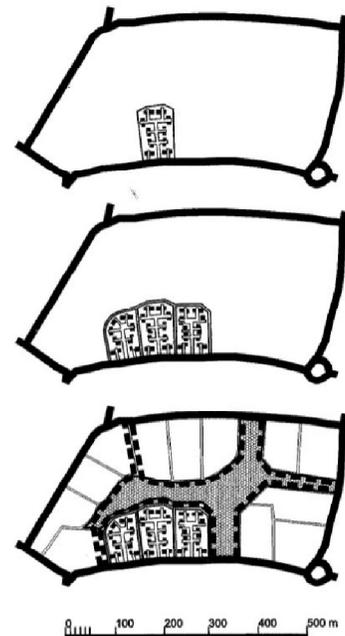


Fig. 2. Radburn Model- Enclave (top), Block (middle) and Superblock (bottom)[8].

After analyzing the principles of the traditional ways of neighbourhood design in Indian cities and western practice; it is evident that both have addressed their socio-culture aspects and climatic conditions. The main obtained cultural aspects are privacy, spiritual aspects, commercial base, civic role and neighbourhood assembly as far as the climatic considerations in regard to the environmental context of Indian cities are :aeration, shading, positioning, density, and local supplies. The discussed traditional ways provided a base for the proposed social sustainability assessment framework. Defining specific neighbourhood concept, which can bring the essence of the meaning related to problem in question, is the primary goal of research projects and practice.

VI. SOCIAL SUSTAINABILITY DEBATE

During the 1990s the concept of social sustainability was assumed to be a primary feature within the idea of the sustainability. Later, it attracted a considerable recognition. Irrespective to a large level of past efforts in this regard over previous decades, so far no agreement over a comprehensive meaning derived for social sustainability to date, and the notion still remains under-theorised to an extent [9-11]. A large number of arguments regarding social sustainability dilutes for a need to sustain structures in societies, or, is assumed to be a precondition for overall sustainable development including practices [12]. The section comprehends and evaluates a most recent meanings and ideas of social sustainability. Some researchers accepts that the notion of sustainable development is fundamentally based on the social considerations. The narrations from Cuthill suggests that environment and economic aspect of sustainability is vastly imitated in the context of social sustainability [13]. He considers for the environmental problem to be a social problem, assuming the ecological sustainability can be managed by the influence of people's actions on the natural setup, and not by the environment itself.

In the words of Woodcraft *et al.*, the "Social sustainability has been largely neglected in majority sustainability debates [14]. Priority has been assumed for the economic and environmental sustainability, particularly in the context of planning, housing and communities, where policy and investment have focused on renewable resources, low carbon communities and encouraging pro-environmental behaviour in households" [14]. In several urban centres in developing nations, the poverty eradication is not necessarily benefitted merely by the economic growth; alternatively, it has been instrumental in further broadening of the gap between the rich and the poor citizens. Hence, attainment of social sustainability is equally significant along with economic and environmental sustainability, especially in the developing nations [15].

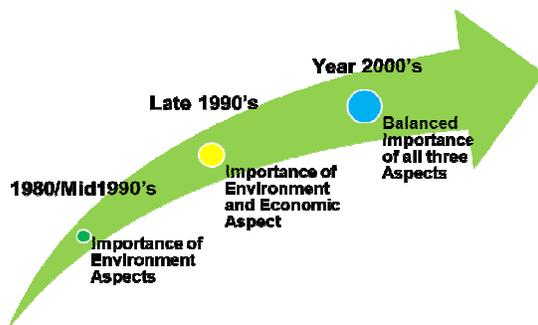


Fig. 3. Different dimensions of sustainability and their relative importance through time [16].

These very slender notions were enlarged during the UN-conference held in Rio De Janeiro in the year 1992 themed on Environment and Development. An Agenda-21 clearly stated for the social extents and human development of sustainability [17]. The report recommended that social sustainability is directing to reserve the natural state of earth while attaining economic development and poverty alleviation,

however, it seldom could recommend any workable and methodological solution [2].

VII. SOCIAL SUSTAINABILITY DEFINITION

Undoubtedly as a complicated concept with plentiful connotations, social sustainability is difficult to define. In the current large volume of relevant literature, there is much discussion about its definition [18, 19, 2]. A comprehensive definition has been proposed by Barron and Gauntlett (2002) emphasized building capacity for future generations towards creating a healthy and livable society [20]. From a view of its shaping process. Shirazi *et al.* pointed out multiscale character of social sustainability [21].

Table 1: Definitions of SocialSustainability [22].

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" [23].
	(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" [16].
	(Barron & Gauntlett, 2002)	"Socially sustainable societies are equitable, diverse, connected and self-governing and provide a good quality of life" [20].
Future Focus Framework	(Chiu, 2003)	"Social Sustainability is the maintenance and improvement of well being of current and future generations" [23].
	(Magis & Shinn, 2009)	"Social Sustainability concerns the ability of human beings of every generation not merely to survive but to thrive" [24].
Process Framework	(McKenzie, 2004)	"Social sustainability is a life-enhancing state within communities and a process within groups that can achieve that condition" [25].
	(Holden, 2012)	"A process of urban progress, supported by policies and in-situations that ensure harmonious social terms, enhance social cohesion and improve living conditions for all groups".

Basic needs and equity are fundamental themes and consistently sighted in literature "social sustainability is

a life-enhancing condition within communities and a process within neighbourhoods that can achieve that condition" [25]. Access to resources in equitable manner and fair equal opportunity of welfare to all residents has been seen as key to social sustainability by researchers [26-28].

Researchers from various discipline have studies social sustainability with respect to the built environment. According to Hogberg social sustainability can be explained as fulfilling human activities and services [29]. Dempsey *et al.* also argues for developing such built environment where people intend to live for longer period, feel safe and are able to meet present and future needs [27].

VIII. APPROACHES TO SOCIALSUSTAINABILITY

Social fabric as collective notion of social sustainability is upcoming area of investigation in urban planning discourse at national, regional and local level. Scholars have explored broader issues such as government policies, poverty and migration at national level and thriving societies and built environment at regional and local level. A successful society is one where sence of belonging is of higher degree and people are willing to stay for longer term happily together [19]. Literature review suggests importance of development of inviduals and well community together as well which is reflected as 'Human needs'. Many researchers considered Maslow's (1943) hierarchy of human needs as base model to defined spatial qualities of social sustainability. Developed countries measured development of sustainable neighbourhood to get insight of social sustainability.

Woodcraft *et al.* suggested four key dimesions of social sustainability i.e. Voice and Influence, Social life, facilities, social infrastructure, adaptability and resilience [14].

Table 2: Social sustainabilitydimensional issues of built environment [30].

Human Needs	Social sustainability dimensional issues of built environment
Level 1 Physiological Needs	1. Health and comfort: Ensures that the built environment can meet the basic physiological needs of occupants and be good for occupants' health.
Level 2 Safety Needs	2. Safety and security: Ensures that the built Safety needs environment supports safety of occupants.
Level 3 Love and belonging needs	3. Culture and heritage: Ensures that the heritage value of existing cultural relics and intangible cultural heritage is maintained. 4. Accessibility: Provides increased access to social capital, such as information, technology, and communications.
Level 4 Esteem needs	5. Inclusiveness: Ensures that the process and outcome of the built environment consider the benefits of different groups of people.
Level 5 Self-actualization needs	6. Participation: Ensures that the process and outcome of the built environment support partnerships, social Interaction, and involvement, and are influenced by the people it affects. 7. Education: Ensures that the process and outcome of the built environment improve the levels of education and awareness.

Table 3: Social Sustainability research overview through literature review [21] & Author.

Author	Perspective	Objective	Scale	Indicators
Yiftachel& Hedgcock (1993)	Social Sustainability	Influence of urban planning on social sustainability	City	Equity; community; urbanity[31]
Burton (2000)	social sustainability	Checklist for the sustainability of neighbourhoods	Neighbourhood	"Open space; built space; community safety; health;equity and choice; access to facilities; infrastructure"[26]
Burton (2000b)	Social Equity	Higher-densities and social equity	City	"Access to green space;access to superstores; public transport use; the amount of living space; crime; health; segregation; affordable housing; job accessibility; the extent of waking and cycling"[26]
Chiu (2003)	Social Sustainability	Exploring the relationship between social sustainability and housing	districts/housing developments	"Accessibility to public housing; external residential quality; affordability; accessibility to the housing market; inadequately housed household; internal housing conditions; adequacy of government subsidy in housing"[23]
Chan & Lee (2007)	Social Sustainability	Understanding urban renewal programmes and social sustainability	not specific	"Availability of open spaces ;the satisfaction of welfare requirements; creation of harmonious living environment; provisions facilitating daily life operationsconservation of resources and the surroundings; ; the form of development"
Knippenberg (2007)	Social Capital	Developing and spreading knowledge about sustainable development	region (province)	Solidarity; health and care facilities;safety; citizenship; living environment; cultural diversity;education and training[32]
Bramley & Power (2009)	Social Sustainability	Relationship between residential density and social sustainability	Neighbourhood	"Access to services; participation in collective community activities;security (lack of crime and disorder); pride or sense of place; interaction with other residents or social networks; residential stability (versus turnover)"[33]
Cuthill (2010)	Social Sustainability	A framework for investigating social sustainability	urban regional	"Social justice and equity; engaged governance ;social capital; social infrastructure"[13]
Raman (2010)	Social Consistency	Relationship between urban design and layout with aspects of social and communal life	Neighbourhood	"Participation;a sense of belonging and sense of community;communityspirit; friendliness, a sense of safety social network; social interaction"[34]

Dempsey (2011)	Social Sustainability	Exploring the concept of social sustainability within the British urban context	Neighbourhood	Participation in collective groups, social interaction, community stability, safety/security, pride/ sense of place[27]
Colantonio & Dixon (2011)	Social Sustainability	Developing a simplified social sustainability assessment framework	District/ Neighbourhood	"Identity; housing; demography; social mix/ cohesion; empowerment/participation; employment; health and safety; social capital; education"[35]
Karuppanan & Sivam (2011)	Well Being	Social sustainability at the neighbourhood level based on the impact of urban form	Neighbourhood	"Knowing the neighbours; pride of place; participation in community and social activity; safety concerns; opportunities for formal and informal gathering; stop and chat with neighbours or say hello; feeling firmly attached to the residence; frequency of meeting the neighbours; a number of neighbours visited"[36]
Dave (2010, 2011)	Social Sustainability	Relationship between social aspects of sustainability and density in developing countries	Neighbourhood	"Access to facilities and amenities; a sense of safety; community spirit and social interaction; health of the inhabitants; satisfaction with the neighbourhood; the amount of living space"[15]
Bacon (2012)	Social Sustainability	Framework development for measuring the social sustainability of new housing and mixed-use developments	Housing Developments	"A place with distinctive character; transport links; provision of community space; accessible street layout; integration with a broader neighbourhood; perceptions of ability to influence local area; adaptable physical space for future development; relationships with neighbours; community facilities; willingness to act to improve area; well-being; feelings of safety; positive local identity"[37]
S Hemani, A.K. Das & Rudlin (2012)	Social Sustainability	Social sustainability and influence of urban forms in Indian cities	City/ Neighbourhood	"Access to local services, Basic needs, facilities and opportunities, Availability of open recreational spaces, Pride of Place /Attachment to the locality, Social interaction, Social mixing/cultural unity, Stability/Demographic change, Safety and trust"[1]
Weingaertner & Moberg (2014)	Social Sustainability	Social sustainability and its aspect	not specific	"health and wellbeing; accessibility; safety and security; social cohesion and inclusion; fair distribution of income, local democracy, employment; participation and empowerment; cultural heritage; equal opportunities and equity; education and training; connectivity and movement; housing and community stability; sense of place and belonging; social justice; attractive public realm; mixed-use and tenure; social capital and networks local environmental quality and amenity"[11]
Yu Wang (2016)	Social Sustainability	The framework of Social Sustainability for Chinese communities : Revelation from western experience	Community/ Neighbourhood	"Leisure and Public Realm, Social interaction, Safety and Security, Sense of community, Social Cohesion, Community stewardship, Community structure, Community regeneration basic amenities"[38]
Opp (2016)	Social Sustainability	Proposing a framework for evaluating and assessing social sustainability efforts within jurisdictions of American cities	City	"Access to open spaces/recreation; equal access to job opportunities; procedural fairness; equal access in connectivity and transportation; equal education access and opportunity; health risk and well-being; environmental justice index by census tract; social capital; social segregation; affordable housing; fair distribution of income; safety and security"[39]
M Stender & Annette Walter (2018)	Social Sustainability	The role of Social Sustainability in building assessment	Building Level	Accessibility, Participatory process, Social Cohesion
M. Reza Shirazi & Ramin Keivani (2018)	Social Sustainability	The triad of Social Sustainability: Defining and measuring the social sustainability of the urban neighbourhood	Neighbourhood	"Mixed land use, urban pattern & connectivity, Density, quality of life, Building typology Access to facilities, Social networking and interaction, Safety and security, quality of home, Sense of attachment, Participation, quality of the neighbourhood"[21]
A. Rashidfarokhi, L Yrjana, M. Wallenius, S. Toivonen, A. Ekroos & K. V. (2018)	Social Sustainability	Land use planning as tool to assess Social Sustainability		"Social Cohesion, Social Capital, Social Inclusion, Community participation and safety. Equity"[40]

Gibberd in (SBAT) tool for South Africa, suggests the objective of social dimension of building sustainability by five criteria viz. Access, Education, Inclusive, Health, safety and security and Participation. Social sustainability is influenced by two major contributing factors [41-42]. These contributors can be categorised in two types: non-physical and physical factors. Among these non-physical factors, such as social mix, social capital, or social justice are the important non-physical factors. Social capital refers to, common norms, trust

and responsibilities that are formed in relationships among members of society, and is considered to be an essential element in creating sustainable communities [43-44]. Social capital, as a concept, is meant to capture the networks of relationships in which human action is embedded and the norms of behavior and resources accessible due to these relationships. Social capital has been explained in three contributing ways to social sustainability. Individual attitude and behaviour is first, second is

community traits and third one is role of civic society and people [45-46].

IX. SUSTAINABILITY THEMES AND INDICATORS

Bhakti *et al.* identified that a community is deemed to be sustainable if they are able to keep balance/ or maintain resources, (natural and manmade) and they have developed enough resiliency to address future problem, if arises any, which leads to a well maintained balance between, social, economical, and environmental dimesion [47]. Shirazi *et al.* suggests community's capacity and individual's capacity are two major attributes, fostering social sustainability [21]. As per argument of Dempsey et al. two major factors which contributes to social sustainability are physical and non physical factors [27].

Table 4: Urban social sustainability, contributory factors, identified from the literature review [27, 48].

Non-physical (social) factors	Physical factors
<ul style="list-style-type: none"> ➤ Education and training ➤ Social justice ➤ Public Participation ➤ quality of life ➤ Social inclusion (and eradication of social exclusion) ➤ Social capital ➤ Community ➤ Safety ➤ Mixed tenure ➤ Fair distribution of income ➤ Social order ➤ Social cohesion ➤ Community cohesion ➤ Social networks ➤ Social interaction ➤ Sense of place ➤ Job opportunity ➤ Tenure stability ➤ Active community organisations ➤ Traditional culture 	<ul style="list-style-type: none"> ➤ Urbanity ➤ Attractive public realm ➤ Decent housing ➤ Local environmental quality and amenity ➤ Accessibility (local services and facilities/ employment/ green space) ➤ Sustainable urban design ➤ Walkable neighbourhood-pedestrian-friendly

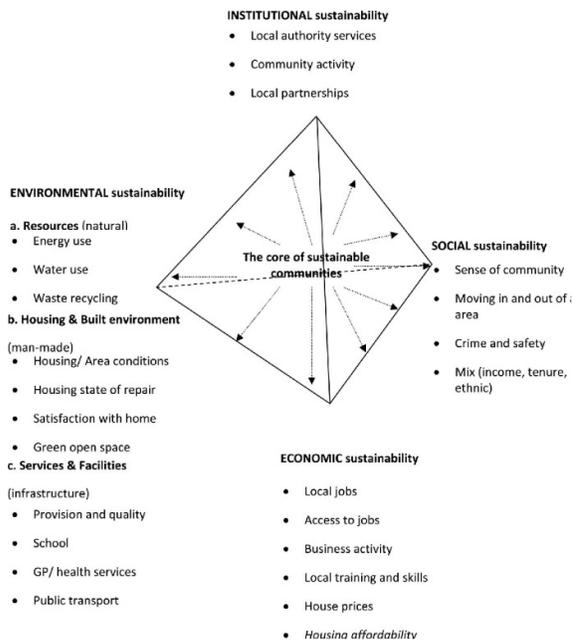


Fig. 4. Urban sustainability indicators [49].

According to their research contributing factors of nonphysical and physical dinemnsions are listed in Table 4. Turchu in his argument suggests that due to dynamic in nature, communities and urban area tend to change, also urban sustainability indicators vary as per urban geography and context [49]. According to prism model he proposed, fourth leg of institutional as one of main theme to understand social sustainability. Following Fig. 4 illustrate the social, economical, environmental and institutional as core indicators to understand social sustainability.

Review of literature suggests multiple of indicators researchers have considered as per their aim, goal, objective, scale, policy and regulation, or different typology of developments and projects. Major themes of indicators which existing literature suggests/ or confirms are equity, saftey, sense of place/pride, social inclusion, social capital, interaion and democracy, civic society and public participation [50-51].

X. CONCLUSION

In the section, we conclude our understanding of literature review for the conceptual understanding of social sustainability through a systematic review of previous research, policy document, and secondary data. The very starting argument in this paper suggest that social sustainability got least importance in sustainability discourse. Social dimesionsion of sustainability, got due attention arund the year 2000 as core attribute 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 suggests that researcher have considered common attributes to conceptualize and propose frameworks to understand social sustainability concept. Human needs, social cohesion, interaction and mixing, safety and security, equity, sense of place and belongingness, neighbourhood quality are some common themes, which where discussed in literature and studies. Some schlor have establisehed causal relationship between these contributing themes towards social sustainability. Social cohesion, basic needs and equity are the suggested dimension of social sustainability by Karuppanan *et al.* argued that Social capital is particularly famous among the indicators influencing social sustainability, which can be directly affected by any change in its components viz. social justice, public participation, safety, and interactions [36]. Their order of influence on social sustainability in decending order may be ranked as social justice, interactions, public participation and safety. Previous studies suggests that social sustainability researches were done, in different urban scale, focused on micro scale urban area issues such as cities. The literature review indicates towards very few researches on micro-scale urban public spaces like streets and public squares. In spite of disagreement among researchers while defining social sustainability, we noted various key attributes which have been fundamental to the argumentation of social sustainability discourse, for example, cultural value, interactions, social association and well being, and many more. Recent research suggest that scholars have given due weightages to intangible and non physical aspects

suggesting the need of understanding of qualitative aspect of social sustainability, supported by investigation of physical aspects also. Due to dynamic nature of social sustainability concept, it changes with context and time. Most of the research are done in developed nations context, where as in developing countries emerging issues and context is different, it calls for investigating social sustainability in developing countries context separately [52]. It is also suggested that national sustainable development objective should be met with developing locally-based evaluation process, and this supports the idea of governance with maximum public participation, which enhances civic engagement and social coherence. With an emphasis on all parts of social sustainability. The paper requires an incorporated way to deal with sustainable development, expanding on the general ideas of planning approach and configuration process over the development paradigm.

FUTURE SCOPE

Different approaches and disagreement among researchers call for place specific or context sensitive investigations. Since most of the social sustainability research happened in western context, future research scope lies in conceptualizing social sustainability (definitions concerns) and operationalising social sustainability (measurement concerns) for research and policy purpose to generalize the concept of social sustainability in relation to developing countries context. Existing literature and research suggests gap towards spatial dimension of social sustainability, which can be theorized and discussed in future research to develop better understanding of social sustainability in built environment.

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REFERENCES

- [1]. Hemani, S., & Das, A.K. (2016). Humanising urban development in India: Call for a more comprehensive approach to social sustainability in the urban policy and design context. *International Journal of Urban Sustainable Development*, **8**(2): 144–173.
- [2]. Landorf, C. (2011). Evaluating social sustainability in historic urban environments. *International Journal of Heritage Studies*, **17**(5), 463-477.
- [3]. Mumford, L., (2000). What is a City? In: R. T. Le Gates, & F. Stout, eds. *The city reader*. London: Routledge.
- [4]. Keller, S. (1968). *The urban neighbourhood: A sociological perspective*. Random House, New York, 33.
- [5]. Goodman, A. C. (1977). A comparison of block group and census tract data in a hedonic housing price model. *Land Economics*, **53**(4), 483-487.
- [6]. Hallman, H.W. (1984). *Neighborhoods: Their place in urban life*. Beverly Hills: Sage Publication.
- [7]. Chaskin, R.J. (1997). Perspectives on neighborhood and community: A review of the literature. *Social Service Review*, **71**(4), 521-547.
- [8]. Fatani, K., Mohamed, M., & Al-Khateeb, S. (2017). Sustainable Socio-cultural Guidelines for Neighborhood Design in Jeddah. *Procedia Environmental Sciences*, **37**, 584-593.
- [9]. Ahman, H. (2013). Social Sustainability-Society at the intersection of development and maintenance. *Local Environment*, **18**(10), 1153–1166.
- [10]. Littig, B., & Griessler, E., (2005). Social sustainability: a catchword between political pragmatism and social theory. *International Journal of Sustainable Development*, **8**(1/2), 65-79.
- [11]. Weingaertner, C., & Moberg, A. (2014). Exploring social sustainability: Learning from perspectives on urban development and companies and products. *Sustainable Development*, **22**(2), 122-133
- [12]. Sachs, I. (1999). Social sustainability and whole development: exploring the dimensions of sustainable development. In E. Becker, & T. Jahn, *Sustainability and the Social Sciences: a Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Orientation* (pp. 25-36). New York: Zed.
- [13]. Cuthill, M. (2009). Strengthening the social in sustainable development: Developing a conceptual framework for social sustainability in a rapid urban growth region in Australia. *Sustainable Development*, **18**(6), 362–373.
- [14]. Woodcraft, S., Hackett, T., & Caistor-Arendar, L. (2011). *Design for social sustainability: A framework for creating thriving new communities*. Future Communities.
- [15]. Dave, S. (2011). Neighbourhood density and social sustainability in cities of developing countries. *Sustainable Development*, **19**, 189-205.
- [16]. Colantino, A. (2010, June). Urban Social sustainability themes and assessment methods. *Proceedings of the Institution of Civil Engineers*, **163**(2), 79-88.
- [17]. Harun, N., Zakariya, K., Mansor, M., & Zakaria, K. (2014). Determining Attributes of Urban Plaza for Social Sustainability. AMER International Conference on Quality of Life (pp. 606-615). Kota Kinabalu: Elsevier.
- [18]. Douvrou, E., & Ryder, A. (2007). Sustainability and urban regeneration: the community and the city. *Management of Natural Resources, Sustainable Development and Ecological Hazards*, **99**, 115-125.
- [19]. Vallance, S., Perkins, H., & Dixon, J. (2011). What Is Social Sustainability? A Clarification of Concepts. Geoforum, Themed Issue: *Subaltern Geopolitics*, **42**(3), 342-348.
- [20]. Barron, L., & Gauntlett, E. (2002). Housing and Sustainable Communities Indicators Project: Stage 1 Report-Model of social sustainability. WACOSS (Western Australia Council of Social Service).
- [21]. Shirazi, M., & Keivani, R. (2017). Critical Reflections on the Theory and Practice of Social Sustainability in the Built Environment – A Meta-Analysis. *Local Environment*, **22**(12), 1526-1545.
- [22]. Mehan, A., & Soflaei, F. (2017). Social sustainability in urban context: Concepts, definitions, and principles. *Architectural Research Addressing Societal Challenges—Couceiro da Costa, et al.(Eds)*, 293-299.
- [23]. Chiu, R. (2003). Social sustainability, sustainable development and housing development'. The experience of Hong Kong. In R. Forrest, & J. Lee, *Housing and social change. East-West perspectives* (pp. 221-239). New York: Routledge Ltd.

- [24]. Magis, K., & Shinn, C. (2008). Emergent principles of social sustainability: human well-being, equity, democratic government and democratic. In J. Dillard, V. Dujon, & M. King, *Understanding the Social Dimension of Sustainability* (pp. 15-44). New York: Routledge.
- [25]. McKenzie, S. (2004). *Social Sustainability: Towards Some Definitions*. Hawke Research Institute Working Paper Series No. 27, University of South Australia.
- [26]. Burton, E. (2000). The compact city: just or just compact? A preliminary analysis. *Urban Studies*, **37**(11), 1969–2006.
- [27]. Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable Development*, **19**(5), 289-300.
- [28]. Murphy, K. (2012). The social pillar of sustainable development: A literature review and framework for policy analysis. *Sustainability Science Practice and Policy*, **8**(1), 15-29.
- [29]. Högberg, L. (2015). Vadsägerforskningen om socialhållbarhet vid renovering. In H. Lind, & Mjörnell, Social Hållbarhet med fokus på bostadsrenovering – enantologi (pp. 15-29).
- [30]. Wang, L., & Edward, N. G. (2018). Evaluation of the social dimension of sustainability in the built environment in poor rural areas of China.
- [31]. Yiftachel, O., & Hedgcock, D. (1993). Urban social sustainability: the planning of an Australian city. *Cities*, **10**(2), 139-157.
- [32]. Knippenberg, L. (2007). Developing tools for the assessment of sustainable development in the province of Brabant, the Netherlands. In T. Hák, B. Moldan, & A. Dahl, *Sustainability indicators: a scientific assessment* (pp. 309-328). Washington: Island Press.
- [33]. Bramley, G., Dempsey, N., Power, S., & Brown, C. (2006). What is 'social sustainability', and how do our existing urban forms perform in nurturing it? Planning Research Conference, (pp. 15-16). London.
- [34]. Raman, S. (2010). Designing a liveable compact city: Physical forms of city and social life in urban neighbourhoods. *Built Environment*, **36**(1), 63-80.
- [35]. Colantonio, A., & Dixon, T. (2010). *Urban Regeneration & Social Sustainability: Best Practice from European Cities*.
- [36]. Karuppanan, S., & Sivam, A. (2011). Social sustainability and neighbourhood design: an investigation of residents' satisfaction in Delhi. *Local Environment*, **16**(9), 849-870.
- [37]. Bacon, N., Cochrane, D., & Woodcraft, S. (2012). *Creating strong communities. How to measure the social sustainability of new housing developments*. London: The Berkeley Group.
- [38]. Wang, Y. (2015). *Assessing the social sustainability of chinese urban neighbourhoods: A case study of Shenzhen*. Liverpool: Department of Geography and Planning, University of Liverpool.
- [39]. Opp, S. (2016). The forgotten pillar: a definition for the measurement of social sustainability in American cities. *Local Environment*, **22**(3), 286-305
- [40]. Rashid farokhi, A., Yarjana, L., Wellenius, M., Toiveonen, S., Ekroos, A., & Viitanen, K. (2018). Social sustainability tool for assessing land use planning processes
- [41]. Pareja-Eastaway, M. (2012). Social sustainability. In S. Smith, *International encyclopaedia of housing and home* (pp. 502-505). Amsterdam: Elsevier.
- [42]. Woldoff, R. (2002). The effects of local stressors on neighbourhood attachment. *Social Forces*, **81**(1), 87-116.
- [43]. Allen, J., & Lloyd-Jones, T. (2010). Neighbourhood asset management: life cycles and learning for social sustainability. In T. Manzi, K. Lucas, & Lloyd-Jones, *Social sustainability in urban areas. Communities, connectivity and the urban fabric* (pp. 65-68). London: Earthscan.
- [44]. Woodcraft, S. (2012). Social sustainability and new communities: Moving from concept to practice. *UK. Procedia – Social and Behavioural Sciences*, **68**, 29-42.
- [45]. Soholt, S., Ruud, M., & Braathe, E. (2012). A question of social sustainability: Urban interventions in critical neighbourhoods in Portugal and Norway. *Urban Research and Practice*, 256-272.
- [46]. HACT. (2015). *Social Sustainability*. Your Housing Group.
- [47]. More, B. (2018). *Urban planning, neighbourhoods and social cohesiveness: A socio-cultural study of expatriate residents in Dubai*. Salford, UK: University of Salford.
- [48]. Colantonio, A. (2007). *Social Sustainability: An Exploratory Analysis of its Definition, Assessment Methods, Metrics and Tools: Best Practice from Urban Renewal in the EU*. Oxford: Oxford Brooks University.
- [49]. Turcu, C. (2013). Re-thinking sustainability indicators: local perspectives of urban sustainability. *Journal of Environmental Planning and Management*, **56**(5), 695-719.
- [50]. Kefayati, Z., & Moztarzadeh, H. (2015). Developing effective social sustainability indicators in architecture. *Bulletin of Environment, Pharmacology and Life Sciences*, **4**(5), 40-56.
- [51]. Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *World Bank Res. Obser*, **15**(2), 225–249.
- [52]. Ghahramanpouri, A., Lamit, H., & Sedaghatnia, S. (2013). Urban Social Sustainability Trends in Research Literature. *Asian Social Science*, **9**(4), 185-193.
- [53]. Putnam, R. (1993). The prosperous community: Social capital and public life. *Am. Prospect*, **4**(13), 35-42.
- [54]. Putnam, R. (1995). Bowling alone: America's declining social capital. *J. Democracy*, **6**(1), 65-78.

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