Defining Sustainable Urbanism: towards a responsive urban design.

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Abstract

Sustainable Urbanism is a recent term prevalent in urban design and planning. Within the contemporary metropolitan environment, it is rooted in study of sustainability and urban design in a rapidly urbanizing world. Though the terminology benefits from the debates around the definition(s) and meaning(s) of "sustainability," it lacks a comprehensive understanding of "urban design." This paper is an examination of sustainability peculiar to urban development and a critique of the nature of urban design delineating Sustainable Urbanism. Specific research questions are: what is sustainable urbanism, how can sustainability be defined in reference to the city, and what are the important elements of sustainable urbanism.

Traditionally, urban design has been conceived as a discourse in design and has been practiced as an extension of architecture, urban planning, and civil engineering. In this prevalent paradigm, urban designers are trained as architects, planners, or engineers, each having one's own design bias. Through a critical analysis of urban design, this paper questions the design dominance and calls for understanding synergies between technology, politics, economics, society, and environment. Distinct from this eclectic approach to urbanism, the outcome of this study is a proposed responsive model, rather than a partitioned model debating over prominence of form, policy, or efficiency. The postulated responsive urban design engages three fundamental principles of sustainability: health, place specificity, and social ethics. Such a human-oriented systems approach reflects the evolving complexity of the urban context and characterizes the uniqueness of Sustainable Urbanism.

1. INTRODUCTION

The 2009 Global Report on Human Settlements, developed by the United Nations Centre for Human Settlements (UN Habitat), focuses on revisiting urban planning. Renewed interest in urbanism in the last ten to fifteen years has driven this timely exploration of the nature and role of urban planning. The intention of this report is to develop an appropriate and adaptive form of planning that addresses the emerging global trends, complex urban patterns, and evolving challenges of urbanization (UN Habitat 2009). In the United States, the latest Association of the Collegiate Schools of Architecture (ACSA) conference, "Seeking the City," examines the opportunities and possibilities of architecture in envisioning the expanding and exploding meanings of urban centre and periphery. This is particularly a critical topic in the context of shifting social, cultural, political, economic, environmental, and spatial parameters of the post-industrial city (ACSA 2008) These efforts reflect reinvigorated interest in cities and need for a critical urban design framing the increasingly contested terrain of urban resources and environments.

Though urban design has historically been embedded in development of cities, urban design, as a contemporary theoretical and professional discipline, is relatively new compared to associated disciplines of architecture, urban planning, and civil engineering. The close reference of these allied disciplines and search of an appropriate framework for this nascent discourse resulted in a definition of urban design as an ambiguous amalgamation of architecture, landscape architecture, urban planning, and civil engineering (Inam 2002). Definition of urban design is thus muddled at the best and vague to the point of meaninglessness at its worst. We argue here that a re-examination of the definition and envisioning a remodelled balance of urban and design is crucial to the future of both urban design as a discipline and cities as quality environs.

This paper is organized into six sections. Following this introduction, the second section, Current urban context, reviews the evolving urban condition across the globe. While more and more people are increasingly residing in urban areas, the urban growth is not uniform and leaves out core areas of the metropolitan region. The paper recognizes critical challenges of this contradiction and examines sustainable urbanism within this context.

The third section, Defining sustainability, reviews the literature on sustainability and its associated meanings. In this section, the intellectual traditions of sustainability are discussed, which presents the five intellectual traditions that underscore current notions of what it means to be sustainable. The fourth section, Defining urban design, compares multiple ways of understanding

urban design depending on the biases attached to traditional disciplines of architecture and city planning. The overall aim of the first four sections is to raise the following questions: What is sustainability? What is urban design? And what is the relationship between them that frames sustainable urbanism?

With a shift from definition to critical thinking, the fifth section, Contemporary paradox of urban design: urban vs. design, presents the growing disjunction between urban and design in the current notions of urbanism. In the sixth and final section, Towards a responsive urban design, common principles are abstracted that outline a responsive urban design in relation to the five intellectual traditions described in section three. The conclusion posits that for the main principle of sustainability, process is more critical than form in attaining a more sustainable city. The overall purpose of the final three sections is to raise the question of what sustainability mean in the context of urban design or how can we understand sustainable design?

1.1. Current urban context

At the beginning of the third millennium, the world is denser than before. It is inhabited by more and more people who consume more and who produce more and more pollutants through their choice and way of life. Such a world seeks more space, more energy, more resources, while demanding more safety and buffers in the event of increasing possibilities of disasters. In his book, God's Last Offer: Negotiating for a Sustainable Future, Ed Ayres (1999) summarizes the four revolutionary changes sweeping the world and transforming our lives: (1) increasing population, (2) increasing consumption, (3) increasing waste (CO2) production, and (4) increasing extinction of flora and fauna. Combination of these factors has resulted in a complex global context that is characterized by a downturn in the global economy, deterioration of global environment, and breakdown of global relationships in terms of human conflicts. MVRDV (2007), in their recent publication, KM3: Excursion on Capacities, postulates a scenario with extreme stress on the capacity of our planet because of this increasing need of infrastructure in the sprawling world.

The phenomenon of global urban growth, though universal, is characterized by a powerful contradiction. The urban contradiction reveals that the growth is not uniform in many urban situations. In the situation of shrinking cities1, the growth is occurring in the certain pockets of the metropolis. So, though there is huge metropolitan growth, there is simultaneous displacement, deterioration, and devaluation of the inner core cities. Such a metropolitan context presents a scenario with new challenges and opportunities. Evolution of Sustainable

urbanism as a new discourse within the disciplines of architecture, city planning, and urban design is one of such new opportunities.

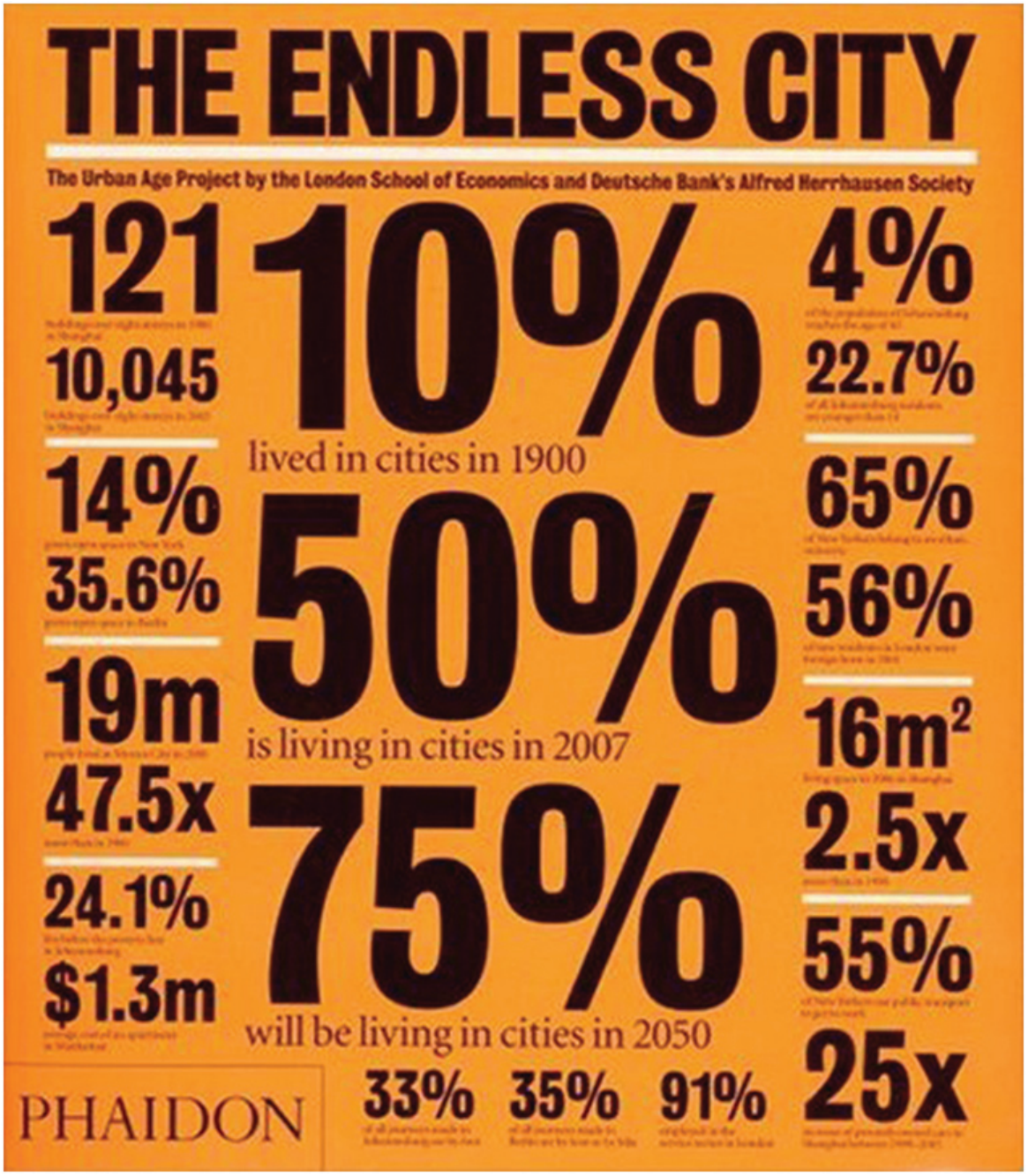

Figure 1: An investigation into the future of cities (Book cover for The Endless City, compiled by Urban Age. Courtesy of Amazon).

1.2. Sustainable urbanism

Sustainable urbanism has recently been defined as "walkable and transit-served urbanism integrated with high performance buildings and high-performance infrastructure" (Farr 2007). Compactness (density) and biophilia (human access to nature) are considered as the core values of sustainable urbanism. These

associated values of sustainable urbanism focuses on the form-based bias of the current architectural theories and practices for understanding sustainability. This paper, on the contrary, posits that conceiving the city in terms of form is neither necessary nor sufficient to achieve the goals ascribed to sustainable development. Instead, conceiving sustainability and the city in terms of process holds more promise in attaining the elusive goal of a sustainable urbanism.

The current popular definition of sustainable urbanism is also imagined as a grand unification of architecture, city planning, and environmental design for a better way of life. This is problematic as it situates the domain of sustainable urbanism in the context of contradictory and conflicting design bias of architecture, urban planning, landscape architecture, and civil engineering. This also underscores a lack of clear definition and understanding of sustainability and sustainable urbanism (Newman 2005). Within this prevalent framework of sustainable urbanism, this paper is a critical examination of the notion of sustainability.

Questioning the meaning of sustainable urbanism takes help from a relatively new model of sustainability—the ecological model (Williams 2007). Ecology is the scientific study of the distribution and abundance of life and the interactions between organisms and their natural environment (Bregon et al 2006). The ecological system recognizes that everything is related to everything. Within this framework, the focus shifts from understanding sustainability as a definite product to valuing sustainability as a system of dynamic connective processes—biological interchanges, efficient use and storage of energy, and effective management of natural resources. Inspired by classical works such as Fundamentals of Ecology (Odums1953) and Design with Nature (McHarg 1992), the ecological model derives the notion of sustainability as a process of relationships among the natural systems (such as soil, climate, hydrology) and between the natural systems, relationship to the human systems (social ethics and values), and the economic systems (allocation, distribution, and management of resources).

Within the systems oriented approach, the ecological model has three important implications: (1) spatial interdependence and connectivity becomes critical to sustainable design, (2) the ecological systems approach brings a process oriented notion of sustainability, and (3) it also allows connections of the environmental systems to the social and economic systems towards generating an interconnected network of interrelations (fig. 2). This paper focuses on this system of interrelationships among the three elements, not just on the individual elements and forms of these elements in regards to sustainability.

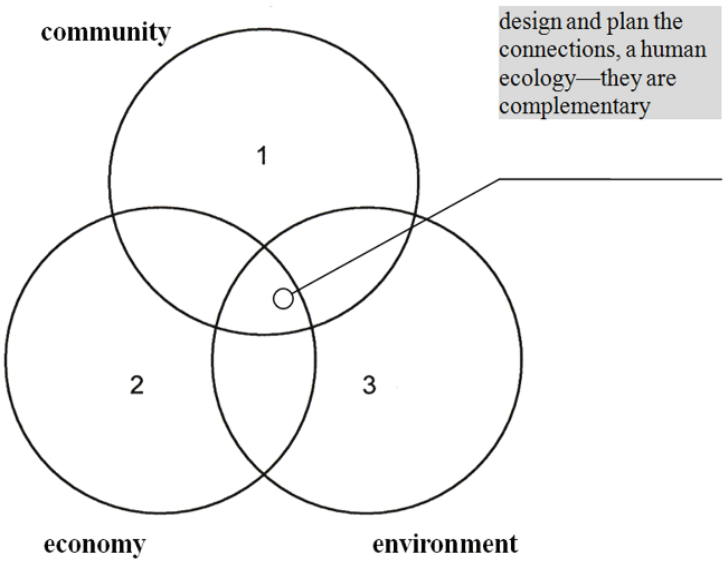

Figure 2: The three rings of sustainability illustrate interdependence of the elements in the traditional model of sustainability (source: Sustainable Design: Ecology, Architecture, and Planning by Daniel Williams).

2. Defining sustainability

2.1. Philosophy of sustainability

Sustainability is a debate of our way of life. A discussion on philosophy of sustainability stands on two specific questions related to its meaning—(1) what is sustainability? and (2) how have we come to think about it in a certain way? Through these questions, this paper explores an understanding of sustainability that is broad, comprehensive, interpretive, and process oriented. Our purpose in this paper is not to define normative categories and limits for sustainability but instead pose it as an active question which then explores a territory which is defined by the proposed intellectual framework below. It suggests we rethink our ecological relationship, the relationship of human life to "nature," to other forms of life, and the relationship to one other (Williams 2007; Schama 1995). Sustainability thus can be imagined as a systems approach of relationships. Sustainability, in the ecological model, can draw from at least five intellectual traditions (Neuman 2005: 17). They are capacity, fitness, resilience, diversity, and balance. The goal of this paper is to examine the critical underlying premises of these five traditions and to identify any common threads of systems approach with implications on the ecological model.

2.1.1. Five roots of sustainability (Neuman 2005).

Capacity refers to carrying capacity of a place to support populations of living beings. It is perhaps the oldest notion of sustainability. In case of urban environment, capacity is about meeting all demands while incorporating the desires of the community. As MVRDV (2006) points out, in the current context of social, economic, and environmental stress, we need a city that increases our capacities within the current mass, as well as in the currently unused and underused spaces. At the same time, the notion of capacity needs to be carefully weighed with the non-uniform growth in urban areas.

Fitness, the second perspective, has a long tradition in biology and conservation. Charles Darwin's On the Origins of the Species (1859), lays out the fundamental principles of "natural selection" (Darwin 1859, 61). In relation to the idea of natural selection in the context of evolution of life, Herbert Spencer coined the term "survival of the fittest," where adaptation becomes a primary tool for survival in a changing context (Spencer 1864, 444). Fitness thus implies an evolutionary process marked by the mutual interaction among species and between species and environment. It involves adaptation over time—a fit between organism and habitat. Fitness is a local trait stemming from adaptations that respond to immediate context. In the urban context, the fit of a settlement refers to how well spatial and temporal pattern matches the customary behavior of its inhabitants (Lynch 1987). Fitness or fit is also aligned with the factor of appropriation and interpretation. In the context of sustainability, this adds to the sense of ecology a vital element of human empowerment and agency. In other words, sustainability and fitness brings the human relationship and interaction to one another and to the environment at the core of the discussion.

Resilience borrows from notions of health such as immunity and recovery. Resilience, whether for individuals or communities, is based on accommodation between the organism/community and other external agencies. Resilience thus shares commonalities with fitness and capacity. Carrying capacity, resilience, and fitness are based on the interaction among elements in an interdependent system of human ecology. As with fitness, resilience is a process of adjustment through interaction (Ashby 1978; Dubos 1978; Waldon 1994).

Diversity is an indicator of health, whether for an ecosystem, urban community, or organization (Wilson 1988; Schulze, Mooney 1993). Diversity refers both to the variety and heterogeneity of members in a community and the positive position of members in relation to one another. It implies interaction, adaptation, tolerance, and respect insofar as for a diverse group of beings to occupy the same space simultaneously, those beings must learn to coexist. At least, diversity recognizes difference and establishes co-presence and awareness of others.

Finally, balance refers to harmony and balancing the "natural" environment with "human" development. Balance implies equilibrium. In open, complex, and dynamic systems like the city, there are multiple contradictory interests. These conflicting agencies pose the continuing question of balance between human will, power, and the inherent power of nature. Instead, history records the flows of unending change. The human struggle to understand the environment they find themselves and to cope with these changes is the urban process (Berman 1982).

2.1.2.A paradigm shift: understanding sustainability as a process

The first common thread among the five traditions explained above stems from the notion of sustainability itself and is derived from the word's root, sustain. Its most common meaning is to keep something going over the long run. This resonates with the second part of the thesis of the Brundtland Report, which states "Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future" (United Nations World Commission on Environment and Development 1987,40). In human and biological terms, sustainability refers to an ongoing process of how to live and perpetuate the species in its environment as it isn't about procreation but habitat and progress. Process, then, is the first common feature of sustainability. Process, and not product, is most apparent in the fitness and resilience points of view, as well as diversity and balance.

A second commonality is health, appearing in all five categories. To sustain an urban ecosystem or city over the long run assumes that it will be healthy. Biologists, in studying the health of biological communities, devised an approach incorporating quantitative and ecosystem-wide health measures. Functional integrity of an ecosystem is a surrogate for overall health. Alternate visions of the city have always been a reaction to public health issues and problems in the contemporary city of that time2 (Howard 1967; Corbusier 1935; Wright 1932).

A third common characteristic refers to place-specific conditions and sense of place. They measure the relationship of a species or a process to a specific locale. For example, carrying capacity is the ability of a particular area of land or water to support a certain level of life. Fitness deals with the appropriateness of species and activities to a specific habitat. Resilience suggests the adaptability of a certain place to absorb impacts. Biodiversity refers to the number of different species in a particular habitat. Balance means the interaction of production and place in a specific locale. We distinguish the place-specific facet of sustainability because so often references are made to global processes, whether natural (global warming, ozone layer depletion), human (globalization of the economy), or institutional (international treaties and political bodies such as the World Trade

Organization and United Nations) and because global or universal approaches adopted by multinational corporations and national governments are being revealed to be nonsustainable (Schmidheiny 1992; Vitousek et al. 1997; Chapin et al. 1997; and Matson et al. 1997).

Relationships attendant to place, including fitness, adaptation, and evolution, become more problematic as we consider multiple and overlapping scales of space and time. This is especially true in the context of human ecology. Consider non-place fitness in multiple cultures and subcultures, which, among other things, has put terrorism on the sustainability agenda. Further, as space and time are diminished by advances in communication and transportation, the space of places is supplemented by the space of flows (Castells 2002). Under these circumstances of global-local interaction, non-place fitness takes on added dimensions and significance. The mutual interdependencies of multiple scale fitness and the very notion of non-place fitness are only beginning to be appreciated and understood. There is no standard approach and they should appear on future research agendas.

Lastly, interrelationships among system components, borrowing from systems theory and ecology, are a defining feature of sustainability and are common to all the intellectual traditions under scrutiny here. It is this attribute of interrelationships that closely connects sustainability with the classic and ideal view of city planning, especially comprehensive planning (Nolen 1916; Unwin 1911). In fact, all four common themes— long-term process, health, place specificity, and interrelationships—are closely connected to comprehensive city planning. For this reason, sustainability inherently encompasses the planning of cities and provides a solid foundation for professions concerned with cities (Berke 2000; Campbell 1996).

3.Defining urban design

The notion of urban design has fluctuated from the modernist architectural conception of the city to the post-modern problematic effect of the negative space (Kallus 2001). Traditionally, urban design has been conceived as a discourse in architecture focussing on the design of the city as an object. From Daniel Burnham's City Beautiful movement to Ebenezer Howard's Garden Cities, from Corbusier's Plan Voisin to Wright's Broadacre City, the solution to urban problems were found in redesigning the spatial order of urban morphology. Post-modern critical thinking, in recent literature, questions the design dominance and calls for understanding complex relationships of politics, economics, sociology, behaviour, and environment embedded in the urban context. Some urban designers

have addressed this post-modern urban problem by studying environment and human behaviour (Lang 1994), celebrating the market driven quotidian and everyday needs (Chase & Crawford 1999), examining economic-political nexus as a growth machine (Molotch 1976), or embracing diversity in grassroots level participation towards communicative action (Sandercock 2004; Amin 2002).

In the prevalent paradigm of urban design pedagogy, urban designers are primarily trained as architects, planners or engineers, each having one's own design bias. Architects see design as formal orientation in space. Planners conceive design as regulatory framework and implementation of policies reflecting social and economic values. Engineers understand design as efficiency in production. This eclectic approach of urban design creates a partitioned education model with conflicts and contradictions. Urban design is defined in multiple ways depending on who defines it.

4.Contemporary paradox of urban design: urban vs. Design

Within this late twentieth century debate of modernist morphological understanding of the city and the post-modern multiple notions of the urban environment, there exists a contemporary paradox regarding the relative emphasis of urban and design in defining, directing, and practising urban design. The paradox is thus manifest in the polarization of contemporary American and European urban design theory, practice, and pedagogy: some committed to social change, but ignores questions of form, material, and spatial order; another is devoted to technology, computation, and morphology, but disregards social and cultural concerns (Hatuka 2007).

Within the design disciplines, Bernard Tschumi (1998) has asserted, this has created a contradiction, as architects and designers have been unable to reconcile their need to address everyday life with a wish to engage abstract concepts. In a critique of the traditional understanding of urban design, Aseem Inam (2002) has proposed a meaningful approach to urban design that is teleological (driven by purpose), catalytic (embedded in contribution to long-term development process), and relevant (grounded in first principles and human values) towards a pedagogic model that is process oriented, specific and in-depth, and inter-disciplinary. The problems with positioning a meaningful urban design should focus more on the "urban," understanding the complex relationships of the city with the community, economics, and politics, rather than "design."

The present authors posits that the relationship between urban and design is indivisible and that their integration is essential. To address Tschumi's concern for the gap between the spatial (abstract imagined space) and the social (lived

experience), and to regard Inam's call for a responsive approach to urban design, this paper proposes a new theoretical framework for urban design. This paradigmatic shift in the focus of urban design needs deviation from the current model of urban design framework, where the social control, economic efficiency, and spatial order are compartmentalized. The focus on understanding urban, on the contrary, requires an adaptive inclusive model that addresses relational issues among multiple dimensions of urban design and the urban environment.

The proposed sustainable urbanism framework (fig. 3), described in the following section, is a critique of the prevalent tripartite model of sustainability (fig. 1) in the urban context. The new tripartite model frames a systems approach, as discussed in section 2, based on connectivity, rather than fragmentation. Impetus on the connectivity underlines the importance of understanding sustainability as a process-based system, specific to the context of urbanism.

5.Sustainable urbanism: towards a responsive urban design

The proposed framework is derived from two conceptual structure critical to urban design and planning: "orders" and "place." N.J. Habraken (1998) describes "physical order, territorial order, and cultural order" as the three underlying orders in any urban structure. These three orders establish an urban design framework that addresses the heterogeneity, complexity, and contradictions of the urban context. David Canter (1977) describes a "place" as juxtaposition of three elements: "conceptions, actions, and physical environments." Applying this model, urban design can be understood as a discourse that reflects and shapes the structure of urban life, through the dynamic connections among urban culture, urban activities, and urban form.

The prevalent notion of understanding urban design, (fig. 1) reinforces the distinct rigid boundaries of the three triad elements resulting in uni-dimensional exclusive perspective of the urban, for example either through historic meanings (values), or through landuse and ownership (actions), or through formal spatial typology (form). This dogmatic model is conflicting and contradictory for understanding the construct of urban design. Alternatively, an inclusive approach to urban design (fig. 3), can be developed by deconstructing the existing place model and imagining a different relationship that is overlapping and hierarchical. Such interpretation creates an open dialogic space of communicative system and allows interrelationships and interactions to occur among the triad elements. For example, urban design from the perspective of formal order and spatial typology can also be interpreted as reflection of everyday needs and activities associated with those typologies. Such actions can then be read as translation of specific

values embedded in the community or the context. The new model facilitates urban designers to establish a very specific role for them and for urban design in the city, which does not overlap with that of the architects, planners, and engineers, but operates in relation to them as well as to the political, economic, and social forces in the city.

Urban design lacks a theoretical framework of its own (Sternberg 2000). This critical examination of the existing urban design and development of the new inclusive model here explores the various ways in which "urban" can be understood in relation to sustainable development—social (community and networks), economic (production and investment), and political (power and communication) forces. Thus this inclusive model (social – economic – environmental) can also be applied to understand some key concepts in current theories and practices of sustainable urbanism. Instead of comprehending these ideas as distinct silos or absolutes restricted within a specific theoretical realm, this model focuses on the opportunities and potential of interrelationships that exist between the city and the evolving dimensions of sustainable urban placemaking.

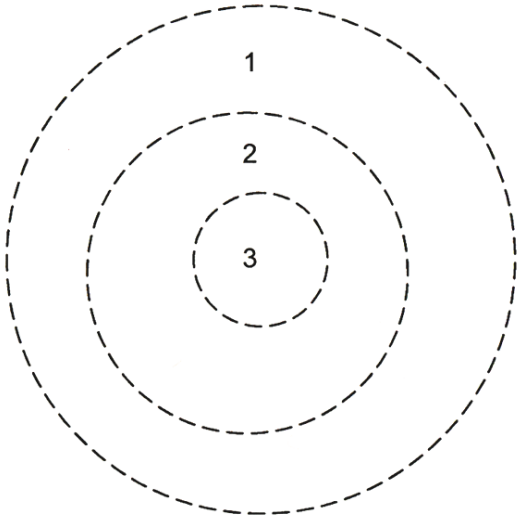

Figure 3: Proposed inclusive model of sustainable urbanism, with three forces, (1) social (meanings), (2) economic (actions), and (3) environmental (forms) with an integrated systems approach

5.1. Sustainability in relation to urban design

In this paper, we have argued for a paradigm shift of understanding "urban" and then consider design in the context of the urban. Urban designers (e.g. Inam 2002; Grönlund 2001) are beginning to question what in fact is "urban" in the contemporary environment. At the same time, there are classic definitions that are timeless and still relevant today: a city is a "relatively large, dense, and permanent settlement [or network of settlements] of socially heterogeneous individuals"

(L. Worth cited in Kostof, 1991, 37), and a "point [or points] of maximum concentration for the power and culture of a community" (L. Mumford cited in Kostof 1991, 37). To define sustainable urbanism or to examine sustainability in relation to urban design, the urban designer's imperative, is to understand cities. On the one hand, the most enduring feature of the city has traditionally been its physical form, which remains with remarkable persistence the focus of prevalent urban design, gaining increments that are responsive to the most recent economic demand and reflective of the latest stylistic vogue, but conserving evidence of past urban culture for present and future generations. On the other hand urban society is the most dynamic and complex and it is continually evolving. The urban environment changes more than any other forms of human settlement. Economic innovation usually comes most rapidly and boldly in cities. Immigration issues are manifested first at the urban core, forcing upon cities the critical role of acculturating refugees from the countryside and the winds of intellectual advance blow strong in cities (Vance cited in Kostof, 1991).

Based on the new synthesis of ideas proposed in this paper, there are three levels of relationship between any urban design project and sustainability. These include, first, the purely aesthetically informed notion of urban design as a finished product (e.g. Does it look good?). The second is the sense of the project as an autonomous object that functions in an affordable, convenient and comfortable manner for its users (e.g. Does it work?). The third, and new, idea is to have the urban design project generate or substantially contribute to environmental and socio-economic development processes (e.g. Does it produce long-term quality of life impacts? Is it sensitive to the natural environment?). In this sense, urban designers and urban design projects become catalysts for community betterment, economic improvement, and environmental sensitivity.

In conclusion, we argue that defining urban design based only on form (architecture), policy (urban planning), and efficiency (civil engineering) is problematic for sustainable urbanism. We postulate a responsive urban design, where the question of sustainability is reframed in, not in terms of efficiency, form or policy, but in terms of terms of human well-being, social improvement, and social hope. Sustainable urbanism thus can be imagined as an application of public health and societal ethics in places, which encompasses the formal, policy, economic, and technological elements as tools for applying the system. If sustainability needs to be the core of contemporary urban design paradigm, we assert that sustainability needs to be defined in terms of three fundamental elements that cut across professional boundaries and categorical paradigmatic attachments: (1) health, (2) place specificity, and (3) social ethics. Looking at

the common themes of sustainability (from section 2.1.2.) and relating them to sustainable urbanism, we synthesize health issues and desire to sustain as "health," place-specific conditions and sense of place as "place specificity," and process and interrelationship among systems as "social ethics."

The first element fundamental to sustainable urbanism is health, associated human well-being individually and in communities. Arguing for pragmatism, Richard Rorty (1999) distinguishes the quest for knowledge from the status of end-in-itself to that of one more means towards greater human happiness. Defining sustainability is problematic from the status of "end-in-itself" as it creates the danger of limiting discussion of sustainability into categories and boundaries. On the contrary from a systems-based approach, sustainability can become an exploration of one more means towards healthy living. The element of health addresses two core values of sustainability: (1) sustenance of human wellbeing and (2) development of "human capacity as our ability to trust and to cooperate with other people, and in particular to work together so as to improve the future" (Rorty 1999, xiii). Focus on health also alludes to the human dimension of sustainability in form of individuals, communities, and society.

The second element of sustainable urbanism in relation to urban design is place specificity and the process of placemaking, which is the way all human beings transform the places in which they find themselves and in which they live (Schneekloth & Shibley 1998, 1). People transform the places they find themselves into places they live in through a diverse creative process. It is a fundamental human activity of sustaining and maintaining their communities. Understanding sustainability from the human perspective demonstrates the importance of human appropriation in places. This notion of place in relation to sustainability empowers people to define, construct, and control place quality through their actions, reactions, and interactions. Within the formal framework of political processes, social ideologies and morphological typologies, quality of place from the perspective of everyday actions posits an informal counterpoint. It pushes the boundary of sustainability and offers challenging yet exciting opportunities for making places sustainable and adaptive. Considering "place" as a critical component of sustainability, sustainable urbanism is a continuous process of placemaking.

The third element of sustainable urbanism is the recent rise of social ethics towards social improvement and hope. There are powerful synergies between sustainable development and social justice and equity at the community level, globally. Clean, green, and attractive neighbourhoods fostering safe and strong communities, and improving the quality of life, should be accessible to everyone

irrespective of race, class, creed, and colour. Questions such as those of energy, transport, climate change, and waste cannot ignore the issues of social equity and justice. The rise of social ethics is a major aspect of sustainable urbanism, which needs to be reinforced in the context of sustainable urban development. The role of urban design and urban designers can be seen as a catalyst for community development consisting of intelligent community participation process in projects: dialogue between community representatives and urban designers, community leadership reflecting diverse community views, private and non-profit institutional partners, decision-making systems, programming, and integration of designed activities. The complex problems of communities need negotiating these interrelationships among heterogeneous forces in the society. The process-oriented approach of sustainable urbanism, focusing on the systems, is critical in framing accessibility and equity issues in social ethics.

6.Conclusions

First of all, this paper demonstrates a specific, but critical role of process orientated approach in contemporary understanding of sustainable urbanism. Sustainable development was formally defined by The Brundtland Report: "Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future" (United Nations World Commission on Environment and Development 1987, 40). Twentieth century discussions of sustainability have been a debate of choice—between environment and other agencies, most specifically with community and economy. This paper, within the context of the 21st century evolving discipline of sustainable urbanism, highlights the role of "ecological" notion of sustainability and the associated human values. It reinforces the ecological condition where sustainability is a catalyst—a dynamic motivating condition that we strive to reach for the wellbeing of human life. Such a study highlights the function of sustainability as a stage of human enactment. The theoretical analysis illustrates the powerful role of human construction and engagement in questioning and critical examination of sustainability itself. Studying the everyday human experience and actions in relation to sustainability enunciates the construction and contestation of sustainability through spontaneous everyday actions. This understanding of sustainable urbanism can be catalytic in promoting sustainability as a shared "dialogic space" (Schneekloth & Shibley, 1995), where things can function in relation to others, and among various critical agencies of the society.

Second, the discussion of sustainable urbanism in the present capitalist society needs to be in reference to the production and consumption of space. The market

seems to be doing a satisfactory job in providing "sustainable design" in the name of green buildings, but often it ignores everyday human experience and disregards the importance of everyday human actions in sustainable development. There is a two-fold gap between the production and consumption of sustainable design. First, the design profession is engaged predominantly in the realm of iconic green architecture. Second, the everyday spaces produced for consumption and use by people are not necessarily designed or worse, poorly designed. The disconcerting fact is that architects and designers continually have less and less of a role in the production of such sustainable urban places. The profession has retracted from designing places sustainable for people and their everyday needs. This stance is a primary reason behind the diminishing role of designers in our everyday life. Within the constraints of economic interest and political control, human experience, use, and relations are sometimes neglected. An emphasis on the human connection to sustainability, as demonstrated by this paper, is critical to restoring the role of responsive urban design in sustainable urbanism.

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[i] Shrinking cities are defined as cities with declining population. Across the globe, these cities embody a metropolitan condition with a hollow centre and pockets of development around it. Some prominent examples of shrinking cities are Detroit (USA), Ivanovo (Russia), Manchester-Liverpool (UK), and Halle-Leipzig (Germany) (shrinking cities citation).

[ii] Urban planning history illustrates that urban policies and movements repeatedly originated from public health issues such as pollution from industries, congestion from traffic, and development of noxious landuse in residential communities. City Beautiful movement originated as a planned effort to eliminate disorganization and chaos in the industrial city propagated by Daniel Burnham's Chicago Plan of 1909 (Burnham & Bennett 1909: 2). Le Corbusier's call for the City of Tomorrow was specifically targeted towards non-functionality of the industrial city (Corbusier 1947: 5). America's urban renewal and redevelopment movement was influenced by policy decisions based on sanitizing the failing city. Frank Lloyd Wright's vision of the Broadacre City was aimed at developing a society sensitive to the wellbeing of individual well-being (Wright 1932).

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تعريف التمدن المستدام
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الملخص:

التمـدن المستدام مصطلـح شاع استخدامه مؤخرا في التصميم الحضري والتخطيـط .وفي اطار الحواضر الكبرى المعاصره يستخـدم المصطلح في دراسـه الاستدامه والتصميم الحضري في عالم سريـع التحضر.ويكتسب هذا المصطلح اهميه نتيجه النقاش القائم حول التعريفات المختلفه لمصطلـح (الاستدامه) الا انه يفتقر الى تحديد مفهوم متكامل لمصطلح (التصميم الحضري) يمثل هذا البحث نظره فاحصه للاستدامه الخاصه بالتطوير الحضري ودراسه ناقده لطبيعه التصميم الحضري مـن اجـل توضيح معنى مصطلح التمـدن المستدام . والاسئله البحثيه المحدده التالي : ماهـو التمدن المستدام ؟ وكيف يمكن تعريف الاستدامه فيما يتعلق بالمدينه ؟وماهي العناصر الهامه للتمدن المستدام ؟