The focus of this exchange is on tools, methods and institutional frameworks which will support the local scale.

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The journal of an association of institutes and individuals concerned with housing, design and development in the built environment. Theories, tools and practice with special emphasis on the local scale.

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Affordable Housing: Quality and Lifestyle Theories

Guest Editors: Prof. Ashraf M. Salama, Department of Architecture and Urban Planning, College of Engineering, Qatar University, Doha, Qatar and Dr. Urmil Sengupta, School of Planning, Architecture and Civil Engineering, Queen's University, Belfast.

Abstract
The issue of housing affordability is widespread worldwide. Governments have responded to this issue through ways of cost reductions in order to make homes available at a price that a user is able to pay. However, this area of concern has been a permanent preoccupation of housing technocrats consumed in the quality and location of the housing unit, often overlooking other socio-cultural and psychological dimensions adhered to it. Housing quality is a composite good with a variety of attributes, including: structural condition, standard of services, amenities, location, usable space and occupancy standards. It can, at the same time be laden with physical, economic and cultural dimensions. People purposively (or un-purposively) use the externally defined meanings of ‘housing’ to situate themselves with others who share their values and life-styles in asserting their social status and identity. Understanding how these issues of affordability may relate to people’s preferences and lifestyles mandates an understanding of housing quality and lifestyle theories.

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Editorial

This editorial deals with the issue of sustainability in relation to the development of the city in the 21st century. The main goal is to make an inquiry into Piecemeal vs Grand Planning Approaches to generating sustainable cities. The focus of the city is the human settlements. The issue of sustainability has been a concern for many planners, architects, urban geographers and social scientists. “Sustainability” is an old concept but has become a new solution criteria for generating liveable cities. The role of the professional is crucial in the development of cities to become more sustainable. It seems that development of cities, especially those in developing countries, in the post-modern age require a critical evaluation and updating of their existing housing and settlement policies and practices. They seem to neglect the development dynamics in fast-growing metropoles sometimes. While the natural phenomenon of urbanisation require piecemeal approach to spatial planning and development in Developing countries, their governments tend to adopt Grand policies of developed countries. Implementation of such policies with further use of high-tech often results in large wipe-outs in the city and social disintegration, following the replacement of existing neighborhoods. Physical and social integrity, as well as slow growth of settlements is a crucial start towards sustainable cities.

The selected articles by the authors mentioned below contribute through discussion of major approaches to either theory and/or practice of designing sustainable cities, and the cases provided in their articles further explore the issue of sustainability in its locally unique spatial, soci-cultural, economical and legal/policy dimensions. Such diverse experiences from different cities /countries of the world provide evidence for the complexity of the sustainability issue and need for an integrative new approach which requires the participation of both experts and the lay people.

SYMES compares Grand- vs. Piecemeal planning with each other by using theory of behavioral change. Thus, he discusses and challenges professionalism in urban design for sustainability. His favored approach emphasizes the interaction between designers and users and the active participation of the latter on new/future urban development form and forms of practice. He is claiming that multi-disciplinary and multi-actored practice is essential. ISLAM compares the Grand planning approach with piecemeal planning approach in view of enhancing quality of city life. He criticises existing planning systems in general, efficiently to deal with sustainability issues, and uses traditional planning approach for this inquiry. He claims that a new approach which integrates a multi-actors in the city in policy-making, urban planning process, and practice is necessary. By that he holds a similar view to that of Symes. BROWN discusses a new urban paradigm and explores the concept of palimpsest whereby the city is considered to be a multi-layered organism. His case to examine this paradigm is Riga-Latvia, as a living model for sustainable development. BRONER-BAUER, emphasizes preservation of the architectural values, monuments, and points out to the role of adaptable, well-designed regulations and policies for the sustainable development of the cities. She focuses on environmental consciousness being developed for the last 40 years. Through the examination of her ideas on housing in Finland in relation to conservation policy and legal framework, she claims that grassroots level strategies are fundamental for sustainable approach to environmental planning and design. ZAM-
**MAN** argues in favor of urban regeneration, rather than urban renewal based on demolition in order to have a sustainable building system for urban areas. His case is Dhaka, a mega city in Bangladesh, in which he draws his argument on adaptable building concept in favor of acceptability of changes to the user-dwellers in the city. Similarly, **ABDELHADI and her TEAM** look at the sustainability issue from the point of view of users of the city, with particular focus on the home-range or close environment of home. With the aim of providing the designers and the decision-makers with clues, in the creation of more responsive dwelling environments two types of neighborhoods and the vicinity of Cairo, Egypt are surveyed through the dwellers of the similar social status. The outcoming results point out to some perceptual characteristics of the sustainable home environments. **KHATTAB** writes from the designer’s perspective as expert on human, cultural, economical and technical aspects of sustainability. He discusses the issue of sustainability and makes an evaluation through the case of Kuwait’s tall buildings designed by green building principles, and warns the designers against ready-made and prescriptive green design parameters by asking them reconsider the local conditions and contextual facts.

Last three articles have selected Turkey for their focus of examination in relation to the issue of sustainable city. Firstly, **AYIRAN** bases his article on the widely-accepted belief that Mediterranean Architecture is prototype for contemporary sustainable design concept with its bioclimatic characteristics. He closely examines a city popular for its climatic, natural, cultural (architectural) values and through that, argues for its preservation of cultural and residential pattern by constructing by building laws and regulations. Use of recyclable construction materials, protecting the vernacular architecture in addition to visual and biophysical ecology is not only made possible by the consciousness of some architects but also supported extensively by local building regulations. They are the challenging factors for increasing tourism economy. In this way, Ayriran and Broner-Bauer point out to the strong role of regulations for the sustainable city development. Secondly, **AREFI**, develops his argument through informal settlements of Istanbul, Turkey based on formation of identity and place-making for sustainable community development. He looks at the identity and place-making from the knowledge point of view and explores the relation through a case study. He concludes that knowledge supports piecemeal growth and social sustainability. His study counterargues grand-planning approach due to its top-down nature and inadaptability, unlike adaptable bottom-up approach. Accordingly, expert knowledge should not dominate over the local knowledge for sustainable growth. Thirdly, and finally, **OZUGUL & CENGIZ** aim to make projections for the mega city Istanbul by a comparative analysis of last several master plans of the city and assessing their sustainability by such sustainability criteria as sustainable transportation, urban compactness, historical conservation, balance of natural and man-made environment, resource-management, population pressure on urban environment, cultural diversity and social equity.

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SUSTAINABILITY, PROFESSIONALISM AND URBAN DESIGN; A LEARNING PROCESS

Martin Symes †

Abstract
Sustainable development requires change in who makes decisions as well as in their content. The field theory of behavioural change is used here to structure a discussion of professionalism in urban design for sustainability. Sustainability and professionalism (both concepts defined by their users) are channelled subjectively, there are barriers in cities, designers act as gatekeepers, learning takes place. There follow sections on cities, designers, learning and research. There is more wealth and more poverty. In addition the cultural diversity of the urban population is becoming ever more evident. Sustainability depends on the interaction between designers and users, on new forms of practice and on new forms of urban development. There needs to be more focus on the improvement of participatory decision-making, and on new forms of communication, in design practice. This argues against a too narrow interpretation of academic standards in schools of architecture and encourages the reevaluation and further development of pragmatic approaches and the transmission of practical skills. Business School methods could be used. A good deal of previous research could usefully be looked at again with the sustainability agenda in mind, including a better understanding of skills. In conclusion, professionals need more multi-disciplinary practice and greater participation in it by lay citizens.

Keywords: Sustainability, Professionalism, Cities, Designers, Learning.

INTRODUCTION

Urban design requires specialist expertise. Sustainability calls for new ways of thinking about everyday decisions. How can professionals address this challenge?

A PROCESS OF CHANGE

Sustainable development requires change in who makes decisions as well as in their content.

A change in thinking about urban design is influenced by various factors. A few words on the discussion of change in the “parent subject” will help draw them together and clarify the common ground which can be found in those discussed here.

Ittelson et al (1974) suggest that the core academic discipline of environmental psychology has its origins in the interaction of two, apparently contradictory, philosophies of applied psychology. On the one side stands Behaviourism, a pragmatic philosophy in which physical, and other objective constraints, largely determine what people can and will do. It is tempting for design practitioners to view the city as one of such “hard” constraints. But much evidence has been accumulated which supports an opposite argument. What matters for us is what we “see” to be our world: we behave in ways which respond to the subjective reality in which we live. So on this other side seem to stand a group of Phenomenological approaches, of which the one most favoured by architectural theorists such as Norberg-Schulz (1965) is Gestalt psychology. But even Alexander (1964) an early critic of the art-historical approach to architecture, and leader, then critic, of the design methods movement, is noted by Ittelson et al mainly for his investigation of what these psychologists ambiguously call “the figure”. Lynch (1960) would be in the same category, placing too much emphasis on the physical “image”.

One of the most complete statements of the “soft” approach, which often does not ignore physical constraints (but deals with them as we variously perceive them), is that set out by Lewin (1951) as The Field Theory. As this essay has been informed
much more by Lewin’s point of view than by its opposite, the following paragraphs will, firstly, elaborate this perspective, and, secondly, show it provides a framework for integrating the various factors which will be discussed later.

In Field Theory Lewin gives as a definition “...behaviour is... a change in some state of a field...In individual psychology the field is the individual “life space”...the person and the...psychological environment as it exists for him. In dealing with group psychology...one may speak of the field in which the group or institution exists.” (Lewin, 1951: xi)

Studies suggest that Individuals organise motivation and cognition by means of Channels which are adjusted after interaction with others. Findings of this kind of study are of particular interest where they concern the process of change, which seems to occur in three stages. First is the perception of Barriers, then attempts to by-pass them, until finally they are overcome, with the help or hindrance of Gatekeepers.

The whole is seen as a Learning Process.

Applications include Ecological Psychology: both in respect of the professional institutions, and in respect of their interest in behaviour within a physical environment, (such as, for example, seeking sustainability).

“A first step in analysing a field for the purpose of changing cultural habits.... [is] ... clarifying exactly where and how psychological and non-psychological problems overlap and interact. Any kind of group life takes place in a setting with certain limitations as to what is or is not possible........non-psychological factors of climate, of communication, of the law of the country or the organisation......[determine] the boundary conditions of the life of the individual or group”. So “the first analysis of the field [must be of]... what these data mean.” (ibid:170)

Of the Group Dynamics of institutions and firms, Lewin writes:

“Most individuals stay pretty close to the standard of the groups they belong to or wish to belong to”. And so “ the group level acquires value... a positive valence corresponding to a central force field.” (ibid:226). This is “important for the problem of change.” (ibid:227). Resistance to change can, clearly, arise from conflict between group standards and other forces in the field.

This essay discusses a case of this type. Sustainability and professionalism (both concepts defined subjectively by their users) are channelled, there are barriers in cities, designers act as gatekeepers, learning takes place.

**SUSTAINABILITY AND PROFESSIONALISM**

Sustainable development may depend on professionals acting primarily in the interest of the general public.

According to Brundtland (2010) ‘In order to sustain our environment and natural resources, we must approach development with forethought’. This is the central definition of sustainable urban design. It entails multidisciplinarity and requires sensitivity, leadership and cultural awareness.

The complexity of urban life continues to grow, and is reflected in national and international research programmes. A major development has been the definition of “sustainability” as a key criterion for drawing other factors together when assessing urban development.. The private sector pressure group BURA (British Urban Regeneration Association) focussed a recent annual conference on environmental concerns, the management of cities, financing development and the role of entrepreneurialism. Three of the British Research Councils (those dealing with Economic and Social studies, with Engineering and the Physical Sciences and with the Natural Environment) have supported major projects on the Sustainable City, from their own disciplinary points of view. The European Foundation for the Improvement of Living and Working Conditions commissioned studies of Design for sustainable development, Economic and fiscal instruments for sustainable development, Sustainability and labour markets, the Contribution of urban cultural heritage to sustainability and employment creation, and on Urban governance and enterprise. The Fifth Framework of the European Union had as its third objective Promoting sustainable and competitive growth and, within that, a sixth key action concerning studies of the City of Tomorrow. This last defined its goal as
“the development of the citizen’s urban environment using advanced models of organisation”.

Who must make decisions, and how they are made, is increasingly problematic, especially for the traditional professions, who act mainly in the interest of a paying clientele. The BURA conference referred to above reached the conclusion that social cohesion depended on “full participation and the restoration of cities for citizens” and recommended “partnership in urban governance”. The delegation from Belfast (itself a troubled city of course) laid emphasis on the involvement of a new generation through their Youth Forum. Others pointed out that Local Agenda 21, adopted at the 1992 Earth Summit at Rio de Janeiro, may be the most suitable framework for the integration of economic, social, cultural, health and environmental principles. It operates at the local level and operates on the fundamental principle that the “needs of all...citizens cannot be met unless they participate in all decisions affecting them”. The Manchester version of LA21 accepts that “experts will be needed to help communities develop an informed point of view, but they should be advisors, not decision-makers”. It recommends citizen participation, quoting a Chinese proverb, which is translated as “I hear and I imagine. I see and I understand. I do and I remember for ever”.

THE PROBLEM OF CITIES

A city is both a collective creation and the sum of individual initiatives. Professionals are pulled in both directions.

The problem grows at a time when migration is creating ever larger urban regions, some with more sophisticated infrastructure (Lille in northern France, interchange for the Channel Tunnel High Speed Railways, is said to be the centre of a region of some twenty million people, a scale also found in the developing world). There is more wealth and more poverty. In addition the cultural diversity of the urban population is becoming ever more evident (of the 6% of the British population which is of non-white ethnicity, 31% are Indian, 17% Pakistani, 6% Bangladesh, 6% Chinese, 7% other Asians, 25% Black Caribbeans, 8% black Africans) (Ballard and Kalra, 1994). Family sizes and composition, access to employment opportunities, educational needs, religious affiliations and locational and housing preferences vary, all seriously affecting the use of resources, and must be taken into account.

A major problem can be seen to arise for citizen participation as soon as it accepted that those who plan cities need to develop both a thorough knowledge of “the matrix of forces which shape our towns and cities” (and also “a series of abstract intellectual models [with which to analyse] town maps and central places” (Symes, 1982:67). The prerequisites for such a full professional portfolio, and the range of subjects which have to be studied and number of skills which have to be developed mean that the “comprehensive solution” to sustainable urban design will consume resources of time and personnel very heavily indeed. It is generally held that this new kind of city will only ever be available to a small number of people, and then at only a few very specific locations. The majority of opportunities for improvement may necessarily be short and rather practical interventions, lacking comprehensiveness and academic rigour. This could be seen as a virtue for this field, but it could also be thought of as a criticism. Cities are very complex pieces of technology and people need to be highly skilled and very well informed when they deliberately tinker with them, which is what politicians, pressure groups and designers do. Poorly trained decision-makers are almost bound to make a mess of things.

Whether the form that a comprehensive approach could take should be based on a holistic synthesis or on the application of a number of locally specific policies is nonetheless still a topic for debate. It is always possible to hope that one or the other of the possibilities for action will prove more economical (or effective, or attractive) than the other and thus be acceptable for implementation more widely than would otherwise be possible. A problem which has become evident recently, and is allied to the locally incremental approach, is that more time is sometimes spent discussing how to arrive at an optimum sequence of interventions, than in actually assessing their joint impact on sustainability.
PROBLEMS FOR DESIGNERS

All professional services are based on special expertise but many are protected from lay criticism.

Designers are people with certain gifts and they must work with and for people who have others. Their organisations depend on interaction with other organisations and on the establishment of systems of communication which facilitate analysis and decision-making in design. Research on sustainability should discuss the interaction between designers, and users, in new forms of practice and in new forms of urban development. There needs to be more focus on the improvement of participatory decision-making, and on new forms of communication, in design practice.

Architecture, Planning, Urban and Environmental Design have experienced a number of significant changes in the last thirty years. The complexity of the context within which practitioners must work has increased in three major ways. Each of these has put considerable strain on their ability to communicate with clients, collaborators and the general public.

Firstly, the generation which grew up, was trained and began professional practice in the Post Second World War era, has seen a transformation in the way in which the cities of the advanced economies are developed and built. The clarity of purpose and simplicity of institutional arrangements for construction which accompanied the growth and modernisation of Western Europe, and, to a lesser extent, the United States, have been replaced by a more uncertain, and sometimes confused, diversity of aims, methods and outcomes. If, for many of this generation, the achievements of “State Socialism” during the “Trente Glorieuses” were unduly criticised and too readily dismissed, for others the transition to a more market-oriented basis for building have led to a more diverse industry and more responsive modes of governance. Communication about the decisions to be made for sustainability in cities have become more complex.

Secondly, the shock of oil price rises in the 1970s and the spread of concern for climate change in the first decade of the new millennium have bracketed a period of adjustment and reorientation in the construction industry and its related professions. While the family firms of builders on which post-war reconstruction largely depended became industrial teams and then international conglomerates, the professional design teams who had worked so closely with them left their small private practices to join larger companies, subject to take-overs and buy-outs, and some of these have even gone public, with stock-market quotations. Decision-making processes have become less cooperative, more competitive and less easily understood.

Thirdly, the cultural systems within which environmental designs are created have expanded. The institutional context and the language of design activity have changed. There is now a “global industry” (with from time to time a “global crisis”), there is a “Star System” both valued and derided by the media, and consultants offering new specialities compete for influence with local and national politicians. New Towns have become Urban Development Corporations, the Modern Movement has been replaced by various forms of Post-Modernism, User Requirements are becoming Participatory Design, academic treatises are written not on the efficiency but on the ethics of design management. The threat of climate change and the call for sustainable development have brought new political pressures to bear. So participation by the public is now often easily contested.

Urban designers working on sustainability must build on the positive aspects of this transformation, in practical as well as theoretical terms. They should explore how architects and planners in Britain, France, The United States, China, Japan and elsewhere might both bring these changes to the attention of their colleagues, academics and practitioners, and also help a new generation develop the skills its members will need, if they are to respond constructively to the new pressures which have arisen and new opportunities which have emerged. A case can be made for rethinking design education for the general public as well as for expanding the field of professional expertise. It is of special importance that the professions learn to rethink their decision-making processes and incorporate new, participatory, communication skills.
SOME EDUCATIONAL CHOICES

When changes occur in their field, professionals, and others, may have to learn new skills. Sustainable cities will depend on many changes of this kind.

To recapitulate, sustainable urban design is still a “chaotic discipline”. Some synthesis of the following specifications must be achieved if an effective and efficient programme of continuing education is to be developed:

- A wider range of scientific subject matter
- An expanding scale of applications
- Increased awareness of cultural differences
- Theoretical clarification

Most programmes run in close association with Schools of Architecture and are limited in this respect.

A study of architectural schools in the Netherlands (Worthington and Orbasli, 1995) suggests a small number of resolutions of the issues in design education. The study classified the curriculum in twenty-nine schools in six European countries on two dimensions: whether the schools were academic or vocational; and whether their orientation was technical or oriented towards the arts. The study found strong similarities among the technical Schools (which were oriented towards research in the specialities) and among the Arts Academies (which were vocationally oriented and generalist). For urban design teaching about sustainability, the former type of curriculum will be more sympathetic to the comprehensive approach, offering a series of academic specialities to all their students.

One problem may be that of conventional academic rigour as might be expected at Cambridge University in its established course on Interdisciplinary Design for the Built Environment. In written descriptions of the research basis for its postgraduate studies, however, we learn that “the conceptual phase of a design project is typically...dynamic and creative...yet it often also disorganised and poorly structured”. Here the intention is to move away from traditional architecture school practice, “to identify advanced business processes” and “to collate and evaluate conceptual mapping methods from the aerospace [and other] industries”.

An American study of architectural education and practice (Boyer and Mitang, 1996) also argues against a too narrow interpretation of academic standards as applied to schools of architecture and encourages the reevaluation and further development of the pragmatic approaches and transmission of practical skills in which so many of them excel. Statements such as “schools of architecture should evaluate themselves as communities of learning, places that offer interconnection rather than compartmentalisation, competition along with productive competition” (p.148) are supported by a plea that schools link the goal of creating new knowledge with “a climate of engagement” with both professional and wider social goals, as implied by the sustainability agenda.

Experiential learning, and a widening range of applications are going to be difficult to accommodate in comprehensive courses in the more technically oriented schools. Will these alternatives become institutionalised and will students (and teachers) always have to choose between a practice orientation or academic elaboration when learning (or teaching) about shaping the built environment to meet the needs of a growing and increasingly complex urban community?

Two ways of healing the rift, and introducing more unity to the urban design education community, are worth considering. The first is a concentration on results, that is to teach from examples of past success in urban design, presuming that these can be repeated wherever the technical ability exists and adequate resources are available. The approach of the “Urban Villages Group” in Britain might be thought to fall into this category. Their propositions “strive to equal the quality achieved, by......time and tradition, in...existing urban communities” (Aldous, 1992:13). They suggest a series of codes encompassing best practice for “infrastructure; urban form; architecture; and public spaces” (ibid:82) and recommend that they be adopted by developers and planners and supported by policy guidance at the national level. The Prince of Wales’ development of Poundbury in Dorset acts as a controversial prototype of this approach, and his Institute a vehicle through which other design solutions could be transmitted.

A second promising approach has been to
“borrow” Business School “Case Methods” and adapt them to design management education (Marmot and Symes, 1985). Business Cases can be written for use by non-professional citizens. They usually deal in a practical, experiential way with decision making at Boardroom level, giving students packages of information to absorb quickly, together with a description of the context in which a decision is to be made, and inviting students to “role play” the possible outcomes. This has proved a robust model for learning about design decision making, and gives opportunities for covering many aspects of a complex subject matter intensively in short periods of time. One which is concerned with urban design, (and was used in the International course run at Manchester) was that dealing with the difficulties of obtaining planning permission for the rebuilding of the Royal College of Art. It exposed students to a theoretical issue, the distribution of power in the urban land development process, and an issue about the use of resources, in a context of experiential learning.

Were Business Schools themselves to take on the organisation of continuing education for urban design, they would have to find the extensive time needed for the preparation of case-based teaching material. If they did so, they could offer opportunities for politicians, professionals and other lay members of the public to learn together.

Questions to Consider

Sustainability and professionalism are contested concepts. To integrate them is problematic.

In the field of sustainable urban design neither motivation nor cognition are sufficiently well understood for the barriers against a new form of professionalism to be overcome. Thus the necessary learning process is incomplete and the role of gatekeepers uncertain.

Lewin, perhaps because he was a working social scientist, not a pure theoretician, suggests that theoretical commentary is appropriate after analysis has been undertaken, an approach followed here as a good deal of previous research could usefully be looked at again with the sustainability agenda in mind.

Studies of urban design requirements, (Symes and Worthington, 1979) (Symes and Korn, 1998) (Symes, 2001a) which extend the range of functionalist theory, bringing in cultural factors and questioning the meaning of space, need to cover the use of resources.


An essay on sustainable development as the new paradigm for design practice (Symes, 2001c) which argues for the professionalisation of communication skills and an essay on failures in communication (Symes, 2001b), a human factor which may be explicable in terms of institutions, could both be extended to cover methods of participation.

There is a serious issue about design expertise, (Symes, 1989) To help clarify this, more case studies, such as one of the development of BEDZED in South London (Dunster, 2007), should be written.

The fundamental question is to determine whether professional design is so different an activity from other academic pursuits that it merits being termed a separate discipline, with an epistemology of its own. Indeed, an attack on the division of modern professional learning into two, the one type practice-oriented, and the other academic subject-based, comes from social science research on the development of skills. Discussing the use of tools (in modern as well as ancient cultures) Ingold, a social anthropologist, made some radical remarks which seem most relevant here.

A fundamental issue is at stake. It concerns whether we are to think of technical processes basically as exercises in puzzle-solving, or whether we should think of them as skilled practice...in the puzzle-solving scenario, everything depends on working out a novel plan of action for achieving a goal, one that involves the use of a detached object. Once the plan is worked out, implementation is mechanically straightforward...the operation involves virtually no skill at all...[but in cases we think of as skilled practice]...the problem is, as it were already solved. You know what you have to do...but as we say, “it is easier said than done”. We currently understand very little about how it is possible for
humans to perform such tasks. (Ingold, 1997:116).

Ingold is in fact here talking about throwing a lasso, and he also discusses tying knots, but earlier in his article he mentions the design of buildings and it surely can be argued that he could also have referred to the more complex forms of sustainable urban design. From his point of view, if we think of cities as tools, and of urban design theories and methods as mental tools, what we need to do to master them is to understand their practice, and how we can all, professional or not, participate in their use.

Finally, the general starting point for the ideas explored here can still be emphasised. This is that for a full analysis of changes in urban design practice it is not sufficient to consider only the qualities of the places designed. The prior questions must also be answered: how is it that such projects are possible? How, for example, can a professional approach to the design of sustainable cities be conceived and how can it be implemented? The learning process required in such cases was the focus of the discussion in this essay.

CONCLUSION

Urban design professionals can address sustainability by:

- Thinking of their activity as a learning process
- Using participatory methods
- Multidisciplinarity
- Multiculturalism.

Such an approach should be applied both when making comprehensive schemes and when working on local policies.

NOTE

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REFERENCES


COOPER,I. and SYMES,M. (eds) 2009 Sustainable Urban Development: Volume 4: Changing Professional Practice Routledge, Abingdon, UK and New York, NY, USA


DUNSTER,B 2007 The BEDZED Book Routledge, Abingdon, UK and New York, NY, USA


ITTELSON,W PROSCHAN,SKY,H., RIVLIN,L. and WINKEL,G. 1974 An Introduction to Environmental Psychology Holt, Reinhart and Winston, New York, NY, USA

LEWIN,K 1951 Field Theory in Social Science: Selected Theoretical Writings ed D.CARWRIGHT, Harper and Row, New York, NY, USA

LYNCH,K 1960 The Image of the City MIT Press, Cambridge, Mass, USA


SYMES, M. 1982 Urban Design Education in Britain and America in FEREEBEE, A. (Ed) Education for Urban Design :60-70 The Institute for Urban Design, Purchase, NY, USA

SYMES, M. 1997 Education for the Design of Large and Complex Cities in TAKAHASHI, T. et al (Eds) International Conference on Environment-Behaviour Studies for the 21st Century held by Man-Environment Research Association:7-12, University of Tokyo, Tokyo, Japan


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TRADITIONAL URBAN PLANNING APPROACHES AND SUSTAINABLE CITY

Syful Islam

Abstract
The quality of city life and well being of city dwellers is central goal of urban planning approaches. Nevertheless, unsys - tematic and short-term planning approaches of cities have produced incomprehensible sprawl, which deteriorates social, economic and ecological sustainability of the city. The need to alleviate or remove these problems systemati - cally for improving the social, ecological, spatial and economical components of the city is contemporary issue, though most of the planning systems do not yet explicitly address those issues of sustainability. This paper considers Urban planning as a key term as it has the capability to reveal the implications of land use strategies, policies and programmes for the social, economic and physical components of environment. In addition, all the traditional urban planning approaches have outlined to explore their soundness in the sustainable city planning, discuss the main approach followed for sustainable city planning, and outline emerging approach in both theory and sustainable city planning practice.

Keywords: Sustainable City, Sustainable Development, Urban Planning, Grand Planning and Piecemeal Planning.

INTRODUCTION
The main goal of City planning is to develop the liv - ing condition and wellbeing of the city dwellers in all aspects of their life. However, unsystematic and short-term planning approaches of cities have pro - duced impenetrable sprawl, as for example, spread-out of low dense residential development and segregation of land uses; automobile dependency and rapid conversion of forest, farmland and open space. Furthermore, the concentric expansion pattern of cities in all across the world created urbanization in the form of an inscrutable sprawl, which is deteriorating social, economic and eco - logical sustainability of the city. Moreover, urban sprawl is causing our inner cities and first-ring suburbs, many of which were at one time example of good planning, to deteriorate. The systematic reduction or elimination of those obstacles of sus - tainable city planning is the contemporary global issue for improving the quality of life in the city including its social, ecological, spatial and eco - nomic components.

Urban planning has a critical role to play in improving people’s wellbeing and quality of their life by using the several urban planning approach - es. The theory and practice of urban planning exhibited a variety of approaches to resolve those problems from the very beginning of the urban planning history. International conferences and seminars on sustainable development have high - lighted this message, from the United Nation’s Conference on Environment and Development in Rio de Janerio in 1992 to the most recent United Nation’s conference on Human Settlements, Habitat II, The City Summit in Istanbul in 1996. Governments all over the world have also estab - lished the system intended to regulate the city for the public interest, for instance European Commission through its expert group on the Urban Environment, has used term spatial planning (Report of the European Commission Expert Group on the Urban Environment, 1994) to describe the total process. This term includes land-use planning, town and country planning, physical planning, urban and regional planning and territorial plan - ning. This paper primarily emphasizes on urban issues and therefore uses Urban Planning as a key term. Since, urban planning can only reflect the implications of land-use strategies, policies and
programmes for social, economic and physical environments, this paper explores whether these aspects of sustainable city are being considered in the traditional urban planning approaches.

This paper also provides systematic inquiry into those planning approaches based on the theoretical and empirical literature dealing with the several type of planning approaches. Its purposes are to examine the relative validity of each planning approach in different city planning problem and decision setting, explore their soundness in the sustainable city planning, discuss the main approach followed for sustainable city planning, and outline emerging approach in both theory and sustainable city planning practice.

On the other hand most of the stakeholders, as for example, transportation sector, power agencies and the vulnerable group are not involved in the planning process. Instead planning process often promotes changes that increase car use and land use segregation, exacerbating environmental, social, economic and ecological problems. Cities need to be planned by integrating all aspects of sustainable development that will meet the demand of future generation without hindering the demand of present generation.

TRADITIONAL URBAN PLANNING APPROACHES

Grand Planning Approaches
The type of planning system that has evolved throughout the world depends on the country’s legal system and institutional framework, the relative roles of the different actors in the development process and the degree to which a separate planning profession has emerged. Despite the differences, planning systems have been at the forefront of public efforts to manage new development and protect and improve the environment. Nonetheless, exchanging experience and comparing case studies are extremely difficult without a detailed understanding of the planning system of any country, which is not straightforward, when in many countries in the 1990s.

"The field has been characterized by a permanent turmoil which has created a state of permanent instability affecting structures and systems" (Cin and Lyddon, 1995).

Planning system is not clear in most of the developing and least developed countries. Most of the countries local government have no separate legal identity and are subject to strict central hierarchical control by the central government. Yet the developed countries, for instance, USA, Canada, UK and other European countries’ local government and central government are partners as well as they work together to implement plans. Powers and responsibilities have been transferred to local authorities. Electoral local governments are responsible for urban planning, but the process of transfer is taking place more rapidly in responsibility and expenditure than in power and resources.

Some specific types of planning approaches can be identified in most of the European countries in spite of that dissimilarity.

"There is three types of planning system can be identified in Europe. The first has a clear centralized pattern, although it may have more that one planning tier. The second has a balanced distribution of responsibilities through the different levels. The third has a totally decentralized system with a high degree of autonomy at the different levels. Some countries are moving from a regulatory planning system to a more discretionary one, and others are trying to implement a stricter framework to avoid ad hoc decisions. In some countries plan is only a guide; in others, it is a law"(European Sustainable Development and Health Series: 3, 1999: 14).

Most of the countries in Europe follow some kind of planning systems ranging from structure plans and strategic plans to local plans. Some of these approaches have been changed or adapted with the change of time. United Kingdom has first come up with structure plans, which operate at county and sub regional level and are broad in their scope, covering some social and economic considerations as well as those purely of land use. Furthermore, master plans operate at the municipality or citywide levels, which are comprised of broad land-use zones for an entire administrative area and can be implemented through a more detailed local plan. Moreover, local land use plans
are more precise and detailed. Finally, strategic plans which provide the intersectional coordination and financial feasibility. This type of plan is not only for land use but also a set of interrelated strategies for land, infrastructure and financial and institutional development.

**Piecemeal Planning Approach**

Piecemeal planning is one of the most considerable obstacles of sustainable city planning, however, the traditional planning system of developed, developing and least developed countries follow that approach for their short term economic, social and environmental advantages.

“Piecemeal planning is the result of our tendency to try to deal with each problem as if it existed in a vacuum, as if our attempts to deal with it had no effect on other values or problems” (Corbett and Corbett, 2000: 3-4).

In the same time, they have mentioned the piecemeal fashion of planning in the North American suburban neighborhoods. They have argued that for the past quarter century, planners in USA have generally been laid out with no more than two or three goals in mind: to provide every family with its own house and yard, connected to water, sewer, gas and electric utilities; to allow every resident to drive speedily through the neighborhood to his or her own front door; and to exclude any kind of commercial enterprise. After having achieved those goals, they discovered a host of new problems. There is no local community because there are no local shops or public areas where they can meet their immediate neighbors - only private houses and private yards and the wide, inhospitable streets. Any errand requires the use of a car, and then the streets are clogged with traffic and it is difficult to find a parking place. In many communities, children cannot get anywhere safely without being chauffeured. Large amount gasoline is consumed, and automobile exhaust pollutes the air. Storm runoff from streets and roofs causes erosion, flooding and damage downstream. Sewage disposal becomes a problem rather than producing a usable by product, even though fertilizer for agriculture is increasingly costly. They have tackled those problems in same piecemeal fashion, creating whole new sets of problems. They have installed antipollution devices on cars, but that has decreased gas mileage. They have built sub urban shopping centers with huge parking lots and huge ponds to contain storm runoff, and now we notice that agricultural land and open space are getting scarce- and so on, indefinitely. At each step, they have neglected to look at the whole picture. Planners assumed that their wealth, technology and problem solving ability could bail them out of any new problem. But technology and ingenuity have not been bailed them out. In fact, they find themselves deeper and deeper in quagmire of environmental and social problems.

**SUSTAINABLE DEVELOPMENT AND CITIES**

Sustainable development is an issue, which quickly entered into the common vocabulary with the heightened environmental awareness of the late 1980s. There is no commonly accepted definition of sustainable development. Yet the most widely cited definition is that of the World Commission on Environment and Development (WCED) also known as the Brundtland Commission is “…development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (Report of the World Commission on Environment and Development, 1987: 43).

The increasing quantity of population and their discovered technologies have quickly increased the capacity of the human being to make fundamental changes to the present and future state of global environment. The Euro cities project group characterized sustainable development as

"It is about maintaining and enhancing the quality of human life, social welfare and cultural, natural and historic inheritance whilst living within the carrying capacity of the supporting ecosystems and the resource base" (Report of the Eurocities Environment Committee, 1995).

Sustainable development can bring the balance among economy, society, ecology and human life. Therefore, the major principle, which must underpin the process of sustainable development, needs
Intra-generational equity is the most important component in bringing about sustainable urban development. Policies are needed which link the urban environment, urban poverty and urban economic development, since all three are implicated in urban deterioration. Promoting sustainable development at the local level requires not only improvements to the physical environment, but also sustainable local economies and communities.

In addition, decision support methods that cope with the substantive as well as the political dimensions are essential for sustainable urban development. Such methods and approaches should meet the following criteria:

Firstly, integrative: consider different aspects and levels of design and decision making in a holistic approach. Secondly, dynamic: show the performance of various alternatives in relation to the preferences and the behaviour of stakeholders. Thirdly, interactive and transparent: support the negotiation process between stakeholders and produces results that are clear and understandable to all stakeholders, i.e. no black box. Moreover, it will be flexible, reusable, fast and easy to use, communicative and educational. Finally, authoritative: the process and the results meet analytical and political standards to increase the likelihood that the results are used” (Geurts and Joldersma, 2001: 300 -310).

Any development needs to be integrative, dynamic, interactive, transparent and authoritative. Apart from this, it is a combination of a lot of aspects and terms, which need to be considered for gaining sustainability.

“Sustainable and the related term sustainability can be combined with a vast array of terms other than sustainable development: thus we have sustainable growth, sustainable biosphere, sustainable living, sustainable resource management, sustainable cities, the sustainability of ecosystems, cultural sustainability, and so on” (Kenny and Meadowcroft 1999:13).

All aspects of sustainability are interrelated and depend on each other to plan a sustainable community. In this paper, the sustainable city is emphasized though other aspects are briefly explained for their interrelation.

TOWARDS A SUSTAINABLE CITY

What is sustainable city?

Sustainable city is the contemporary issue of this century. The concept of Sustainable development and sustainable city are interrelated. As sustainable development is development, which meets the needs of present without compromising the ability of future generation to meet their own needs, it should be a place where citizens enjoy nice quality of life without transferring any problems to the future generation. Girardet defines sustainable city as

“… a city in which the population enjoys a high quality of life and which takes care not to transfer socioeconomic and environmental problems to other places or future generations” (Girardet,1992).

Sustainable city concept consists of a working method for sustainability reviews based on open, creative and constructive communication and cooperation between decision-makers, experts and the public. Important steps include diagnosis of the current situation, specification of key issues and objectives, impact analyses and selection of strategies. Haughton and Hunter define sustainable city as

“… one in which its people and business continuously endeavour to improve their natural, built and cultural environments at neighborhood and regional levels, whilst working in ways always support the goal sustainable development” (Haughton and Hunter, 2003: 27).

Sustainable city is a place where the people and business try to improve their environment in community and regional level. Many urban planners argue that new regulations and systems of sustainable city planning need to be created based on an
intersectoral approach incorporating spatial and environmental aspects as well as economic, social and cultural elements for that improvement. Yet that improvement should be environmentally, economically and socially viable which do not threaten the natural system. The international journal City cites that cities development 

"seek to deliver basic environmental, social and economic services to all residents of the community without threatening the viability of the natural, built and social systems upon which the delivery of these services depends" (Report of the City Journal, 1996).

The main characteristics of sustainable city, as described in the European Union’s fifth action of environmental programme are firstly, maintain the overall quality of life, secondly, maintain continuing access to natural and built resources and finally, avoid lasting environmental damage (European Commission, Directorate General for Environment, Nuclear Safety and Civil Protection, 1997). The goal is to build a new city culture in which elite people and poor people can lead a sustainable and pleasant lifestyle that leads to nice city culture. People in all walks of life need to become more conscious of the ultimate result of their lifestyle and the means for change, at both personal and community levels. Last of all, institutional frame is needed for the creation of a local culture of urban sustainable.

Local Agenda 21 and Sustainable cities
Local agenda 21 emphasizes on generating a sustainable city. Chapter 28 of Agenda 21 (Report of the United Nations, 1993) states why local government has a main role in its implementation. As the level of government closest to the people, local authorities have a vital role in educating, mobilizing and responding to the public to promote sustainable development. The most important objective of that agenda is that local authorities in each country should have undertaken a consultative process with their populations and achieved a consensus on local agenda 21 by 1996. Local agenda varies from city to city since they reflect the different local contexts. Some European countries, for instance, United Kingdom, Netherlands and Finland have already set their planning system to implement local agenda 21 in the local level of planning. United Kingdom has already initiated national programmes of support with some objectives (European Sustainable Development and Health series: 3, 1999: 18). These objectives are firstly, promote local consultative process on sustainable development; secondly, to disseminate guidance for local authorities on how to move towards sustainability at the local level; thirdly, to develop models of community consultation, participation and local consensus and finally, to involve and facilitate the full participation of all relevant sectors and major groups at a national level.

The national context influences the progress towards sustainability at the local level. A lack of resources and technical capacity within most local authorities and the fact that local governments are often restricted by national government in taking initiative impede local implementation. However, this process has been supported through various initiatives by different international organization. As for example, European Conference on Sustainable Cities and towns in Aalborg, Denmark in 1994 has given the stress to local government authorities about the local agenda 21 and put pressure of moving forward together towards sustainable city. Thereafter, European sustainable cities campaign launched to promote development towards sustainability. The last European Conference on sustainable cities and towns in Lisbon 1996 declared action plan (Report of the European Commission, 1996), which was based on local experiences and discussion at the conference. In most of the countries, local agenda 21 processes do not involve creating a new system of plans where existing planning systems are to be adapted to agenda 21 requirements so that local plans become overall action plans for achieving sustainable development.

Example of The Earliest Sustainable cities
Visionaries who were experiencing looming problems in uncontrolled concentric growth around cities long before 1940s were using sustainable city concept. Ebenezer Garden City concept was the most popular one where his scheme has incorporated a unified system of community land ownership, greenbelts, and a balance of land uses, including industry and housing for workers, a balance between industrial and residential uses, self
government, and an intimate relationship between city and countryside (Corbett and Corbett, 2000: 4). After that, two garden cities, Letchworth, 1903 and Welwyn Garden City, 1920 were built in England. During 1920s, a group of about twenty five people of United States came up further with the Howard’s concept. This group then made an organization that was named as Regional planning association of America who has developed the Sunnyside, a neighborhood community in New York and Redburn in New Jersey in the early 1930s by using the Garden City concept. In 1936 the government of President Franklin D. Roosevelt built three garden city communities in Maryland, Ohio and Wisconsin. Many more garden cities were built in Europe at that time which can be considered today as the testimony of city for better living environment. Cities, for instance, Milton Keynes in England and Almere in Netherlands, can be compared with the pattern of Garden City. Since the environmental, social and economic aspects of sustainable development have been considered in the planning idea and pattern of the above mentioned cities, they could be referred as the example of sustainable city.

"Although the memory of Ebenezer Howard and his garden city concept has faded, a number of new revelations not only reinforce the validity of Howard’s ideas but also, if viewed together, form the basis for a new, broader vision of planning. Best named sustainable design, this vision includes both environmental and social considerations” (Corbett and Corbett, 2000: 7). At the same time they also argued that although sustainability is currently used in a variety of contexts, sustainable community is one that allows its inhabitants to live in a way that does not damage environment or consume nonrenewable resources as well as support the realization of human potential.

The sustainable city movement got momentum in the 1970s while most of the government authorities and agencies used to ask for the Environmental Impact Assessment (EIA) and its report, Environment Impact Statement (EIS) before approving any development project. In this period a lot of ecologically planned communities have been built including Cerro Gordo, near cottage grove, Oregon; Plan of Solar Village but never built; Village Homes neighborhood in Davis, California. The problem of urban development worsened in the 1980s because better development was just interesting but disappeared in practice. The concern about Environmental problem across the globe was growing in the 1990s towards building sustainable city. British Urban Villages campaign came up in the late 1989 the mission of which was to bring more livable urban environments. Meanwhile, United Nation’s local agenda 21 has been declared to make sure the sustainable planning in the local level.

Recent Example of cities toward sustainability

In Sweden, municipal governments have already implemented local agenda 21 in their planning system. The Swedish society for Nature Conservation distributes a bimonthly newsletter to 1500 subscribers as well as development guides on current issues in the Agenda 21 process (European Sustainable Development and Health Series: 3, 1999: 21). City of Växjö authority aims to develop strategies for local sustainable development (Report of the Royal Swedish Academy of Sciences, 1996). The city of Rotterdam, in Netherlands has made guidance to incorporate environmental aspects in to their planning system. The Rotterdam manual for city planning and environment provides a method for implementing environment policy at the local level through their planning system (Report of the Eurocities’ Environment Committee, 1995) where the authority develops two practical strategies. Firstly, any specific policy aspect must be located at the appropriate spatial scale. Secondly, they provide three clusters of environmental factors that planners must address in decision-making about urban development. Among them, blue cluster highlights the matters related to the future generations, green clusters focuses ecological area and grey cluster emphasizes all of environmental matters. Lancashire a county in United Kingdom has promoted the local environmental action programme to involve the local agenda 21 with their planning system. The process has gone through three phases: information gathering, policy-making and implementation which offers a good example of partnership based planning between the county council and administration, citizens, green audit working groups and other community groups.
CRITIQUE OF TRADITIONAL APPROACHES OF CITY PLANNING

Generally, Master plan plays a very vital role in the planning system. In large amount of cities town or spatial planning is referred to the planning of the physical structure of development or land-use planning. Some countries are changing and improving the approach of master plan. This planning is an elemental means of town development and management. However, in current times it is much less effective than it could be. European Commission’s sustainable cities and towns campaign group has criticized master plan as

"It is so complex to implement, bureaucratic, time consuming, static and elitist. Most of the strategies of master plan can become old-fashioned, which make the process inappropriate. This type of plan does not consider promotion of public participation so that community groups, target beneficiaries and non-governmental organizations are generally excluded from this method " (European Sustainable Development and Health Series: 3, 1999: 16).

On the other hand, piecemeal planning approach attempts to deal with each individual problem, as it existed in the vacuum, as if it had no effect on other values or problems. It is the process by which the rising problem of the society can be solved for the short-term economic advantage without considering individual and cumulative impacts of economic, societal and environmental issues. In addition, social inequality is dominated by inter communal inequities - pri-mate cities dominate the flow of goods in the international marketplace which limit resource flows to small cities in the third world. Planning in those types of cities should take place at national and regional levels; it cannot be done locally or in piecemeal fashion (Moore, 1983: 116-117).

In both types of planning system, the environmental, social and economical issues are not integrated to achieve sustainability of the city. The new planning paradigm is very important, which will integrate all the aspects of sustainability with the traditional planning system to gain bright future for the next generation that will not hinder present generation’s demand.

NEW PARADIGM OF CITY PLANNING

Addressing the new issue, sustainable development, requires planning professionals to expand their point of view to contemplate economic and social sustainability as well as the environmental aspects of land use. Professionals need to improve greater awareness of the social and environmental considerations of specific types of urban development.

Future cities should be planned more sincerely to address sustainability issue. Urban planning also needs to be changed to reflect a new awareness and to integrate environmental, economic and social issues. New master plans or new neighborhood plans can be guided by a set of community values and a new community visions involving citizens, stakeholders and sustainability issues. In new paradigm of planning EIA and EIS are very important factors, which make planning system more sustainable. Many urban planning researchers realize that the environmental, social and economic factors of environment are complicated and time consuming to implement in practical. The holistic approach, advocated by planning
intellectuals, looks at the interrelationship between the whole person and his or her environment which can also take into consideration because of its detail work on health and sustainability issues carried out by specialized professionals. Most of the cities in the world are mixed of different kind of communities. Unregulated traffic, overpopulation, poverty, industrialization and rapid urbanization affect the citizens’ health throughout the world. Therefore, health is one of the crucial concerns of all city authorities.

The new approach which can create more effective planning system has some components, for instance, community participation, involvement of all stakeholders, coordination among different level of planning, interaction of urban and economic planning, and consideration of all aspects of sustainability. Most of the international organizations recognize the key role of urban planning. The green paper on the urban environment (Report of the European Commission, 1990) and European Union’s Fifth Environmental action programme (Report of the Indigo development, 2006) pointed out that urban planning is one of the instruments that can develop the environment of city area.

Urban planning constitutes a process of balancing and integrating a variety of interests. As an intersectoral approach does not guarantee the sustainability, increasing the integration of city plans tends to increase sustainability. However, the potential for cities to implement policies, plans and programmes towards sustainability depends on its geography, demographic trends, economic structures, cultural aspects and administrative context.

CONCLUSION

The examination of different urban planning approaches and their practice to achieve sustainability throughout the world shows that sustainable city planning process is not so simple. Since the challenges toward a sustainable city are interrelated, the integrated approach that promotes the action in various levels is necessary. This integrated approach of the planning can be achieved by developing strategic spatial plan or integrated environmental planning that have been subject to Environmental Impact Assessment (EIA).

This paper also concludes that an urban plan focusing on the sustainability is not concerned solely with controlling land use. It requires finding policies and means of implementation that achieve social, environmental and economic goals simultaneously. Sustainable development means ensuring better life for everyone, at present and for generations to come. In addition, this paper has set out the steps of policy making and implementation that are necessary to achieve a grand planning approach addressing sustainability issues and its components, which entail building coordination, understanding crucial issues, developing a common vision, planning action, implementation, monitoring and evaluation. Finally, some recommendations have been made as follows to move the urban planning approaches towards sustainability:

1. A suitable national planning structure is needed that persuades a grand planning approach and puts the quality of life and sustainable development high on the urban agenda.
2. The collaboration among urban planning, transport, environment, economy, society and community interests is necessary to remove the barrier among them.
3. A dynamic local authority is essential that weaves the policy threads together into a coherent multi-agency plan.
4. A grand approach of planning with cooperation among different levels of planning and clear clarification of all aspects of sustainable planning is necessary.
5. Strategic national and regional planning bodies must impose sustainability and its issues to their planning system.
6. Neighborhood plan should not confront with national and regional strategies or plans. The local environment must be scrutinized and a wider range of spatial or physical, economical, social and cultural disputes should be considered before a plan is created.
7. The influence of any planning system on the urban area is a matter of long term. Yet strategies should be short term so that action plan can expedite the implementation of the strategic plan.
8. Steady planning system in all levels should
develop, which will ensure the sustainable and healthy environment of city area.

REFERENCES


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CONNECTIVITY IN THE MULTI-LAYERED CITY: Towards the Sustainable City

Bob Brown

Abstract

A new urban paradigm, the global city, emerged in the late 20th Century finding acceptance in discussions of urban development. Tied into a global network of exchange, it exists principally as a place of financial speculation and transaction. It is marked by a parallel economy of culture, which underpins a re-conceptualisation and spatial re-formation of the city. Despite its widespread currency, criticisms have challenged its economic sustainability. Further questions have contested its tendency to impose a singular, homogenized space prioritizing consumption while marginalising other concerns.

Post-independence Riga’s recent experience provides a platform from which to critique the global city paradigm, which the city embraced as it sought to embed itself in the West not only politically but culturally and economically as well. In opposition to this model’s intrinsic singular emphasis and exclusionary tendencies, this text will explore the concept of palimpsest; this proposition understands the city as a multiplicity of layers, within which convergences and divergences offer a site from which to generate synergies. This will be framed in reference to recent discourse on the sustainable city and development practice. Recent design-led inquiry situated in the context of Riga will then provide a lens on palimpsest as an alternative form of praxis.

Keywords: Global City, Palimpsest, Joined-Up, Sustainable.

INTRODUCTION

In the last twenty years a new urban paradigm, the global city, emerged finding acceptance in discussions of urban development, notably in Europe. Its premise was founded on integrating the city into the global economy, networked with other cities into a system of capital exchange. It was twinned with an emphasis upon economic consumption based around culture. This model promoted a prioritization of space as an expression of economic and cultural vitality. The changing face of European cities are a legacy of the primacy afforded this paradigm.

Critics challenged however this model’s singular focus, and the presumption that its growth was unlimited. Further questioned was its tendency to foster socio-economic disparity and a homogenous urban landscape, while other considerations were marginalized or negated. The recent global economic crisis further exposed this model’s shortcomings. What future then for the city? Should we await the return of a rejuvenated economy when this model can be reinstated? Or does a period of economic decline provide an opportunity to think creatively about the city? (Zukin, S. 1996: 58)

This text will outline the global city’s aims and primary critiques. It will then posit the construct of palimpsest as a platform from which to analyze the city and approach its design; this will include consideration of palimpsest’s relationship to current sustainable development practice. It then will use the experience of post-independence Riga to illustrate this discussion, from defining the global city
The Global City Model

The Global City, as coined in Sassen’s influential text *The Global City*, is linked to similar concepts of the contemporary city as a space for a particular type of economic exchange. Despite this model’s apparent primacy as suggested by its widespread adoption, it has been criticized for its marginalization of other discourses and impact on the urban landscape, as well as its economic shortcomings. Both its underlying principles and criticisms are set out below.

Central to the global city are two main concepts. Firstly, it exists principally as a place of business, tied into a global network of exchange. It serves as the locus for a concentration of financial capital and services related to its production, and as a strategic place in the world economy for the control and transfer of capital. (Sassen 1991; Saseen 1996) Secondly, this economic activity is paralleled with an emphasis on consumption, notably that of culture, though distinct from a mass-produced consumer culture. This economy of culture underpins a significant re-conceptualisation and spatial re-formation of the city “that imposes a new way of seeing landscape...connecting it to consumption rather than production”. (Zukin 1996: 59) These two concepts are merged such that the economy of culture’s primary, strategic use-value is to attract economic activity, both as cultural tourism and through encouraging further financial investment.

This intertwining of economic and cultural capital is positioned in a re-formed landscape and accompanying inhabitation that privilege an understanding of the city as a place of cultural and economic vitality. Excluding any lingering remnants of a decaying fabric associated with an industrial past, the global city projects the latest branded version of urbanity. Placed centre stage is the financial district, its presence generated by an agglomeration of activity and need for proximity. (Sassen 1991) Also at the centre are major cultural institutions, accompanied by a proliferation of bars, cafes and restaurants, all serving as a companion element of the consumption of culture.

The global city is echoed in other concepts, such as Carta’s “Creative City”, in which the creative class serve the city’s economic interests. These cities operate on the international stage by optimizing, promoting and selling their culture, including through a reconfiguration of the urban landscape. Various medium-sized cities such as Bordeaux are held up as exemplars. (Carta 2007) Richard Florida’s discussion of cities and the creative class, or programmes like the European City of Culture, are further representations of what are a similar paradigm.

An examination of European cities suggests that the global city model has been widely adopted. This is reflected in their strategic planning policies and embrace of culture-led urban regeneration projects. It is further evoked in the ways that cities have marketed themselves. In their wake have come a proliferation of expanded or new major arts institutions. The selling of the city through mass-spectator events is another manifestation. These developments have fostered parallel offshoots, such as the hotel industry’s growth. Further expansion has occurred in the construction of speculative housing as buy-to-let, holiday or second homes.

Despite widespread adoption, numerous critiques exist of the global city model. Economic concerns challenge its durability and premise of continuous growth. (Sassen 1991) More pertinent here are questions on the viability of the spatial form associated with this model. One such criticism is the homogenization of place imposed on cities. Intrinsically caught up in economic competition, cities have had to literally sell their place, “part and parcel of an ever-deepening commodity culture. The result is that places that seek to differentiate themselves as marketable entities end up creating a kind of serial replication of homogeneity.” (Harvey 1996: 298) What is offered is a likeness of the continental European city, what Gould calls “Cappuccino City”. It reassures us through its trendy architecture, galleries, cafes and restaurants that we too are cultured. (Gould 2009) What emerges however is ‘context less...tied to no place or period’ but consisting of a “true melange of disparate components drawn from everywhere and nowhere.” (Smith 1990; cited in King 2004: 36) This remaking of place to fit the brand follows one
of two strategies. The first is dependent upon a tabula rasa; i.e., a site negated of the actual conditions of place, into which can be projected a new, commodified vision. (de Certeau 1984) The second is based on a sanitization of place; while existing forms may remain, they are wiped clean with only the carcass remaining as some romanticized trace of the past.

Another indictment is the global city’s prioritization of select spatial forms and uses over others through its projection of a singular view of the city; marginalized or negated in this totalizing vision are alternative discourses which might compromise or conflict with the paradigm’s economic aims. Further implicated is the private sector’s role in defining and making place. Facing severe financial constraints, cities have drawn on the private sector for support for both building projects and essential services and management, including what was once in the public domain. As a consequence, conventional notions of public space have shifted from the civic to commercial ‘public’ space. The shopping mall is a typical culprit, but increasingly it is the city street and square that is now under private management. (Kahn 2002; Minton 2009)

A final critique raised here is the global city’s prioritization of a singular economic agenda based on growth which “rests on the decline of what were once significant sectors of the national economy, notably… manufacturing.” (Sassen 1991: 328) Financial speculation works on the movement of capital; thus, maintaining or developing local industry is not a primary goal but is instead supplanted by the ability to relocate capital to where it can secure the most financial gain. This strategy contradicts however concerns about long-term sustainability in the absence of manufacturing, notably that a strong manufacturing sector is essential in generating exports and overcoming budget deficits. (Sassen 1991)

PALIMPSEST AS AN ALTERNATIVE

Recent discourse recognises the city as a multi-layered construct; i.e., a palimpsest. Such discussions extend from the theoretical to the pragmatic, and literal to the figurative. Building upon metaphorical readings, palimpsest is considered here as a framework for analysis and as a way of thinking about both interventions within and a structuring of the urban landscape.

The construct of palimpsest is evoked in various discussions, from Marcuse’s “layered city” to Kahn’s “many cities in one city”. (Kahn 2002; Marcuse 2002) This conceptualisation reflects emerging discussions in ecology on the city as a multi-layered system, and in contemporary discussions of landscape. (Czerniak 2006; Girardet 1999; Whyte 2002) Evolving thoughts on urban histories echo these pluralistic readings, as do philosophical texts on the nature of social space. (Boyer 1996; Huyssen 2002; Lefebvre 1991; Massey 2005) Such dialogue recalls prior discussions which recognised cultures as hybrids. (Bhabha 1990) Even our interaction with the city has been articulated as occurring through a series of filters, built up through prior experience. (Borden 2002; Brown 2011) These discourses stand in opposition to singular narratives that present a totalizing impression of the city.

Extant in the above is a proposition that the city is comprised of a plurality of layers formed by cultural, ecological, economic, political and social actions, agents, forces and structures1. Within this context traditional notions of the city as a collection of people inhabiting some contiguous space and thus having common concerns are suspect; what was once spatially constituted locally has been subject to significant shifts in connectivity brought on by the accessibility of physical and virtual networks of exchange; concurrently, both mobility and diverse and dispersed opportunities have fostered disparate groups overlapping across multiple spaces.

Palimpsest is used here less as a description of a physical layering built up over time and more as a metaphor for complicated reading or deciphering.” (Kenneth Wilson, cited in Designing Social Interfaces) While this layering may be observable through traces imposed upon the physical environment, it is also marked by less tangible but equally present performances (what we do

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1 Actions refers to tactical operations and events in the everyday, carried out by agents (whether as individuals, institutions or organisations acting separately or communally) in the context of wider forces of contextual conditions and as influenced by structures of institutional legislation and policy or socio-cultural norms.
there), the frameworks which structure our inhabitation (e.g., social norms, laws), relationships which occur between people and place, and our memories of place. Moreover, this condition is not a predetermined absolute, static, homogenous or singular, but rather is constructed, changing, heterogenous, and operates at multiple scales simultaneously. Moreover, it does not exist as distinct stratum; rather they interrelate, with overlaps, gaps, adjacencies, conflicts, connections and fusions that exist or lie potent between them.

Palimpsest is useful as a metaphorical device to help make accessible what is a very complex entity. Analysing the city through a framework of layers, which in turn can have distinct sub-layers, is not dissimilar to the modelling devices utilised in other disciplines like economics. They enable examination and reveal information without having to deal with everything; concurrently, the primary intention of palimpsest is to examine the relationships that exist between these layers, notably in terms of connections and dis-connections and what this might reveal both about how a place operates, and the potential for interventions within it. By extension, it can reveal simultaneous and conflicting demands on place. What palimpsest is not intended to do is uncover some underlying truth.

More than just an analytical tool, palimpsest is equally conceptualised as a platform for a course of action. What is proposed is an approach which engages the convergences and divergences between the city’s layers. These provide a site in which to introduce programs for the city’s regeneration, enabling synergies. Such practice echoes other emergent shifts towards “‘pluralistic’ and ‘organic’ strategies for…urban development as a ‘collage’ of highly differentiated spaces and mixtures, rather than pursuing grandiose plans based on functional zoning of different activities.” (Harvey 1990: 40) It is necessary though to warn of the danger that palimpsest, like any other metaphor, should not through its praxis be reified, and thus fix in place dogmatic preconceptions. Nor should it be literally translated into form, with that form equated with any cultural, economic, political or social outcomes.

Critical to this approach is connectivity. This emphasis grows out of an experience of community development and urban regeneration, building particularly upon ideas of joined-up thinking. This recognises that people and/or organisations behind projects can, through working together, achieve enhanced results. Similarly, a project can feed off of existing frameworks and previous successes. It also builds on the potential offered through the linking of different agendas, uses and/or spaces. Moreover, it offers a more sustainable use of resources through the avoidance of redundancies, and its multi-level composition allows for a more dynamic response to changing conditions. (Brown, Kalra and Theis 2005)

Palimpsest is informed by the Sustainable Livelihoods Approach to sustainable community development, which understands that individuals and communities draw upon and make linkages between a range of multiple actions, resources and structures (whether their own or communal) to sustain and enhance their livelihoods. (Ibid) This contrasts with singular approaches which tend to fragment and marginalize, thus limiting the accessibility and/or impact of these efforts. A multi-level approach works within a holistic framework, embedding not only ecological but equally cultural, economic, political and social concerns. Moreover, the aim is not merely about maintaining existing conditions, but equally about enhancing them so that they can grow and evolve. These are ideas which are recognised as good practice in community development today. (Ibid; Turner 1988)

The argument presented here is that these principles, much of it implemented in smaller scale community work, has applicability at the city scale. This case is reinforced by current discussion on the sustainable city, which stresses respecting and accommodating the city’s inherent diversity and complexity, and that wider cultural, economic, political and social issues need to be considered and linked. (Girardet 1999; Register 2006). Such connectedness is seen both as a key challenge and principle of sustainable development. (Muitzwå-Mangiza 2009; Newman and Jennings 2008) Moreover, strategic planning founded on this basis is considered to have a greater potential for fostering and/or reinforcing a sense of place, namely in tying into, protecting and/or reinvigorating important existing cultural, ecological and social frameworks, practices and narratives as well as existent physical conditions. (Muitzwå-Mangiza 2009;
Equally pertinent is the concept of eco-efficiency, which suggests the simple notion of doing more with less, drawing on principles both of recycling and a life-cycle approach to design. (Braungart and McDonough 2009)

Echoing the latter is the construct of generative function. (Brown and Clark 2012) This recognises that any artefact or process can have not only its immediate, designated function, but also that further activities, frameworks, spatial forms and relationships can be engendered through it. This idea is echoed by urban approaches in which “large scale impositions, framed by traditional master plans, are relinquished...” in favour of strategies that “...are open to speculation” and able to dynamically respond to shifting conditions and needs.” (Shannon 2006: 153) Thus urban programmes and building projects might be conceived and developed not only in response to their immediate programmatic functions, but more significantly in terms of what opportunities and synergies they might subsequently foster.

Though current thinking on the sustainable city is still in its relative infancy, a number of cities have progressed development on the basis of joined-up thinking. One of the most notable is Curitiba, Brazil and its multi-dimensional and integrated response to cultural, ecological, economic and social issues. A critical component of its strategic planning links spatial development to infrastructure development through high-density corridors combining transportation with cultural, economic and social amenities and new housing. (Mutizwa-Mangiza 2009) Another example of a joined-up approach to the city is seen in a joint Ethiopian-Swiss study of Addis Ababa. Understanding the city as a fragmented yet dynamic system, they utilise an approach based on designing processes for potential futures. (Angelil and Hebel 2009)

THE EXAMPLE OF RIGA

To illustrate this discussion, this texts draws upon the example of Riga, the capital of Latvia and a city of 700,000 people lying on the Daugava River just upstream from the Gulf of Riga. This examination is not intended however as a specific critique of Riga, but rather utilises Riga’s post-independence experience to reveal some of the problems of its embrace of the global city model. Some ecological and socio-economic implications of this direction will be reviewed. Further discussion will explore an alternative approach to the regeneration of the city based on palimpsest.

Upon independence from the Soviet Union following its breakup, city of Riga (and the whole of Latvia with it) turned to the West as a partner for trade and as a cultural reference point. This was reflected in its embrace of the global city model being pursued across Western Europe, bringing with it significant changes in the economy and fabric of the city. Rebranding itself as a place of business tied into the global network of finance, the city’s stated aim was to recast Riga as the financial metropolis of the Baltic Region and as a gateway city in Europe, with strategic links to other European metropolises. (Riga City Council) A key move was to open its doors to external investment, an invitation which Western investors were only too willing to accept. This gave rise to a massive increase in direct foreign investment. (Ministry of Regional Development and Local Government of the Republic of Latvia) Simultaneously, the city based its economic development on the growth of the financial sector, including those sectors perceived to have high-added value such as communications and consulting services. (Riga City Development Department 2005) Concurrent with this was a shift to other sectors with high-added value, notably hotels, restaurants, recreation and entertainment services. (Ibid) Meanwhile, the city turned away from its manufacturing base; from forming almost 25% of the economy in the mid-1990s, the manufacturing industry shrank to account for only 10% by 2005. (Ruskuls 2009) Riga enthusiastically embraced the Western lifestyle made accessible by this economic climate. Relying upon easily available credit, people bought into the consumer economy. Post-independence Riga witnessed a massive increase in the number of automobiles on the road and the construction of new homes, many of these as part of new suburban developments on the periphery of the city. (Riga City Council)

The related cultural economy of the global city model was pursued with an equal verve. Riga rebranded itself as the cultural and tourist destina-
tion of the Baltic region. (Creative Metropoles; Riga City Development Department 2005) To this end, the city sought to develop its culture, sports and tourism industry, ‘thus facilitating the competitiveness and recognition of Riga on an international level.’ (Riga City Council: 29) Various international arts venues were planned, including a new national library, opera and contemporary arts centre. This strategic remaking of the city fabric was integral with the rebranding of the city. A number of ambitious redevelopment plans were proposed. Fuelled by property speculation, these were to be mixed-use developments of commerce, housing, leisure and retail, punctuated with new high-rise buildings. Together with new iconic arts venues presenting an image of cosmopolitan culture, these urban landscapes would celebrate the “spatial ambitions of the new Riga…a proof of the status of a Baltic financial metropolis.” (Janis Dripe, Riga City Architect, cited in Riga City Development Office and Riga City Architects’ Office 2006)

Amidst the euphoria of the seemingly endless economic boom, alarms were sounded about the strength of the economy. Its fragility was evidenced by a too-rapid growth of domestic product, high inflation (15.4% in 2008) and a high budget deficit; by 2008 central government debt had risen to 17.3% of Gross Domestic Product (GDP), while the overall external debt was at 130% of GDP. This excessive growth was further evinced in property investment, with property prices rising by more than 60% in 2005 and 2006. Adding to this were concerns about the narrowing of the range of exports, and by 2008 a significant gap between exports ($9,634 billion) and imports ($15.65 billion). Overall, economic indicators were raising questions about the economy’s real strength, and vulnerability to external forces. (Latvijas Institute; Riga City Development Department 2005; Ministry of Regional Development and Local Government of the Republic of Latvia) The world-wide economic crisis only further exacerbated what was already an untenable direction. The ersatz economy built on financial and property speculation dissolved as both foreign and domestic investment dropped by 40% from 2008 to 2010, while housing completions slumped by 60% during the same period. Meanwhile unemployment rose from 7.5% in 2008 to 17.1% in 2009. Latvia became the second-fastest shrinking economy in the European Union, dropping from a growth rate of 20% in 2007 to negative 18% in 2009. (Latvijas Institute; The World Factbook)

These conditions also made an impact on the envisioned new urban landscape. Yet even before the crisis suspended those plans, the mas-
sive shifts of land use they posed precipitated spatial conflicts, notably in terms of ecological and social-economic issues. One of these proposals, the redevelopment of the former port area of Andrejsala, is considered here. (Fig. 3) It was to be new mixed-use development housing 15,000 people, with the existing port to be shifted downstream closer to the Gulf of Riga. This proposal reflected the city’s strategic policy of redeveloping the existing waterfront of the river as “high quality business and living environments.” (Riga City Development Department) The proposal didn’t however respond to prevailing sentiments of cultural landscape embedded in a sense of connection to the landscape. This sense of identity still has resonance even for those in city, evoked through ritual and festivals. (Schwartz 2007) Similarly, from an ecological perspective it ran contrary to the city’s longstanding “Blue and Green” policy which recognises and values the presence and protection of water, open green space and forests in the city. (Spatial Plan of Riga City for 2006 – 2018) Questions have been raised by both ecologists and planners about the relinquishing of the riverside to development, and the resultant loss of natural conditions relevant to the ecosystem of the river (i.e., habitat and natural defence systems). Further contestable is the decision to shift the port downstream onto marshland that acts both as a habitat for wildlife and other water-based ecological processes. From a socio-economic perspective the proposal is equally suspect.

It called for new housing, yet for who? Riga has a declining population, dropping from a pre-independence population of 1 million in 1991 to just over 700,000 today. Simultaneously, much of the existing historic urban fabric has been allowed to decay. What is to happen to these areas, and more significantly to those living and working there, is not so clear.

This proposal, and similar others, were driven more by speculative investment than by any real need of the city. They are indicative of how Riga, as other aspiring global cities, operated with a singular emphasis on the generation of capital. This was to be achieved by tying into a global financial network and reformulating itself as a space of consumption, and together with the cultural economy, attract further investment and spending. The problem for the Riga is that having tied itself so singularly to this global condition, it was vulnerable to economic forces beyond its borders. Such dependency does not engender a resiliency to challenges. Short of any alternative programs, the singularly-founded capitalist model of continual inward investment and consumption was exposed. Nor are the proposals for the urban spaces of this model any less vulnerable; the proposals remain merely as unfilled, while speculative housing sits empty awaiting buyers or renters that may never materialize. Yet left behind is a post-industrial landscape, abandoned in the headlong rush towards the global city. These spaces await rejuvenation, not just

Figure 3. Andrejsala as tabula rasa: imposition of a new paradigm on to a negated site. (Image courtesy of C. Lingham)
physically but also ecologically, programmatically and socio-culturally. (Fig 4)

AN ALTERNATIVE FOR RIGA

The city as palimpsest has been a subject of study for several years in the University of Plymouth’s Master of Architecture programme. The setting of Andrejsala provided a challenging site in which to examine palimpsest as a model for sustainable development. Growing out of dialogue and preliminary mapping studies to reveal both the city’s layers and the potential for connectivity, students’ explored and developed propositions that sought to create synergies within a holistic understanding of place. One of these proposals is reviewed here.

Starting from a dialogue with the site owner’s development team, city officials, local architects and academic partners in Riga, students explored alternatives to the existing master plan, the latter based on the global city paradigm. Simultaneously, a series of investigations of the site and surrounding city, based on the construct of palimpsest, was pursued. Parallel worked explored project programmes, based around aims of connectivity and multiplicity of uses. Though their propositions often projected well beyond Andrejsala’s notional boundaries; large scale, definitive and formalised planning were rejected in favour of more tactical and open-ended approaches.

J. Pickford’s and J. Poland’s collaborative proposal acts to stimulate local economic growth while supporting ecological and socio-cultural sustainability. It draws upon mapping which heightened their awareness of two key aspects: firstly a shortage and/or underutilisation of public amenities across the city; and secondly, timber’s place in the past and current context of Riga and Latvia. As noted previously there still remains a strong sense of identification with nature, notably as a cultivated landscape. Also there is a long history of timber cultivation, which still accounts for 30% of exports. Timber is also very visible in the city, not only due to the large amount of forest within the city’s boundaries, but also because a significant number of buildings in the city are made out of wood, though the majority of these are in need of refurbishment.
Timber is also directly related to the project site of Andrejsala, which has and continues to serve as point of transfer for exporting timber. Parallel mappings of the Latvian economy meanwhile revealed that there is a growing sense of the value of, and market for, “green” products. They equally found that once widespread wood-working skills and knowledge (e.g., carpentry, joinery) are now disappearing, while simultaneously there is growing unemployment. Their proposal links these issues together into a cohesive strategy.

At the urban scale they propose a series of programmatic and/or building interventions to both reinvigorate existing and introduce new public amenities across the city. These became sites for new parks, communal facilities or small scale production (e.g., agriculture), as well as focal points for a building refurbishment programme. An armature straddling the Daugava River and centred on Andrejsala strategically and physically connects these sites. This armature acts both as a public space, and a framework off which various activities and building programmes can grow. One such component is an educational facility for training and research on timber construction. Part of this training would be implemented directly through the further constructions built off the armature. Newly-trained carpenters and craftsmen would subsequently contribute to the refurbishment programme across the city, while others might find employment in the production of building components and furniture, housed in armature-based workshops. Further economic activity would be provided...
through timber processing and shipping, tied back into a rejuvenated ecosystem supported by knowledge and skills emerging out of research connected to their proposition. An intrinsic multiplicity in the conceptualisation of this armature allows for flux in its use; a space of industrial production during the week is re-inhabited at the weekend and during festivals as a place of social and cultural gathering, with armature facilities temporarily re-configured as shops and cafes.

CONCLUSION

The city of Riga provided a useful frame of reference from which to consider the construct of palimpsest. With independence it zealously adopted and pursued the global city model. The frailty of this ambition has however been exposed, and its current state reflects the complexity of the situation facing the post-industrial city in developed countries. Recent worldwide economic difficulties have raised only further doubts about the global city model’s validity, and with it the urban planning ideas which it prioritized. The over-reliance on the market-led approach has only further exacerbated this model’s inherent spatial, socio-cultural, economic and ecological inequalities. Given this critique, the time has come to investigate other possibilities.

The design-led inquiry reviewed in this text explored the potential of palimpsest to address such conditions. Connecting into convergences and divergences of wider cultural, economic and eco-
logical networks, and building off these, enabled synergies to be realised. In this sense, ground becomes a space in which all can share; the landscape thus is associated not with any privileged economic interests, but rather through engaging with it as a site of production to benefit a range of socio-economic livelihoods. Such a multi-level approach lies at the core of thinking on and good practice in sustainable development today.

The intention here is not to posit palimpsest as a panacea. It is not intended as a singular answer. Any strategy, if not opening itself up to critique or reconsideration in a new context, runs the risk of devolving into ideology; such thought is how we ended up where we are today. Rather, palimpsest, in the spirit of its metaphorical understanding, is founded on a principle of connectivity. In a number of respects it shares much in common with other emerging urban planning approaches. There remains much to be learned from each. What palimpsest offers is a way of thinking about this situation. It seeks to identify potential connections, and use this as a ground in which to generate a more sustainable city.

REFERENCES


CARTA, M. 2007, Creative City, LIfS, Barcelona.


GOULD, J. 2009, Cappuccino City, lecture presented at University of Plymouth, 21 March.


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CONSERVATION AND MAINTENANCE AS A MEANS OF SUSTAINABLE DEVELOPMENT - Finnish Perspective

Kaisa Broner-Bauer

Abstract
The article deals with the environmental consciousness emerged from the 1970’s onwards, and with subsequent change in the ideology of city planning. The focus is on the development of urban conservation methods and on the maintenance of the built environment, which have marked a decisive shift away from the CIAM theses that dominated urban thinking during half-a-century. The decision to take the existing built environment as the starting point for all actions of city planning and design has been a radical stand for a new approach, corresponding to and paralleling the idea of sustainable development that crystallized in the 1980’s up to the 1992 UN Conference. Grassroots-level strategies are considered important for all actions towards a sustainable way of life. The case of Finland is studied in some detail, with the conservation atlas of the historic milieu as an example of teaching a sustainable approach to environmental planning and design.

Keywords: Environmental Consciousness, Urban Conservation, Sustainable Development, and Conservation Atlas of Historic Milieu.

The science of ecology teaches us that everything in the universe is connected. We cannot separate ourselves from the consequences of even the least of our actions: whatever we do here comes back there. This is the law of the unity of life. Like gravity or any other law of nature, you cannot break it; you can only break yourself against it.

Ek Nath Easwaran (2006:356)

THE EMERGENCE OF ENVIRONMENTAL CONSCIOUSNESS

A significant change in the ideology of city planning took place in the last decades of the 20th century. The theses of CIAM guided architects and city planners from the 1930s to the 1960s-70s, when it was finally understood that these theses were not enough to build a brave, equal and happy world. The idealistic thought of architecture becoming the vehicle by which a new welfare society could be realised was confronted with industrially produced monotonous environments that did not fit local climate and cultural context. Within a few decades such environments sprang up like mushrooms all over the world. The ideology that pursued this modern utopia was miscarried and the only possibility was to make a complete reversal and begin re-evaluating the principles of city planning.

Efficient journalism and comprehensive information about the state of pollution and the problems of environmental policies in different parts of the globe undoubtedly played an important role in the rising of a new kind of environmental consciousness. The gravity of the situation started to become clear in the early 1970s when the first United Nations Conference on the Human Environment was organised. A lively and even radical debate on environmental policy arose, which, among other things, gave impetus to the establishment of Ministries of the Environment in most European countries in the 1970s. At the same time architects, too, began to deliberate on questions of the built environment and the responsibilities of...
planners and designers from the point of view of environmental policy rather than the artistic perspective. This was a fundamental turning point in the history of modern architecture and city planning.

THE CHALLENGES OF CITY PLANNING TODAY - RECENT HISTORICAL BACKGROUND

As a result of the emergence of environmental consciousness and as an opposing reaction to the massive destruction of historical buildings in the 1960s and 70s, cleared away by large urban renewal operations, the field of conservation and maintenance of the built environment has developed significantly in recent decades in the West. Some big European and American cities, where, due to traffic, pollution and dilapidation of buildings, the problems of central areas had already become critical by the mid-20th century, became pioneers in this regard.

One of the crucial moments in the history of architectural conservation occurred in France in 1962 when the so-called Lex Malraux was enacted. This law enabled the declaration of an entire urban district as a conservation area. The neighbourhood of Marais, in the historical heart of Paris, became the first area for which a new comprehensive conservation plan (1969) was prepared. As a result, a process of change started to take place and finally led the entire district to a strong economic and cultural revival. Not only were buildings of cultural and historical interest restored and given new functions corresponding to their status, also modest buildings of historic or cultural interest. One particular focus of the declaration is so-called integrated conservation, which was brought up as a holistic goal to which the authorities of all the member countries should commit themselves (see The Declaration of Amsterdam, 1975).

Integrated conservation implies a public policy of conservation and maintenance of the built environment in which local inhabitants and activities are also taken into consideration. The Declaration of Amsterdam states notably that “the rehabilitation of old areas should be conceived and carried out in such a way as to ensure that […] [it] does not necessitate a major change in the social composition of the residents” […] and that there should be public financial support and fiscal relief (Broner-Bauer 2002: 6-9).

The rehabilitation of the Marais district and other similar operations of urban conservation or urban renewal were favourite subjects of research at universities for Marxist sociologists in the 1970s. These cases provided easy means for proving the functioning and political motives of the capitalist class society in favour of the already privileged citizens. On the other hand, hundreds or even thousands of historic European towns were in similar condition after the Second World War, when their old building stock in downtown areas was about to be destroyed because of lack of investment and rehabilitation. Since the less affluent population, who lived almost for free in those buildings, could not provide any solution to the acute need for rehabilitation and because the owners of the property usually just wanted to replace the old with the new, there was a decisive need for intervention by the public authorities. Likewise, there was a need to re-evaluate the direction of European urban development and the ideology of city planning.

An important step towards the re-evaluation of the principles of city planning and a greater public responsibility for urban rehabilitation and conservation of the architectural heritage was the congress organised by the Council of Europe in Amsterdam in 1975. The congress was held in honour of the European Architectural Heritage Year. As its result, a declaration was published which highlighted not only the importance of monuments and their surroundings, but also the significance of conserving all other urban areas and villages of historic or cultural interest. One particularly important focus of the Declaration is so-called integrated conservation, which was brought up as a holistic goal to which the authorities of all the member countries should commit themselves (See The Declaration of Amsterdam, 1975).

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The concept of sustainable development started in the 1970s. The Club of Rome published its much-debated report, Limits to Growth, in 1972. In the same year representatives from different countries took a stand on environmental protection problems at The United Nations Conference on the Human Environment held in Stockholm. However, it took many years before the principles of sustainable development were officially crystallised. The definition which today has almost become a cliché originates in the United Nations’ Brundtland Commission (The World Commission on Environment and Development) report, Our Common Future, 1987: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The topic was also covered at The United Nations Conference on Environment and Development in Rio de Janeiro in 1992, when the principles of economic, social and cultural sustainability were clarified in relation to ecological sustainability and the limits of natural resources.

UNESCO has also acted in favour of sustainable development and protection of the architectural and, more generally, the cultural heritage. Its first major achievements were establishment of ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) in Rome in 1959, and then, in 1972, The Convention Concerning the Protection of the World Cultural and Natural Heritage. Advancement of sustainable development is included in UNESCO’s mission, and it works actively to achieve the goals set forth for 2015, recorded in the United Nations Millennium Declaration.

Human activity is responsible for environmental and atmospheric pollution largely causing the current climate change. Scientists show that 2°C of global warming would have serious consequences. As architects and city planners we are concerned that buildings cause about 40% of all energy consumption. The other major energy consumers are industry and transportation (Vapaavuori 2010: C14). This means that all of us who live in...
cities and who participate in environmental planning and building design play a key role both in raising ecological consciousness and in practical actions. Responsibility cannot be laid upon others.

THE FINNISH LEGISLATION AND MAINTENANCE OF THE BUILT ENVIRONMENT

In Finland, the principle of sustainable development was included in the legislative reform of 1999, when it was written into both our country's Constitution and the Land Use and Building Act. Thus, the Finnish Constitution states that "the responsibility for nature and biodiversity, the environment and the cultural heritage belongs to everyone. The public authorities will endeavour to secure for everyone the right to a healthy environment and the opportunity to influence decision-making concerning their own living environment." (§20)

Similarly, the general aim of the Land Use and Building Act was set down to create the requirements of a good living environment and to promote sustainable development ecologically, economically, socially and culturally. (§1) In addition, the Act states, inter alia, the objectives of

- Land use planning to promote protection of the beauty of the built environment and of cultural values through interactive planning and sufficient assessment of impact. (§5)
- Building guidance to promote construction that is socially, economically and culturally viable with sustainable life cycle properties and based on approaches with creation and care of cultural values. (§12)
- The built environment and the natural environment must be preserved and their special values must not be destroyed. (§54)

The Land Use and Building Act of 1999, the Church Act of 1993 and the recently enacted Built Heritage Protection Act of 2010 currently form the legislative basis for architectural conservation and maintenance of the built environment in Finland. Besides the individual sites and buildings of special value protected by the Built Heritage Protection Act and the Church Act, there are several thousand regional sites preserved by the means of master and town plans. The law reform of 1999 had historical and ideological significance in the sense that since then the existing environment, rather than any change-oriented vision of the future, had to be the starting point for all planning.

The Land Use and Building Act also emphasises participation of citizens and interaction between authorities and citizens in decision-making. This is particularly important with regard to conservation of the cultural environment. However, in practice this is the weak point in the Finnish system of conservation because the decisions made by the preservation authorities are frequently made with no regard for the way of life of the inhabitants and their need for changes in their environment (cf. El Harouny 2008). Nevertheless, interactive and resident-oriented decision-making is one of the basic values of sustainable development.

Interactive environmental planning and architectural conservation require profound knowledge of the target environment. For this reason, inventories of cultural environments form the fundamental data for all intervention, while it is also necessary to obtain basic knowledge about local history and the cultural heritage, and to hear the inhabitants’ opinions. Only on the basis of extensive surveys is one able to define the objectives of conservation in the plans. The master plan indicates the use of areas and building locations, to which detailed restoration and renovation instructions may be added. Land-use planning is complemented by municipal building codes tailored to local circumstances.

Finland currently has relatively good laws on land use and building as well as on building protection, provided that their application is further developed in practice and interactive decision-making is increased.

In recent decades there has been plenty of national and international discussion on values and their definition. For example, the problems of value classification for UNESCO's World Heritage List in different cultural contexts have aroused a lot of debate. Since all planning and design concerning the existing building stock and environment are based on evaluation of the existing situation – in Finland it is even prescribed by law – it is clear that a value debate has been inevitable. At the moment, one of the acute topics is the definition of such...
intangible values that concern certain categories of special features or cultural expressions related to buildings or places like, for example, identity and integrity, which have not been taken into consideration earlier (cf. e.g. Green Lines Institute, Sharing Cultures 2009 – International Conference on Intangible Heritage, Azores, Portugal).

**EARTH CHARTER AND THE STRATEGIC IMPORTANCE OF CIVIC ACTION**

Efforts towards sustainable development and ecological sustainability in particular have long been a central theme on the agendas of the United Nations and its member states. Yet, the actual goals (for example, reducing emissions so that the critical limit of 2°C of global warming would not be exceeded) are still far from being realised. The December 2009 international meeting in Copenhagen took as its objective achievement of a collectively accepted strategy that would radically reduce emissions on a global scale, but still left behind some strong feelings of disappointment.

International declarations are necessary when defining common objectives and principles, while the purpose of national legislation is to create a legal framework for civic action. Since environmental problems do not respect local or national boundaries, grassroots-level action is essential. This means defining the objectives of action on the level of local actors – along with guidelines focused on concrete situations and giving directions for making choices.

As a counterbalance to the years of dispute between governments, a variety of national and international environmental protection movements have been established by individual groups of people. One such NGO is the Earth Charter Initiative, founded in 1997 and operating worldwide as a network for various national and international environmental organisations and grassroots environmentalists.

The mission of the Earth Charter Initiative is to promote the transition to sustainable ways of living and a global society founded on a shared ethical framework that includes respect and care for the community of life, ecological integrity, universal human rights, respect for diversity, economic justice, democracy and a culture of peace. ([www.earthcharterinaction.org](http://www.earthcharterinaction.org))

The Earth Charter is in itself a declaration of 16 fundamental ethical principles. The first version of the declaration was written in 1997. It was modified to its current form at a conference held at UNESCO headquarters in Paris in 2000. It was made public the same year in a festive ceremony in the Peace Palace in The Hague. In the following years over 2000 organisations, including UNESCO and the IUCN (International Union for Conservation of Nature), and thousands of private people have joined the Earth Charter.

The Earth Charter establishes a standard of ethical principles of sustainable development and ways of living on the planet. The declaration consists of four policy categories, which also form the basis for the Organization’s mission: (I) Respect and care for the community of life, (II) Ecological integrity, (III) Social and economic justice, (IV) Democracy, nonviolence and peace.

The declaration affects all walks of life. The perspective of conservation and maintenance of the built environment is more closely touched upon in section (II), relating to ecological integrity, particularly in paragraph 7, titled “Adopt patterns of production, consumption and reproduction that safeguard the Earth’s regenerative capacities, human rights and community well-being.” The following five principles can especially serve as guidelines for city planning and urban conservation:

- Reduce, reuse and recycle the materials used in production and consumption systems, and ensure that residual waste can be assimilated by ecological systems.
- Act with restraint and efficiency when using energy, and rely increasingly on renewable energy sources such as solar and wind.
- Promote the development, adoption and equitable transfer of environmentally sound technologies.
- Internalise the full environmental and social costs of goods and services in the selling price, and enable consumers to identify products that meet the highest social and environmental standards.
- Adopt lifestyles that emphasise the quality
of life and material sufficiency in a finite world.

(www.earthcharterinaction.org)

As we strive towards sustainable development, the key question points to our everyday life. The Western lifestyle with its excessive energy consumption is not sustainable. Nevertheless, the world continues to evolve towards higher mobility and our milieu is more and more dependent on electricity-consuming devices. Perhaps the most important issue concerns the availability of non-polluting and renewable forms of energy for the production of electricity. In northern climates, building heating during the cold seasons consumes much energy. It is likely that new types of power resources will be discovered in the near future. Wider use of traditional renewable forms (wind, solar, geothermal, wood, etc.) requires development work and consumer education. Unnecessary consumption has to end. While this applies to our everyday habits, it also points out our choices in city planning, building design and maintenance of the built environment.

STRATEGIES OF MAINTENANCE OF THE BUILT ENVIRONMENT IN FINLAND

In 2001 Finland adopted an important document, National Strategy for the Built Heritage. Accordingly “the built heritage is an irreplaceable national resource, the preservation and good maintenance of which is a common goal and a specific objective of the government.”

The aim of the National Strategy for the Built Heritage is:

- that the built heritage be passed on to citizens and future generations;
- that conditions be created so that the economic and cultural surplus value of the built heritage is greater than its additional maintenance cost;
- that besides its cultural significance, the built heritage be preserved for strengthening the national and local characteristics and identity as well as for being a resource in inter-regional competition;
- that economic conditions for maintenance of the built heritage be ensured;
- that contemporary architecture support preservation of the built heritage development;
- that the diversity of the built heritage be preserved;
- that built heritage affairs be managed efficiently and in a customer-oriented way;
- that diverse, broad and active civic and government activities be promoted in favour of the built heritage.

The great significance of preserving the local built heritage has been understood only during the last couple of decades. Before the existence of The National Strategy for the Built Heritage, the Finnish government had adopted an architectural policy programme in December 1998, an important first national step in favour of good environment and construction practice conforming to sustainable development (Finnish Architectural Policy 1998). While the purpose of the programme was to set up objectives for public policies and legislation to promote architecture in particular, it implicitly contained a strategic vision for conservation and maintenance of the built environment. The programme charts ways of improving construction quality and giving content to the principles of sustainable development in architecture and city planning. Preserving the built environment is essential to the programme. When we save the environment, we strengthen economic and ecological sustainability, and when we support local characteristics and identity, we strengthen cultural sustainability. Interactivity and openness in decision-making support and generate social sustainability.

One concrete results of the Finnish Architectural Policy programme has been the development of so-called regional architect activity. This has increased architectural expertise especially in rural areas. It is important that this activity continues to receive public support so that the role of regional architects as experts of rural cultural environments is maintained.

In recent years the Finnish Architectural Policy programme has set an example for municipalities making their own architectural policy programmes. For instance, the city of Oulu has its own programme, approved in 2002. The city of Helsinki
and the province of Uusimaa (2009) have their own programmes. It has now been realised that “an architectural policy programme promotes good architecture, a sustainable and dynamic high-quality living environment, preservation of the built heritage and maintenance of the built property” (Uudenmaanpyyristökeskus et al. 2009). As in the national architectural policy, the place given to conservation and maintenance of the built environment is central in municipal and provincial architectural policies. The town plan is the most important tool for conservation planning on the municipal level. On the regional scale, conservation strategies for the built environment and cultural landscapes are formulated bycultural environment programmes.

CONSERVATION ATLAS OF THE HISTORIC MILIEU

The inner meanings of the cultural heritage form the values of the built environment, and environmental planning and design include conservation and maintenance of that heritage. The original characteristics of the local building culture are important resources for survival and competition in inter-regional interaction, both nationally and internationally. Due to rapid social transformation, former centres may lose their importance and new ones will rise. Therefore, locals need their own identity. Thus, the challenge of environmental planning and design is to deliberate on the specific characteristics of regional sites.

How can historic areas remain as lively environments and as resources for development? Or differently stated: How does a historic town or site meet the present and how is it regarded on the level of conservation and city planning? (cf. Broner-Bauer 2002). These questions were the starting point when in the early 2000s we began to elaborate a practical assignment for architecture students of our course on “Conservation and Maintenance of the Built Environment” in the Department of Architecture at the University of Oulu. The name given to it was conservation atlas of the historic milieu. As the name atlas implies, it is a compilation of different design measures and conservation proposals presented for the historic milieu in question. This atlas presents analyses and proposals and looks for ways of discovering and strengthening the identity and integrity of the target area. Architecture students prepare the atlas in two stages: the first stage has two parts, both carried out in small groups, and comprised of a set of analyses of the environment in question and its evaluation. These then become the basis for the second stage, which includes the students’ individual conservation and design proposals.

The conservation atlas aims to protect, clarify and develop the integrity and identity of the multiform, constantly changing urban milieu. It also aims to examine how the identity of a place is formed, how it is expressed in the built environment and how the identity and values of that place can be strengthened in a sustainable way. The project focuses on the stratification of the historical urban milieu, the elements that constitute its identity, the historical process of change in it and its present state. The local history and current condition as well as the interaction between the community, its activities and the use of buildings and the built environment are also explored, in addition to the area’s cultural and historical values defined in terms of architecture and townscape. Also, the values of individual buildings and their significance as a part of the local urban culture, townscape and its stratifications are examined.

The data form the basis for the conservation atlas of the historic milieu. In the atlas, the values of place and the relevant factors of identity are described and potential strengths and problems are demonstrated. Proposals for action are presented in the atlas as well.

Potential new buildings, as well as recommendations for conservation and infill building in terms of morphology and typology, materials, colours and details, are planned so that the cultural and historical values, the atmosphere and other local values of the place are preserved. The goal is to demonstrate that the local factors of an authentic urban culture are an intrinsic part of a layered townscape.

The conservation atlas of the historic milieu includes the following:

Analysis
With the help of documentation and surveys, per-
sonal acquaintance with the target area and examining place with its different features, we can find the essential values based on history, tradition and socio-cultural environment which are implicit in the physical environment including buildings and streets, geography and nature.

**Evaluation**
The evaluation of the target area is carried out in the analysis phase. The material and immaterial values of the places and buildings that engender the local identity are defined.

**Application: Conservation and Design Proposals**
In the second part, the recommended measures and guidelines are described. Different proposals for architectural conservation and maintenance as well as design drafts for selected places in the historic milieu are presented.

The conservation atlas has been a practical exercise for architecture students of this course since 2002, and has produced fresh proposals for urban conservation and development areas in Oulu and other nearby Finnish towns. In 2006 some of the students took part in an international architectural competition “Appel international à idées / une idée pour chaqueville” organised by Le Carré Bleu magazine for advanced students and young architects. The competition was held under the patronage of UNESCO’s, and its special theme was water. Our students’ proposals comprised their personal work for the Nokkala area along the Oulujoki River. There were about 250 participants with 82 projects. Among the ten winning projects were two from our Oulu students (See Le Carré bleu annexe 2, 2007).

**TOWARDS CULTURAL-ECOLOGICAL CONSCIOUSNESS**

Protagonists of sustainable development have often quoted the letter sent by Indian chief Seattle to the US president in 1854, when the president made an offer to buy their land.

> You must teach your children that the ground beneath their feet is the ashes of our grandfathers. So that they will respect the land, tell them that the Earth is rich with the lives of our kin. Teach your children what we have taught our children, that the Earth is our mother. Whatever befalls the Earth befalls the sons of the Earth. If men spit upon the ground, they spit upon themselves. This we know – the Earth does not belong to man – man belongs to the Earth. ([www.halcyon.com/arborhts/chiefsea.html](http://www.halcyon.com/arborhts/chiefsea.html))

All paragraphs in this letter contain humble wisdom and respect for the earth and for life – an ecological consciousness on which the ideas of sustainable development are still based today. Without the ability to respect, it is not possible to become conscious of the law of the unity of life, which for its part is the basis for all ecological thinking and science.

The philosopher Martin Heidegger has written about the meaning of being a human on the earth. According to Heidegger, being a human means to dwell “on the earth and under the sky.” “The nature of building is letting dwell” and “only if we are capable of dwelling, only then can we build” (...). In the words of Heidegger, dwelling on the earth and under the sky, however, also means “remaining before divinities” and includes a “belonging to men’s being with one another.” “By a primal oneness the four – earth and sky, divinities and mortals – belong together in one.” According to Heidegger dwelling thus means being in the “fourfold” – or living in oneness. (Heidegger 1975: 147-160)

> What does dwelling mean in everyday life and practice? According to Heidegger “mortals dwell in that they save the earth.” Saving the earth does not mean exploiting and wearing it out or mastering it, not to mention subjugation. “The basic character of dwelling is to spare, to preserve.” (Ibid. 150)

Sustainable development concerns all of life: economic, social, cultural and ecological sustainability. Only with harmonious unity of all these different dimensions can we achieve what we now call sustainable development. Though today’s mankind, numbed by materialism, has to struggle in order to become conscious of what respecting the earth and life means to each one of us, the law of oneness has been an obvious principle for the wise through the ages. By adhering to their noble sentiments we can say: Being man means living in
harmony with the earth and the sky as well as with people, it means showing respect to life and nature, and that in turn means appreciating, preserving and continuously maintaining our living environment and built heritage.

REFERENCES

BRONER, Kaisa (1986), New York face à son Patrimoine. Le secteur historique de SoHo, Pierre Mardaga (Collection “Architecture + Documents”), Bruxelles.


Le Carré bleu annexe 2, 2007

“Chief Seattle’s Speech of 1854.” www.halcyon.com/arborhts/chiefsea.html


Oulun arkkitehtuuripoliittinen ohjelma (2002). Oulun kaupunki, Oulu.


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ADAPTIVE RE-USE AND URBAN REGENERATION IN DHAKA - A theoretical exploration

Quazi M. Mahtab-uz-Zaman

Abstract
At a time, when there are world-wide calls for sustainable building design and construction focusing on building adaptation and remodeling rather than demolition and replacement, a local system of remodeling and functional adaptation has been applied in many residential and commercial buildings in Bangladesh. Focusing on case studies in Dhaka city where major urban regeneration takes place, building adaptation is an emerging practice where economy has a critical role to play in convincing client, users, designers and builders to encourage the local method of adaptation process to suit the changing need of the occupants.

A case of adaptation of a residential building has been studied to generate an understanding of the local adaptation process. This process is found in many parts of the inner city built environment, which collectively affects urban regeneration process and reshape the urban form of the city and its edge condition. Findings from the exploratory studies suggest that despite the absence of Habraken’s support-infill knowledge, the local practice of adaptation can be institutionalized as a sustainable building development process that is more economic and place-responsive approach than rebuilding.

Keywords: Adaptability, Habraken, Urban Regeneration, Urban Form, Sustainable.

INTRODUCTION
This paper is an upshot of an exploratory study of the contemporary trends and practice of urbanization process in Dhaka, capital of Bangladesh, where building adaptation is a growing trend and a method popular among business entrepreneurs. Adaptive reuse is considered to be one of the several methods of urban regeneration. Despite the common process of building demolition and rebuilding being popular methods of increasing density and transforming land uses, adaptive reuse has generated an interest of making perpetual signature of landmark buildings – a desire for both architects and new users, such as, private banks, restaurants, customer services of key mobile phone companies, corporate offices, boutique shops, and guest houses.

RESEARCH QUESTIONS: AIMS AND OBJECTIVES OF THE EXPLORATORY STUDY
The exploratory study which is discussed in this paper highlights the underlying notion and praxis of local adaptive reuse. The paper attempts to respond to several research questions by ways of theoretical underpinning of the subject of adaptable design; its effects on urban regeneration; historical reasons for the emergence of adaptive reuse in urban development; and economic and environmental benefits of adaptive reuse.

The research questions, which reflect the aims and objectives and are central to the exploratory study, are:
- Why adaptive reuse is becoming attractive to architects and corporate clients?
- Why the praxis of adaptive reuse sustains in
the changing market of real estate where adoption of high density new development is a growing trend?

- What are the tangible outcomes of adaptive reuse in urban design and development of the city as a whole?
- Is there any potentiality of the local adaptation methods to be institutionalized?

To seek for the answers to the research questions, a closer look at the urban regeneration of selected part of Dhaka city is taken as a case of analysis where building adaptation is seen as a proponent of generating new urban forms and edge condition for the city.

**RESEARCH CONTEXT**

Dhaka city has been in a process of transformation (figure 1) due to the demographic shift (Mahtab-uz-Zaman et al. 2000); emerging real estate market and the globalization of trade and production. These have generated rapid inner city regeneration by way of redeveloping low rise and low density built forms (figure 2) into high rise and high density built forms (figure 3, 4, 5 and 6).
BACKGROUND TO HISTORICAL REASONS FOR ADAPTATION

Theoretical underpinning: Adaptive Reuse

Burchell and Listokin (1981) defined adaptive reuse as a process of revitalization that utilize a sequence of simultaneous methods of planning, making inventory, acquiring, managing and reusing surplus of abandoned real estate. The land or building which is being considered for adaptive reuse had a previous use that is no longer suitable and profitable in the current economic environment, thus require demolition or rebuilding. By adaptive reuse, potential value of the property can be maximized by infilling new use and adding aesthetic value while retaining its structure and character. Adaptive reuse fundamentally responds to the changing real estate market, economic demand, and need of new land uses in a city, all of which collectively bring vitality to the city.

Arrivals of new gadgets, information technology, electronic transaction, new appliances, modern interior finishes are demanding spaces that embody state-of-art interior design and innovative space planning. The inclusion of new space standards is easy to accommodate within the existing structural framework by fit-in process and retrofitting existing fabric and structure. Although inclusion of new elements reflects rising expectations that is often costly, but failing to respond and accommodate such changes is costly as old fabric is difficult to maintain and generates low rental values while maintaining high land value and tax.

Obsolete facilities, such as, antiquated, old fashioned and out of date infrastructure and services attached to the old buildings remain as burdens on their owners and users (Iselin D. J. & Lemer A. C. 1993). The presence of out-of-date electrical networks and service systems poses additional cost to maintain and rather demand for demolition. Retrofitting is seen as one of the options that categorise the adaptable building as ‘green’ building by extending the life span and reusing the embodied energy of the structure.

SUSTAINABLE ISSUE OF BUILDING LIFE CYCLE IN ADAPTIVE REUSE

The life of a building is considered to be the economic life, reflecting the time frame during which the asset is able to make a positive contribution to the financial position of its owners, both present and future (Ballesty S. & Orlovic M. 2004). Myers and Wyatt (2004) stated that sustainable urban development means the significance of the inert values of building stock as referred in terms of economic, social and cultural capital that should not be neglected. Adaptability refers to the ability of building structures to contain significant transformation to accommodate changing need of users, over the course of a building’s lifespan. This change is essential as evident from social, economic and physical demand, and in the needs and expectations of occupants. When a building is more adaptable, it will be utilized more efficiently, and remains in use for a longer period of time at
lower cost and improved environmental performance (Russell P. and Moffatt S. 2001) than would be the case if demolished and replaced. Therefore, the life span of a house reflects the changing needs of the inhabitants as they continuously refurbish and readjust their living environment (Premius H. 1993).

As building design and development process is regarded as complex, non-liners, and uncertain, and also involving both natural processes and human values (Lifson M. W. and Shaifer E. 1992), adaptive reuse reduces the complexity of time, cost and energy. The concept of adaptability originates with the idea of simple strategies, such as, Flexibility, or enabling minor shifts in space planning; Convertibility, or allowing for changes in use within the building; and Expandability, (alternatively shrinkability) or facilitating additions to the quantity of space in a building (Habakken J. 1972). In practice these strategies can be achieved through changes in design, and through the use of alternative materials and technologies.

**URBAN REGENERATION AND IMPLICATION OF ADAPTIVE REUSE**

Adaptive reuse has become a popular and widely accepted strategy in architectural conservation and urban regeneration. In America, it has developed from the concept to industry creating 24 billion dollar tax per year (Diamonstein B. 1986). Adaptive reuse of old buildings has demonstrated the probability of extending and maximizing the hidden value of real property and provides a process for re-employment in terms of building remodelling for new uses, creating new tenants and employment, and recreating business opportunities adjacent to new uses (Burchell R. W. and Listokin D. 1981). In case of adaptable reuse in Dhaka, a market for specialist construction workers have been generated with the skill and knowledge on various techniques involved in remodelling works. Adaptive design process is seen as a strategic tool to revitalize neighbourhoods and renew dilapidated urban areas as part of regeneration objectives. Adaptive reuse focuses on enhancing the vital attributes of a building by increasing the value of the reused property and, thereby, generating additional government revenue and stimulating local economy, which otherwise cannot happen in old and unused buildings (Latham D. 2000). Adaptive reuse significantly changes the neighbourhood profile by adding new residents and commercial tenants to run down neighbourhood and triggers renovation or development of the surrounding infrastructure (Zielenbach S. 2000), although most sociological studies downplay or ignore the theoretical stance that building conversion and adaptive reuse are significant factors in neighborhood transformation (Grogan P. and Proscio T. 2000; Greenberg M. 1999; Kramer J. 2000).

Burchell and Listokin (1981) also speculate that the conditions of a property and its building features should be considered in the decision making process of selecting a reuse outcome. According to them, residential conversion is the best option for good structural conditions as seen in many instances in the residential properties in Dhaka, which were built in strong load bearing structures that can easily be remodelled. Economically the process of adaptive reuse helps to capitalize the inert value of the property and use that value to extend the life span of the building.

Mallach (2006) pointed out several attributes as prerequisites to a successful reusable potential of an adaptable building, such as, the size of the building; the architectural or historic quality of the building; character of the building relative to potential market demand; and recognising the environmental implication of adaptive reuse. Urban regeneration process is inevitable in a city due to the demand for revised density and function. Demolition without remodeling requires very high leverage on energy use and wastage of embodied energy.

**CASE OF DHAKA MEGA CITY AND URBAN REGENERATION**

Dhaka city reached mega-city status having population of 15 million seeking housing increasingly on 304 square kilometer of land. Urban regeneration is the only method being adopted to accommodate additional population that supports the underlying arguments of Simons and Choi (2010) that the redevelopment activities of underused properties
are caused by demographic changes of neighbourhoods (Burchell R. W. and Listokin D. 1981; Mallach A. 2006 and Mian N. A. 2009). Higher density housing through remodeling is seen as a strategic development option (Mahtab-uz-Zaman Q. M. 2003), although evidence suggests that underused public lands could be utilized efficiently to accommodate additional number of population. It is also profitable for land owners to invest on land by pulling developers in partnership with them, which allows robust development on the potential land (Mahtab-uz-Zaman et al. 2000). Government can enforce land and property tax to instigate productive uses on under-used land and properties.

There are reasons for remodeling as seen in the case of Dhaka, which are:

a. locational advantage;

b. land owner resistance in establishing partnership with developers, as land owners often being immigrated to overseas countries leaving no one to look after their properties;

c. corporate offices offers high-end rent and deposits to land owners;

d. high income on limited investment as most of the redevelopment is being carried out by the corporate offices or banks;

e. land can be retained by the land owner for a longer period of time which would allow owners to explore more options, such as, high return on low investment through developed houses or corporate offices.

**CHANGING ECONOMY AND EMERGING SERVICE SECTORS**

Bangladesh has been in a process of moving into service sector by generating banks and retail outlets, which aim for central location in the city for corporate advantage and demands. Private Banks emerged as a response to the increasing export-led businesses and manufacture industries in the country, which demands for more office spaces in central locations, thus, creating pressure for land and building re-adjustment. This re-adjustment is causing land price to increase and create pressure for residential spaces to move out and make way for commercial buildings being economically viable (Figure 7 and 8).

**CORPORATE IDENTITY AND ADAPTIVE REUSE**

Buildings reused for banks and private enterprises are taking advantage of the adaptation method. This process originated mostly from one or two storied residential building with ample surrounding open spaces. In order to sustain images in the corporate market, banks and private enterprises use these residential buildings taking advantages of landscape and parking spaces (Figure 9 & 10).
REASONS FOR EMERGING MARKET OF ADAPTIVE REUSE IN DHAKA

There are advantages to the adaptation process, as seen by the developer and lease holders:

1. It is cheaper to remodel than demolish and reconstruct the entire building to remain functional,
2. As corporate offices demand for individual identity and independent space, these offices find lower cost to invest on remodeling than buying small space in high-rise office buildings,
3. Land owners receive high profit on ‘no investment’ as the remodeling is being carried out by the corporate offices themselves,
4. Landscape can be an additional element of attraction for the corporate offices, which enhances the image of their corporate identity,
5. Building users or corporate office users have full to partial control over the design development of their premises, which supports the notion of Zeisel (Zeisel J. 1984) where ‘user-needs’ gaps can be lessen to a greater degree,
6. Extending economic life of building is seen as sustainable (Civan I. 2008).

Observing the local practice in Dhaka and by interviewing few architects engaged in the adaptive process, adaptive buildings are economically lucrative due to the lower development cost. The various methods of saving the development cost are: a) removing the cost of building demolition and clearance of the site; b) lowering the design; structural, materials and civil engineering cost by reusing the old super-structure, services and foundation; c) minimizing the redevelopment cost by shorter construction time and downsizing construction related workers (in most of the cases, a soft changes in structure were applied); d) fast recovery of investment due to shorter construction process; and e) lowering interest on loan or capital investment.

ZONING LAW AND INSTITUTE OF ARCHITECTS FAVORING ADAPTATION PROCESS

Professional Institutes in Bangladesh begin to recognize the importance of adaptive reuse as evident in one of the jury citation of adaptive reuse of office for Syngenta (BD) Ltd. at Lalmatia, Dhaka, Bangladesh (Figure 11a & 11b).

**Jury Citation:** “An ordinary residential building has been dexterously converted into a well-integrated building with a simple well-proportioned four-storied exterior, housing two extremely different uses. Structural clarity, a welcome restraint in the use of materials, careful detailing, a good understanding of the techniques of modulating spaces permeate through both the sections, setting a strong single theme. .................” – Excerpts from Institute of Architects Bangladesh Jury Citation.

CORPORATE HEAD OFFICE OF
Quote from Architect Taimur Islam: “Working within a very compact design brief, the architects had to make calculated interventions in an existing building to create a number of focal points accentuating different architectural elements such as entry, court, lobby, circulation, etc. ............”


Further zoning law, as stated in the Building Regulation Act 2005, favors conversion of residential into commercial use only in the cases where
land uses are located along the major roads. Figures 12 and 13 indicate significant road network and changing urban edge condition.

INTERIOR DESIGN AS A MAJOR STRATEGY IN ADAPTIVE REUSE

Interior design plays a major role in the refurbishment of converted structure (Figure 14). It is the responsibility and skill levels of the interior designers and architects, which produces corporate images of the clients (Figure 15).

LOCAL METHODS OF ADAPTIVE REUSE

For most of the cases of remodeling being carried out, the original construction method poses challenge in reconstruction works as buildings often are made of load bearing construction walls.

Architects use innovative ways to apply adaptation methods (Figure 16 to 19), such as,

1. Underpinning method to infill frame structure within the load bearing structure,
2. Soft to hard changes to existing load bearing wall depending on the spatial planning,
3. Infill of additional services, such as toilets and fixtures,
4. Partial demolition of roofs to create double height space in the main lounge and lobby, and
5. Precast and prefabricated stairs to connect to various levels of space being created by remodeling.

Remodeling of old buildings allows lower wastage of materials and enhances higher reusable capacity of the existing materials and spaces.

It is a common practice to reuse the demolition waste for pavement and parking spaces. Remaining construction waste is taken to other construction sites for land filling. By doing this, cost of building for new use can be minimized as seen in the case of two adaptive reuse cases: Mobil House in Gulshan and Syngenta (BD) in Lalmatia. Architects involved indicated an approximation of the cost components of adaptive reuse:

1. Cost of demolition – labor cost (minus demolition waste, which were sold to other land fill site);
2. Cost of architect, engineers, surveyor, contractor and estimator fees (20% less than new building design);
3. Cost of new materials on same building volume and footprint (30-40% added to old structure)
4. Cost of electrical and plumbing repositioning (30% more that a new building construction due to increase of lighting, appliance, gadgets, air-condition, additional toilets and fixtures);
5. New landscape and parking layout (new cost added to the total cost)
6. Cost of planning permission for change of use and layout of the building (similar to the cost of a new building design)

Above costs are indicative of the actual cost incurred in the adaptive reuse. The remodeling cost is approximately 30% less than the cost of new comparable structure at the current market price in 2005 (source: Architect Mahbuba Haque). In these cases, land price was not included as the owner.
Figure 16. Existing Residential Building (source: Mahbuba Haque. 2006)

Figure 17. Conversion of the same residential building into corporate office (Mobil House) (source: Mahbuba Haque. 2006)

Figure 18. Existing Plan of residential building (not to scale) (source: Mahbuba Haque. 2006)

Figure 19. Converted Plan of Mobil House (not to scale) through adaptive reuse (source: Mahbuba Haque. 2006)
retains the land ownership until the market shows high return on investment.

**SIGNIFICANT OF THE CASE STUDY - LESSONS FROM LOCAL PRACTICE**

Adaptation of structures to new uses plays significant and diverse role in urban change reflecting on social, economic and cultural revitalization of cities (Dickinson J. 2004).

The case study illustrated in this paper raises number of issues addressing urban values, such as,

a. Environmental sustainability
b. Economic benefits
c. Urban environment
d. New urban edge condition
e. Green building initiative

a. Environmental Sustainability: In case of Dhaka, old structures contain materials with high embodied energy and cost (adding inflation cost), which can be preserved and recycled. Extending the residual life of existing buildings indicates the notion of sustainability by lowering material, transport and energy consumption and pollution (Bullen B. A. 2007; Douglas J. 2002).

b. Economic Benefits: According to ‘American National Trust of Historic Preservation’ conference in 1976, discussion held on the likelihood of rehabilitating old building can save 1/4 to 1/3 cost compared to that a new one (Qingquan L. 1995). In Britain, evidence shows a 50-80% cost saving compared to new construction (Highfield D. 1987). A successful adaptive reuse should be less costly than rebuilding comparable volume of structure, as demonstrated in the cases in Dhaka.

c. Urban Environment: By conserving the low rise buildings along the main road, a degree of visual relief is being created. Most of the adaptable buildings have greeneries and open space which serves collectively as breathing space. This coincides with the new building regulation of Dhaka city, which strictly stated the need for keeping designated open space for greeneries and for ground water recharging. Bromley et al. (2005) and
Balaras et al. (2004) advocated that the existing building stock has the greatest potential to lower the environmental load of the built environment by way of reducing construction related pollution and avoiding loss of potential embodied energy old buildings possesses.

d. New urban edge condition: A series of adaptable buildings together with newly built multi-storied buildings create a variety of urban edges that are aesthetically enriching and help break monotonous skyline (Figure 20 to 22).

e. Green Building Initiative: Adaptable reuse of building maintains a process that relates to green building practice elsewhere and require calculations against the established international parameters. The number of adaptive reuse is not high compared to new building construction in Dhaka. However, looking at the scale of selected adaptive reuse buildings significantly pointed out on the aspect of structural solutions which required efficient and innovative engineers. In most of the cases, structural engineers paid attention to tailor-made structural solutions to accommodate new structure within the old fabric. Therefore, reusing the old structural system is a challenge for engineers and architects. It extends the service life of the materials and reduces environmental impacts by reusing embodied energy.

**IMPLICATION OF THE CASE STUDY**

In mid-1980, 80% of American architects have reported to have engaged in adaptive reuse, which is the evident in their practice; and in Europe, rehabilitation and re-use of old buildings also became a major element of construction activities (Wilkes J. A. 1998); While in the west, adaptable design has been transformed from a trivial practice to a full-grown industry, local inventiveness of adaptable design in Bangladesh is a budding industry. Adaptive building is a collective endeavor from architects, entrepreneurs and land owners. Fundamentally, adaptive reuse in architectural praxis demonstrates an underlying relationship between a building’s outer structure and its internal...

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**Figure 21. Heritage Restaurant in Gulshan: converted from Residential building**
program of spaces, relationship of which must be flexible and dynamic if salvage is to transpire (Banham R. 1986).

WAY FORWARD - LESSONS FOR FURTHER RESEARCH

Adaptive reuse is recognized as an effective way of maintaining the sustainability of existing buildings (Ball R. 1999; Brand S. 1994; Pickard R. D. 1996; Kohler N. 1999; Latham D. 2000; Cooper I. 2001; Kohler N. and Hassler U. 2002; Douglas J. 2002). To create opportunity for a local industry on adaptive reuse to flourish, incentive from government is a pre-requisite that may emerge in the form of a) lowering land and building tax for adaptive reuse; b) tax holiday; and c) low interest loan for rebuilding and remodelling purpose. It is also imperative for architects and developers to establish showcases for adaptive reuse that can demonstrate environmental benefits; economic gain; urban improvement through regeneration – all these will create enthusiasm, confidence and endorsement from both public and private sectors. To receive further support from the community requires adaptive reuse of buildings to play a major role in the sustainable development of communities, evading the common practice of wasteful demolition and reconstruction and to allow the society to enjoy the benefits of adaptive reuse (Department of Environment and Heritage. 2004). Adaptive reuse can turn unproductive property into valuable and useful community resources and substantially reduce land acquisition and construction costs, revitalize existing neighbourhoods, and help control. Bullen (2007) stated through a survey that adaptive reuse is a method for achieving sustainable development, which is illustrated in the findings that environmental sustainability, heritage significance, and effectiveness in meeting sustainability benchmarks of the building are the significant aspects that should be judged throughout the decision-making process for achieving adaptive reuse projects. Therefore, need of research is imperative on the issues, such as, measuring material sustainability; embodied energy calculations; advanced soft and hard alterations techniques derived from architects and builders’ various cases.

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REFERENCES


BANHAM R. 1986, A Concrete Atlantis, MIT Press, Cambridge, MA, USA.


HABRAKEN J. 1972, Supports: An alternative to Mass Housing, Praeger, New York, USA.


ISELIN D. G. and LEMER A. C. 1993, The fourth dimension in building: Strategies for minimizing obsolescence, National
Academy Press, Washington, D.C., USA.


LIFSON M. W. and SHAIFER E. 1992, Decision and Risk Analysis for Construction Management, John Wiley and Sons, New York, USA.

MAHBUBA H. 2006, Courtesy photo with permission to use for this article


MAHTAB-UZ-ZAMAN Q. M and LAU S. 2000, City Expansion Policy versus Compact City Demand: The Case of Dhaka. In


MALLACH A. 2006, Bringing Buildings Back, National Housing Institute, New Jersey, USA.


SHANKLAND COX PARTNERSHIP 1981a, Dhaka Metropolitan Area integrated urban development project, Report for the Government of Bangladesh, Bangladesh.


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RESIDENTS’ PERCEPTION OF HOME RANGE IN CAIRO

Aleya Abdel-Hadi, Eman El-Nachar & Heba Safieldin

Abstract
Recent studies in the realm of housing design avow for the concept of Liveable Cities; an aspect which in turn, places emphasis on the concept of home range. The home range is regarded as the challenge to create a ‘near environment’ that is humanistic and fair, community-oriented and environmentally conscious; a relatively new conception towards responsive and sustainable environments for residents’ well-being. Considering that socio-cultural needs in tandem with architectural and urban characteristics correspond to residents perspectives of their home environment; hence, understanding residents’ perceptions of their home range should provide designers with deeper insights for creating more responsive residential environments. This study aimed at identifying aspects that contribute to shaping the residents’ perception of their home range. The field study included two housing features within the same social class in Egypt with a focus on Cairo: residents of the city’s original districts and immigrants of the city to newly suburban gated communities. The methodology was an in-depth qualitative study, exploratory in nature, based on a theoretical content analysis of literature on home range, and a field survey that investigated the residents’ perception of the concept. Tools for data gathering relied on photographic and observation methods; together with a structured interview on a random sample in each of the two defined residential environments. Discussions relate findings to planning concepts, and finally, results have generated a framework for decision makers and designers.

Keywords: Home Range; Sustainability; Residents’ Perception; Formal Districts; Gated Communities.

INTRODUCTION

The concept of home range – as introduced in this study – complements the notion of ‘Liveable City’. It is a promotion of an idea that aims at transforming the residential areas into better, safer, more sustainable places for people to live in. Liveability of a city is generally understood to encompass those elements of home, neighbourhood, and metropolitan area that contribute to safety, economic opportunities and welfare, health, convenience, mobility, and recreation. Within the overall goal of achieving a liveable city, three major sets of objectives can be defined as characteristics of such a city: first, human-oriented and environmentally friendly, with attractive features and a convenient, safe, and pleasant living, which implies a high degree of sustainability; second, economically viable and efficient and third, socially sound: without social, economic or ethnic barriers; in sum, there should be a sense of togetherness and pride in the city (Vuchic V. 1999).

Therefore, the home range concept reflects safety and a sense of community where identity and territoriality become major aspects among others for reducing environmental stress in residential areas. A home range primarily relies on its residents’ perception of their near environment rather than on its physical planning measurements. In this respect designers have to consider issues of physiological and psychological well-being in addition to the aesthetic values and the physical measurements. Such issues constitute an important integrative approach that should be implemented in design decisions required to achieve sustainability and well-being at both city and neighbourhood levels.

As observed, documented and widely discussed (Drakakis-Smith D. 2000), the mismanagement and swelling of the metropolitan cities have resulted in a global shift towards prohibiting building new housing projects in the cities while promoting the concepts of gated communities. With respect to the case at hand, Egypt is one of the
developing countries facing critical problems of environmental degradation which poses a threat to regional growth prospects and to human well-being; an aspect that in turn, suggests that the residential essence is at risk. During the last 200 years, dramatic changes occurred in the residential communities under different influences. The old medieval pattern which housed a homogeneous social group became a metropolitan city with a wide range of residential types and lifestyles. Blocks of flats represent the common form of housing in western urban pattern for middle class families, in the formally planned public housing for low-income and in the informal contemporary housing areas scattered on the capital’s fringes (Christians L. et al. 1986). As a response, a national strategy has been proposed for sustainable development. The major goal was to satisfy human needs and attain social welfare over time, while maintaining the human and natural resources and avoiding environmental degradation. Implementing this strategy emphasised two important issues concerning the design field:

• Land reclamation, urban and rural development, and new communities were the major part of human and economic development that should be targeted to satisfy human needs and to attain social welfare.
• Human and economic development, environmental protection and resource management were considered the key aspects for sustainable development.

During the last two decades, the desert land around Cairo has shown dramatic changes in its physical, cultural and social features. Starting as opportunities of desert land reclamations for the agricultural projects, the foundation of the ring road and several road conjunctions attracted many investors who started new housing projects hence, establishing new communities for upper middle class families, together with some educational, cultural, medical and commercial facilities (GOPP 1993). In most cases the design features of these new communities were profit oriented and determined by land developers. Thus, characteristics of the gated communities provided attractive new living conditions for the upper-middle class Egyptian families: low density, extended green areas. Accordingly, a considerable portion of the population living in nearby overcrowded Cairo districts chose to move seeking a better quality of life in those new communities. In turn, this move imposed the extensive use of cars for long distances commuting to and from the city, with a limited availability of public transportation (Abdel-Hadi A & Elazhary H, 2009: 120-129). This shift in connectivity on a bigger scale than in the former urban districts triggered the authors to explore the home range concept of the Cairo urban districts’ residents and that of the gated community residents.

The argumentative criteria for investigation revolve around three factual deficits concerning the concept of home range. The first is despite the fact that Lynch K. (1960) and Lynch K & Hack G. (1984) emphasised people’s perception of form and imaging, it is argued that the human side of the built-environment is still not incorporated in the physical features of planning districts and in housing design. The second is that the available housing codes and legislations marginalise the socio-cultural attributes of residents’ user groups. In turn, this evoked an associated argument that local planning of buildings and design codes focus on physical measurements rather than on socio-cultural aspects (Wheeler S. 2004; Eisenberg D. & Yost, P. 2004: 193-198).

AIMS/ METHOD

This study questions the issue of similarities and disparities of the home range concept in a sample representing the upper-middle class residents living in two different settings: two early and mid-twentieth century modern districts and two turn of the century suburban gated communities. The aim was to identify the major aspects that represent the residents’ perception of home range. The study correlates some underlying implications of the concept, regarded as a criterion for generating sustainable neighbourhood design. It is anticipated that results could generate ideas and frameworks for both decision makers and designers towards a more sustainable home environment.

The methodology was an in-depth qualitative study, exploratory in nature, based on:

• a theoretical content analysis of literature
on home range

- a field survey examined residents' perception of the concept

The theoretical content analysis tackled the issue of home range and its relation to sustainability. The major aim was to bridge design aspects with socio-cultural values in accordance with the holistic nature of the home range concept. The outcome of the theoretical analysis founded a ground for designing multiple tools for data gathering. Photographic and observation methods were used together with a structured interview on a random sample in each of the two types of residential urban environments.

HOME RANGE – A SUSTAINABLE APPROACH

This part is devoted to establish a theoretical ground basis of the home range and its direct relation to sustainability. It presents several home range issues raised throughout the study, in order to reach a deeper understanding on how these issues were first introduced, how they developed and in what perspective they have influenced the field work orientation. The most important issues to be discussed can be summarised as follows:

- Home range as a conceptual boundary.
- Home zone versus home range.
- The significant aspects of home range.

Home Range – A Conceptual Boundary

The home range is a term firstly associated with wildlife as territorial boundaries; it either refers to a map area resulting from fixed location estimates of the animal, or to a numeric estimate of the area used by the animal, with m2 or km2 as units (Burt W.H. 1943; Carpenter C. 1958: 224-250). There are many definitions of animal and human territorial behaviour several of which are integrated by such scholars as Altman I. (1975); Altman I. & Chemers M.M. (1980) and Rapoport A. (1982). In their work, human territoriality is viewed as an instinctual impulse to possess and defend a particular area, and where territory refers to objects, places or geographical areas that can vary in size and can have any shape. It was asserted that human territorial phenomena are not identical. Hence, home range, a term derivative of territory is used in this study as a concept; it represents a more holistic approach to residential environments.

The design and maintenance of a better near environment that grants the well-being of its inhabitants implies both the planning and the demonstration of the built-environment in accordance with the socio-cultural attributes of the residents, together with their psychological and intellectual needs and preferences. Such manifestation is a collaboration of political, economical and legal decisions, together with the physical planning and design (World Bank 1998). Accordingly, residents' identification of place is derivative for the generation of ideas and frameworks for all parties involved in the creation of home areas, districts and cities.

While there is no single blueprint for what ‘enhanced quality of residential district’ and ‘better city design’ should be, it becomes a prerequisite to investigate people's identification of places and to recognise what they really want out of their cities. Literature tackling planning and design is abundant, yet, it is argued that there is a missing link between the physical aspects suggested by decision makers of planners and designers, and residents' perceptions.

According to the authors' perspective, home range is viewed as the conceptual boundary that people believe as their 'out-side-the-house' near environment. For everyone, a mental map is drawn for a span inside which one feels at home. It is conceived, therefore, that a home range is an individually perceptive definable geographic area, which residents -including children- recognise where their household limit starts and finishes.

Home Zone/ Home Range

According to the available literature, different definitions for two basic residential issues are generously covered. The first is the residential neighbourhoods – tackled from the subject matter of areas, visual perception, and densities (Patik I. et al. 1976). The second is the home zone, in which residents perceive a shared ownership and responsibility for communal space, where the existing inter-relationship between private and public areas is altered. Sense of place and identity, supporting community activity and play, reducing social isolation, minimis-
ing influence of road and vehicles on layout, and supporting elderly, children and less-ability activities are the major issues of home zone (Appleyard D. et al.1981; Gehl J. 1987).

Therefore, there are major differences between the concept of home zone and our proposed concept of home range with reference to scale, features, and residents' perception of each. Home zone is a concept that aims at reducing the effect of vehicles and transportation while stressing a sense of shared ownership and responsibility among residents for inner streets and public spaces of the residential areas. On the other side, home range is a concept concerned with a more holistic mental image of the entire residential environment, no matter the scale, placing emphasis on the satisfactory perceptive territorial geographic boundary for the residents, individually or collectively. Hence, home range is a wider-scoped concept than that of the home zone.

**Significant Aspects of the Home Range**

From perspective, reviewing literature on the issues involved in the definition of home range resulted in selecting two main attributes:

- physical measurements and activities locations, and,
- socio-cultural attributes and the sense of place.

For the physical measurements and activities location, literature asserts that people's successful mental and physical recognition and satisfaction of their home range or the 'outside-the-house-environment' is dependent on three basic facets: 1. Identifying the places which contribute most significantly to their daily life systems – whatever the scale. 2. Relating the places spatially in relation to one another, building up a coherent mental representation, which the cognitive system uses for the understanding process. 3. Describing the places and the reactions to them. Yet, there were some terms that appeared in the literature, like ‘maps in the head’ (Lynch K. 1960), which refers to users' internal representations according to their individual reference system of use. More descriptions about the qualities of activity locations are what about those places are, where people 'hide, love and cry', not only about where those places are. This accentuates that, with reference to the physical measurements, there are attributes that are typically associated with each other, and others are commonly independent of each other (Canter D. 1977; Lynch K. & Hack G. 1984).

A content analysis of the literature on home range, together with a review of the methods and tools provided by Environment-Behaviour studies EBS (Rapoport A. 2005; Zeisel J. 2006), four major aspects were selected and sorted out as the most influential in the conceptualisation of residents of their home environments:

- Physical measurements, where home is defined as a centre and points of great activity distances draw a range around it. Indicating range on maps, stating distances allowed for kids on their own, listing landmarks that indicate range peripherals were methods chosen for the investigation of this aspect.
- Activity locations, and the spatial relationships between them, and between the home, and the intensity and/or frequency of conducting such activities were also drawn from the literature Stating activities done on foot/car, and their frequency per day/week/month were the methods devised for the investigation of this aspect.
- Socio-cultural attributes: identifying user groups and examining privacy, isolation, security, sense of community, and sense of belonging.
Perception and sense of place, investigation of meanings evoked by the configuration of the built environment, together with their implied/generated opinions and values.

THE CASE STUDY

Four districts in Cairo were selected to meet two main considerations: the first was to represent the common formal housing typology for the upper middle class families living in central Cairo; whilst the second was to represent the new housing types in sub-urban Cairo which attract the upper middle class families, living in central Cairo, to move in.

Thus, the sample included two streets from two formal districts: Mohamed Ramzi Street in Heliopolis district (northern east Cairo, planned in 1905) and Shehab Street, Mohandessin district (west of Cairo, planned in 1950 and much changed since the 1980’s); in addition to two gated communities: Rehab city to the east of Heliopolis.
Figure 1. Familiarity
This result points out the gap between the available layout design in most residential areas, which are dictated by the market criterion, and the actual needs of users.

Figure 2. Safety
Concerning feeling of security from being invaded by unwanted social groups (the lack of social homogeneity) residents’ agreement is high in the four areas except in Shehab Street at Mohandessin where the area has been transformed from villas to high rise buildings for mixed use.

Figure 3. Privacy
The needs of privacy were achieved through the design layout of the houses in the GCs whilst in the two streets high rises had windows overlooking neighbouring buildings.
district founded in 1996, including villas and walk-up apartment buildings, and, Rabwa compound to the west of Mohandessin district founded in 1995, including only villas. The aim was to provide insights related to understanding residents’ attitudes towards the identification of their home range, recognising design aspects of the built environment associated with residents’ familiarity to their home range in different housing types, and, addressing methodological issues of examining residents’ experiences of their home range. The designed tool was distributed among a sample of residents from the four areas, together with walk through’ to serve researchers’ observations. Then data analysis was conducted in adherence to the theoretical criteria and debate elucidated.

RESULTS AND DISCUSSION

Results of the field survey were interpreted in two main lines:

- residents’ attitudes and opinions toward their home environments
- residents’ perspective of the concept of home range

Residents’ Attitudes and Opinions toward their Home Environments

The first line of the survey addressed examining residents’ agreements to some statements related to issues of familiarity, safety feelings, privacy needs, sense of belonging and sense of identity towards their home environment. Comparisons of residents’ agreements in the four areas were represented in the associated graphs.

In all the four areas, residents’ feelings of familiarity were highly vibrating - in particular towards the design of their homes. The highest agreements to familiarity of the home environment were expressed by Rabwa compound residents, while the lowest by Shehab street, Mohandessin residents (fig #1). Currently the two streets – mainly Shebab – became too busy and centrifugal.

Feeling secured from physical attacks and personal insult was considerably high and consistent in the four areas under investigation. But, residents’ feelings of safety in Rabwa compound (the lowest density) were the most vibrating compared to responses in the other areas (fig #2).

Residents’ satisfactions about their privacy needs are relatively consistent, in the four areas. In Rabwa compound, in M. Ramzi street at Heliopolis and in Rehab city, residents expressed a high sense of satisfaction, while the residents of Shehab street at Mohandessin expressed a lack of privacy; the area being characterized by high density, mixed social groups, narrow streets, and high rise buildings (fig #3).

Residents’ perceived belonging in the gated communities – Rabwa compound and Rehab city – residents’ sense of belonging is high and consistent while it is low and vibrating in Shehab street, Mohandessin and M. Ramzi street, Heliopolis (fig #4). This result is mainly due
to the current transient population in the two streets (residency duration: Shehab/8-47 years; Ramzi/5-58 years) where residents do not have a say about their changing housing environment, whilst the residency duration in the first two mentioned GCs is shorter: (Rabwa/3-10 years; Rehab/2-8 years), yet residents there, are the decision makers.

Residents of three of the four areas expressed highly vibrated feelings of pride towards their living environment while the lowest agreement on the sense of pride was expressed by Shehab street, Mohandessin’s residents. In M. Ramzi street, Heliopolis, and in Rehab city, residents strongly agreed that the two areas were convenient for their kids to grow up. While in Rabwa compound, and due to its small scale as a gated community, with no educational facilities and less recreational facilities, residents’ agreement was lower. Residents of Shehab street, Mohandessin expressed their disagreement about having their kids growing up in the area (fig #5).

Residents’ perspective of the concept of home range

The second line of the survey examined residents’ perspective on the concept of home range with respect to each of the following: physical measurements, accessibility to activities, residents’ perception and their sense of place.

Physical Measurements:

In the four areas, resultant mental maps drawn by residents (fig #6) showed that home range was perceived through correlating the location of their homes with the daily services spots, main traffic roots and landmarks such as mosques, clubs and green features. Distances however, were not the indicator for identifying home range, as there proved to be major differences in the perceived area as home range in the four areas as shown in the following maps.

In the case of Shehab street, Mohandessin and M. Ramzi street, Heliopolis, with their high den-
sities and mixed uses, the identified home range is considerably a small area surrounding homes. While in Rehab city and Rabwa compound, which are characterised as low density gated communities with separate specific uses, the areas identified by residents as their home range were large and extended outside the boarders of the community.

**o Accessibility to activities:**
Examining the aspect of accessibility indicated that there were differences in the means by which residents reached their daily services. In Rabwa compound and Rehab city, most respondents affirmed that they rely on cars to reach the service areas located in their home range; while in Shehab street, Mohandessin and in Ramzi street, Heliopolis, service areas were at a walking distance from resident’s homes (fig #7).

**o Residents’ perception and their sense of place:**
In the four areas, residents were asked to express their own ideas about the concept of home range. Responses emphasised that familiarity, safety, privacy, belonging, identity and accessibility to services are key aspects involved in identifying the home range. A CHI square analysis proved that only familiarity, safety, and belonging were significant, while the other two aspects were not. This could be explained through the differences in lay-
out design and landscape characteristics; a matter that affect residents’ accessibility to service areas. Consequently, the short term duration of living in the two gated communities could also explain residents’ low sense of identity towards their home environment (fig #8).

CONCLUSION

This research aimed at exploring the major aspects that were involved in residents’ perception concerning the home range concept. The main focus was to underlie implications of the concept that generate sustainable neighbourhood design. Accordingly, the literature content analysis and the results of the field study have laid hands on aspects that helped understanding how the concept of home range was perceived by upper middle-class families in different home environments in Cairo.

The research emphasised that home range is a concept perceived in social terms in reference to activities and uses, rather than in physical measurements. In the meanwhile, residents’ responses put emphasis on familiarity, safety, sense of belonging, identity and accessibility of services as key aspects involved in perceiving the home range. An interrelation is thus revealed between the residents’ attitudes and opinions towards their home environment and its physical characteristics: densities, land uses, scale and landscape design. Hence, the interface between physical aspects of home environments and social attributes represents the essence of a sustainable living environment.

On this basis, it has been proven that when dealing with the issue of housing design for sustainable neighbourhoods, an integrative multidimensional approach is required. This means that generating an integrative knowledge base which follows a research based design process; then, practicing with collaborative and shared attitudes; also, breaking the boundaries between the design field and other fields of specialisations; all previous approaches are essential for creating sustainable home environments.

Given above the preceding reflections, and in lights of the main topic of this issue, and based on the fact that residents' perception varies among social classes, grand planning schemes of neighbourhoods should stop at the level of master planning. On the other hand, aspects of piecemeal planning would appropriate the actual urban and architectural design of residential environments to the residents' perception of their home range. That is: a more responsive design would help designers demonstrate differentiation of detailed designs; spatial and contextual variety, more internal differences, and more levels of detail.

Moreover, and based on the fact that -in our case of Cairo, there is a continuous social mobility taking place, piecemeal planning attributes are regarded as The complier to this typical Egyptian feature. A slowly, gradually, stepwise, in stages and partial planning is regarded as flexible -however confident- response to the ever changing physical demands that accompany the social mobility.

To sum up, this study draws on several directions for future research. As indicated in the results, perceiving home range depends on identifying places that contribute to daily life activities and their relations to home locations. However, this paper’s stated related literature affirmed that perceiving home range depends also on relating places spatially to one another, on building mental representations which the cognitive system uses to understand the environment, in addition to describing
places and how residents react to them. Reaching this point of conclusion, it is believed that the study at hand is regarded as a prologue for future investigations concerning the raised socio-cultural issues. Finally, it is our convictions that only through similar studies can planners and designers consider what people really want out of their home environments, and hence develop a criterion towards the achievement of liveable cities.

REFERENCES

ABDEL-HADI, A. & ELAZHARY, H. 2010, Centripetal Gated Communities around Cairo, in Abdel-Hadi, A. et al. (editors); Environment, Health and Sustainable Development, Vol. 1 in the series of Advances in People-Environment Studies, series editors Gabriel Moser and David Uzzell, Hogrefe publishing USA & Germany.


CANTER, D. 1977, the Psychology of the Place; Architectural Press, UK.


DRAKAKIS-SMITH, D. 2000, Third World Cities; Routledge.


GOPP: General Organization for Physical Planning; Report Year 1993


LYNCH, K. 1960, The Image of the City, MIT Press, Cambridge MA, USA.


VUCHIC, V. R. 1999, Transportation for Livable Cities; CUPR Press, Rutgers University, N.J.


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GREEN DESIGN OF TALL BUILDINGS IN KUWAIT: Obstacles & Opportunities

Omar Khattab and Adil Al-Mumin

Abstract
The purpose of this paper is to explore the extent of tall buildings development in Kuwait and to look at the issue of how sustainable and green design principles and strategies are disseminating in the society of tall buildings designers. Specifically the paper investigates how those designers are looking at this issue and what is the drive or incentive behind adopting some of the green design technologies and strategies in their projects. It also looks at the process of designing tall buildings and the obstacles and potential opportunities for making this process green and sustainable. The paper sets forth a hypothesis that green design parameters, such as LEED, may not be directly applicable to the Kuwaiti context. The assumption is a more appropriate system of LEED must be devised for Kuwait, similar to the UAE Green Building Council, for example. While this appropriate system is based on universal rules and guidelines for green design, it must take into consideration, and respect, local systems and conditions. These could be human, cultural, economic and technical. In this paper, the focus is on the designers of tall buildings, since they represent the experts on the matter. The paper uses both quantitative and qualitative data to prove or disprove this hypothesis. The data collection tool used is interview survey with a representative sample of tall buildings designers in Kuwait.

Keywords: Green Design, Tall Buildings, LEED, Building Codes & Regulations, Designer’s Perspective.

INTRODUCTION
There is a growing worldwide belief that tall buildings have to become greener. On November 2009, TAIPEI 101, the world’s second tallest building, announced that it will apply for the LEED certification, aiming to become the first skyscraper obtaining the LEED Gold certification for existing buildings (CTBUH 2009). Very few tall buildings in Kuwait have received LEED certification to date. In fact, there is only one tall building that has received LEED pre-certification until now. Few others are in the pipeline. Giving the ever growing global trend of greening tall buildings, Kuwait seems to be lagging behind even its closest neighbor Dubai. This is despite the increasing tall buildings development in Kuwait. In order to find out the main reasons behind this phenomenon, one has to look at the involved parties in the design of tall buildings and what is holding them from adopting green design strategies. There are three main players in the design process of tall buildings in Kuwait, namely the client, the government, and the designer. Each one of these has an important role to play in the transition of tall buildings from conventional to ‘green’. While designers are interviewed in this paper, the opinions and views of the other two players are planned to be investigated in future research.

The focus in this paper is on the designers of tall buildings, since they represent the experts on the matter. Their perspective on the whole issue of adopting green design for tall buildings is investigated and analyzed, through detailed survey interviews with key figures in the design of tall buildings in Kuwait. The importance of designers of tall buildings is that without their professional and technical input the other two players, i.e. clients and government, cannot progress towards green design, even if they are willing to do so. On the other hand, designers alone cannot adopt green design, even if they want it and believe in it, without the willingness of the client and the backing of the government. Therefore, the role of the designers is instrumental in the green design process and hence this research focuses on their perspective through the survey. Interviews were conducted over a period of time starting from end of 2007 till end of 2009, covering a period of two years. The paper also aims at documenting the extent of the high rise/tall build-
ings development in Kuwait, with a focus on describing the obstacles and constrains of the design process of this development. The paper also investigates the extent to which green/sustainability design principles and strategies are observed in the design, construction and operation of tall buildings in Kuwait. It might be appropriate here to demonstrate chronologically the history of tall buildings (commercial and offices) in Kuwait, in Table 1, based on information gathered from various buildings codes and municipal council decrees issued between 1960 until 2006. As Table 1 shows, maximum allowed height has risen from 20 to 100 floors during the last decade alone. Rapid increase in downtown land prices coupled with rapid economic growth in the country as a result of the relief from the continuous threat of neighboring Iraq after the 3rd Gulf war have led to increase in investment of Tall buildings.

Kuwait Municipality has recently increased the floor area ratio as follows:

- a) The first 200% FAR after the initially allowed FAR is allowed but charged at KD 200 (KD1 = US$ 3.53).
- b) The second 200% FAR after the first extra 200% is charged at KD250. [average for 400% FAR is KD 225].
- c) Some areas in city centre, like Fahd Al-Salem street, the allowed FAR is 650%, while other city centre areas range from 400% or 500% based on specific locations.

But to what extent does the global definition of tall buildings apply to Middle Eastern cities like Kuwait? According to the Council on Tall Buildings and Urban Habitat (CTBUH), the definition of tall buildings is set as, if a building height is below 10 stories (with minimum height is 3m) it is low rise, if it is 10-20 stories it is medium rise, if it is from 20-40 stories it is high rise, if it is above 40 stories it is called tall building. Any building above 400/500m high it is a super tall building or skyscraper (CTBUH 2001). On the other hand, in respect to Kuwait, and according to Raj Patel, KEO, that definition must be reconsidered. Since a 30-story building in Kuwait, which might not qualify for tall building according to the latter definition, becomes a tall building if it has a floor plate of 400m2. It is like a pencil, and a pencil is tall, as far as proportions are concerned. Therefore, a 400m2 floor plate over 30 floors is the same as a 1200m2 floor plate over 100 floors. This distinction has to be taken into consideration, especially when we talk about Kuwait city which traditionally was a very small urbanely planned development. Now at the same site one used to build a villa 40 years ago, one can now build a high rise.

<table>
<thead>
<tr>
<th>Year</th>
<th>Maximum Permitted Number of Floors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>3</td>
</tr>
<tr>
<td>1975</td>
<td>6</td>
</tr>
<tr>
<td>1985</td>
<td>8 (outside city) 20 (inside city)</td>
</tr>
<tr>
<td>2001</td>
<td>15 (outside city for plots under 1000m2) 20 (outside city for plots over 1000m2) 30 (inside city for plots under 1000m2) 40 (inside city for plots over 1000m2)</td>
</tr>
<tr>
<td>2006</td>
<td>20 (outside city for plots under 1000m2) 40 (outside city for plots over 1000m2) 60 (inside city for plots between 2000-6000m2) 80 (inside city for plots between 6000-9000m2) 100 (inside city for plots over 9000m2)</td>
</tr>
</tbody>
</table>

Table 1. Chronological development of tall buildings height in Kuwait (1960-2006)
was to maximizing the use of scarce land. Developers can also get their office space with much sought after view. Some designers, like Bruce Parker, SSH, don’t agree on building tall, since there are many aspects of it which are deficient. Competition to go tall for prestige and ego, for both the developer and user, which is easier to express in a tall building, as well as the expensive land in Kuwait, coupled with the rapid growth of new towns all led to boom in tall buildings. This view was shared by an expert and authority in the field of green design, Ken Yeang who states that the skyscraper is one of the most un-ecological of all building types, since it uses 30% more energy and material resources, from its counterparts, to build, operate and even demolish (Yeang 2008).

**METHODOLOGY**

The main method for data collection is survey interview which is the most usual method of collecting data and most appropriate procedure. A representative sample of key designers of tall buildings in Kuwait was approached in person for their approval to interview. There are three main requirements for a successful interview, namely accessibility, cognition and motivation (Moser C.A. & Kalton G. 1989). This was carefully observed during the various stages of conducting the survey interviews. Almost all tall buildings in Kuwait were designed by either one of the big five consultant firms in the country, KEO international, Dar Al-Jazeera, Gulf Consult, SSHi and PACE. Four out of the five firms were selected for interview, which represents 80% of the total population of tall buildings designers. Designers from the fifth firm were not available for interview at the time of data collection. Therefore, results of the survey interview are highly representative. Three of the four firms have designed tall buildings, some of them claim to be green, while the fourth firm, Gulf Consult, have designed medium to low rise buildings that also claim to be green. The selection was aiming to talk to both groups of designers, those who have designed tall buildings and those who have adopted some green design strategies. The idea was to find out the reasons for or against the adoption of green design in tall buildings. Table 2 shows the type of sample selection for the survey interviews.

By selecting owners/general managers, and hands-on senior architects and system designers for the survey interviews the issue of accessibility was met, since these professional posses all the key information about the subject matter. To satisfy the second issue of cognition, a detailed explanation of the purpose, nature and structure of the survey interview was carried out by the interviewers prior to the beginning of the interview. A complete hard copy of all nine questions included in the interview were handed in and read to all respondents. Interviewers also clarified the purpose and focus of the study, and the required feedback from the respondents to avoid any misunderstanding. As for the third issue of motivation, this was attained through the specific nature of the research and the background of the interviewers. This research was carried out by two faculty members at the Department of Architecture at Kuwait University. The outcome of the research will be mainly used for teaching and academic publication purposes. The potential of mutual benefit to both profession and academia was identified, especially the possibility of raising the public/government awareness of obstacles to green design of tall buildings by an unbiased third party. This is a matter of great importance to all consulting firms, which got all respondents highly motivated to answer all questions in the

<table>
<thead>
<tr>
<th>Design Consulting Firm</th>
<th>Principle Designer</th>
<th>Senior Architect/Designer</th>
<th>Systems Designer</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEO international</td>
<td>Arch. Raj Patel</td>
<td>Arch. Kirkey</td>
<td>Eng. Gurteeter</td>
</tr>
<tr>
<td>Dar Al-Jazeera</td>
<td>Arch. Ahmad Al-Juhaim, Owner</td>
<td>Arch. Anand</td>
<td>X</td>
</tr>
<tr>
<td>Gulf Consult</td>
<td>Arch. Aziz Mamjaji</td>
<td>Arch. Boris</td>
<td>Interviewed</td>
</tr>
<tr>
<td>SSHi</td>
<td>Arch. Bruce Parker</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 2. Sample selection for the survey interviews and names of respondents
survey interview. In addition to taking notes, all interviews were tape recorded and later information was extracted from the tapes.

DATA COLLECTION PROCESS

The prime method of data collection was the survey interview with designers of tall buildings in Kuwait. This survey interview was based on a semi-structured questionnaire containing nine basic questions aiming at gaining insight on the process of green design of tall buildings from the designers’ point of view. In some cases during the interview, other points were raised that formed more questions and drew more answers from the respondents. Some of the nine basic questions were not answered by the respondents due to the fact that their answer was imbedded in their answers to other questions. Table 3 shows the interviewees’ response to the nine questions:

Both quantitative and qualitative data were obtained from the respondents’ answers to the survey interview. The data were analyzed to pinpoint the obstacles and constrains, as well as the opportunities, for green design of tall buildings in Kuwait.

DISCUSSION OF SURVEY INTERVIEW RESULTS

The main findings of the survey interviews are summarized in this section in the order of the semi-structured questionnaire nine basic questions.

1. Designers’ Awareness of Green Design
   As far as awareness of sustainability and green design principles and strategies, 100% of respondents indicated that their design staff have been taking a lot of interest in green and sustainability issues, especially recently. Various reasons were quoted as the main drive behind this interest. The first reason is the firms’ association with international consultants such as NBBJ, SOM, Cambridge Seven Associates (C7A), Ove Arup, Ken Yang Consultants, and Office for Metropolitan Architecture (Rem Koolhaas), etc., and with scientific research centers like the research center at the University of Pennsylvania. This comes as a response to clients’ (especially public ones) main prerequisite to collaborate with international renowned consultants in the field of the consultancy. The second reason is meeting specific client’s mandate for a green building. This is due to the clients growing awareness of green architecture according to Raj Patel, KEO. This is because they saw other investors starting to think differently about sustainable architecture, or because they were educated or worked abroad and learned from the West about the importance of green design. It became trendy, or almost like a ‘fashion’, that the buildings are designed to meet such concerns like Green design.

   The third reason is the nature and complexity of the project itself that requires certain expertise and provides the chance to include green design activities. The fourth reason is that some designers try to give their clients a different edge on their buildings as opposed to the typical designs out there. Which means it becomes a matter of services promotion and public relations. The fifth and last reason quoted during the interview is the designer’s ethical responsibility to both the community and the environment.

2. Design Process of Tall Buildings
   Around 75% of respondents have designed tall buildings, green or non-green, while the rest have
applied green design strategies to medium to low rise buildings, such as the Military Academy, Sahara Golf Club, Dasman Centre for Diabetes, and Equate Petrochemicals headquarters. Among tall buildings designed by the respondents, al-Hamra, Rakah, Injazat, Al-Babtain Towers, Kuwait Business Town (KBT), Kuwait Trade Centre (KTC), Chamber of Commerce, Al-Babtain Library, United Tower, and Kuwait Investment Authority (KIA) headquarters. The latter being the first building in Kuwait to receive LEED pre-certification in 2008 (Figure 1).

All respondents confirmed that their design staff are aware of green design principles and strategies. Some staff has already obtained their LEED AP accreditation. For example, KEO has over thirty LEED APs as permanent staff in various specialties, and so as the other consultant firms interviewed, though with less numbers of LEED APs. This was achieved through sending some to LEED courses organized in neighboring Dubai, and then they sit for the LEED online exam in Kuwait. Or through organizing seminars and collaboration with international consultants for a selected number of staff. Then arranging internal presentations and discussion groups focusing on LEED for the rest of staff. This does not only apply to senior staff but also to some of the younger and energetic staff.

3. Tall Buildings and Kuwait

In addition to other problems like structures and services, Kuwaiti society also has a particular interest in building image. One also has to look at the historical background, when many years ago people started building high blocks of flats and office spaces in Europe, which had a bad social effect. Human beings like to be close to mother earth, so it is unnatural for a tall building to substitute mother earth. But are tall buildings inevitable for Kuwait? Before answering this question we need to understand the tall buildings' technical aspects. Tall buildings have their own design challenges, similar to low rise buildings that have their own design chal-
There is a common impression that the measure of modernity for developing countries is the number of tall buildings they have. And this is distinctive about developing countries to send a message to the rest of the world. This is evident in emerging economies such as India where Mumbai, its largest commercial city, plans to have a sixty story world-class hotel, residential and commercial tower as the city’s first green tall building. It is suggested that a successful green tall building could well portray the country’s financial, technological, and cultural advancements (Jambhekar et al 2008). And it is even true in developed countries, such as England, tall buildings are seen as a symbol of progressive economic activity and prosperity, since they offer appropriate accommodation to house the international businesses for which major cities like London compete (Strelitz 2005).

The nature of the country, the patriotism, is linked to their development of tall buildings. One of the things that need to be researched a lot more is when designing tall buildings for sustainability one needs to look in the future, as to what materials and details one wants. Because the taller you go the harder it is to replace. One needs to look at the impact of natural sunlight. There need to be a centralized scientific laboratory in Kuwait that looks at these issues, like the Council for Scientific and Industrial Research (CSIR) in England, which is constantly looking at the impact of materials, sunlight and rain, storms, dust, and this type of thing on tall buildings. Most of current tall buildings in Kuwait use imported materials which defies the basic principle of sustainability, to use locally available building materials. Traditionally, tall buildings were made from local materials, like in the city of Shibam, Yemen, which dates back to the third century. Its mud brick bearing wall buildings have risen more than eight story high which are called the world’s first skyscrapers (Damluji 1991). Another traditional example in Italy, the town of San Gimignano in Tuscany, where its tall buildings were
called the skyscrapers of the Middle Ages (http://www.sangimignano.com/sghomei.htm). There should be a locally appropriate technology devised for tall buildings in Kuwait.

The issue of tall building maintenance was also discussed in the light of the fact that in Kuwait skilled workers are scarce and temporary service companies don’t last for a long time, and they keep changing. In Kuwait, tall buildings are maintained by hired companies from Asian countries to carry out façade and general building cleaning. How can the maintenance of a 100 story tall building be guaranteed and sustained in the current labor circumstances in Kuwait, which is another aspect of the problem. There are things that are pertinent to Kuwait and other developing countries, where developers build like if they are in the United States, and then they realize that they are not in the States. In the initial design one has to take into account its maintenance during its lifecycle, which is not always taken into consideration by local designers, according to most respondents. Clients now have improved on constructability and buildability, but they are not taking maintenance and the cost associated with it seriously. They don’t look at the full lifecycle of the building, but only at the short term prospectus of it. They think they are simply going to bring some Asian workers to clean and maintain the building. According to Bruce Parker, if we take the analogy of cars, people here always try to buy a car that is a little bit better than they can afford, similarly in buildings, clients want to have a building more than their maintenance capabilities.

4. Green Design Strategies for Tall Buildings

In their answer to the third question in the survey interview about green design strategies adopted in their work, all respondents indicated that many of the LEED design strategies for sustainable design are adopted in their work, such as sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Space optimization is also adopted as part of green design. As for the green strategies adopted in project design, all respondents have agreed that they always advise their clients about the best possible way to design, construct, run and maintain their buildings. But it should not be a sophisticated system, especially if they are going to run this in Kuwait and the people who are going to operate do not have the necessary expertise, it will ultimately fail, and therefore the building will be failure. So you should know the limit you can take and implement the-state-of-the-art in a local context. Until both the consultant and client grow their knowledge and improve in the field of green design, one has to remain pragmatic. So a silver LEED building from the US cannot just be brought and planted here in Kuwait. One respondent tried to use the orientation of the building to reduce the solar heat gain, and tried to reduce the wind pressure. But not every time this is possible. In the design of the Water Training Institute, only by shifting the buildings 15 degrees from the regular line of its campus, 15% saving of energy was gained and also by the use of photovoltaic, according to Boris, SSH. Respondents also indicated that they take into consideration energy conservation strategies, or how they can recycle energy. But there are not enough recycling local facilities to think about water recycling or storm water harvesting strategies. While energy conservation is a priority, energy generation is last strategy to be adopted.

5. Main Drive to Adopt Green Design

When asked about the main drive behind adopting green design strategies in their work, which is question number four, respondents indicated that these strategies have never been properly manifested. Although there have been provisions in the local statutory codes that designers have to focus on energy efficient design and responses in their engineering which will address such concerns as wasting resources. But they never paid serious attention to that, according to Aziz Mamuji from Gulf Consult. They mainly focused on air conditioning design guidelines, both technical and practical as well as financial. In addition to codes for glass on façades and the U-value and the like. There was never really a serious focus to take it beyond that. This was the case in the past, but now there is a lot more. It’s not only that LEED provisions indicate what one can do physically in the building, but also how this building will be maintained, how easy or difficult it is going to be operated. The issues are now much wider but local engineers are quickly learning them. It is also due to the firm’s ethical code of practice and adoption of state-of-the-art
design strategies especially in mechanical systems, HVAC and the like. It is interesting that clients now request in the terms of reference (TOR) that they want their buildings to be efficient buildings, because the more efficient the building is the cheaper it will be to run and maintain. Even if it involves some extra initial cost of construction. Some clients, e.g. Equate Petrochemicals, wanted certain green systems to be introduced in the design of their headquarters because it is their company policy to incorporate green thinking. Therefore, client’s awareness makes a difference here. This is for government and corporate level clients, as for private clients there were discussions but not always the support and enthusiasm needed. The bottom line is that when there is more spending, some clients start to get really concerned. New thinking must be initiated with the client to get a positive response. Mr. Mamuji emphasized that they are all responding to an ethical issue of ‘doing it right’. Consultants have a responsibility for what they do for their clients and the kind of buildings they design. Nevertheless, the discussions are still at a very low level than that it should be, but it all comes from the point of doing it right. Interestingly, one designer responded differently to this question; “I think there is a very subliminal thing, it helps me personally discover different forms, and pushing me to think about green design differently, which leads to solutions that are more interesting and unique and have not been done, and to me that is the interesting thing about architecture.” Raj Patel, KEO. Similar reference was made by Yeang 2008 introducing a new term ‘ecomimesis’ which describes the interesting configurations of green tall building forms when imitating the structure, process and properties of natural ecosystems.

6. Commercial facet of Green Design
Respondents’ answers to the fifth question of the survey interview were that all of them used the expertise of specialized LEED consultants. This was mainly in the form of joint-venture at the beginning until most first appointed in-house LEED APs (Accredited Professionals), or for that matter until some of their own staff became LEED APs. When asked whether they feel that sustainable design strategies are commercially driven by the industrial nations, question six on the survey interview, all respondents answered positively. It gives credit and makes it believable that it is a buzz word. However, having said that it is something that a lot of people are going to pay serious attention to. Architects really do believe that green design, sustainability and energy conservation and all the related issues around should be pursued; not for commercial gain only but for the benefit of mankind, of human beings and of the environment as a whole. Bruce Parker from SSH explained that there are a lot of people who would say, straight away, that it is commercially driven, since material recycling, yes there is a commercial gap here one can cash in, but we have to look beyond. Of course all good things should have elements of commercial benefits, so this question did not imply any negativity by labeling green strategies ‘commercial’. The fear is that when they are merely commercially driven, some of the local aspects will be overlooked in order to speed up the process and expertise will be imported. So there will be no room for tailor-making anything for the local society in Kuwait. That is the main concern.

7. Need for Specific Green Code for Kuwait
Whether LEED standards for green design are readily applicable in Kuwait or they need modification and localization that is the idea here. Should we have something specific to Kuwait’s desert climate that should be more pertinent to the local context? Respondents’ answers to this were that designers have to arrive at a real understanding of what sustainability and green design mean. Everybody quickly jumps to technical solutions between the designer and the end-user. But there should be more focus on the situation between human being and nature. This affects everyone’s wellbeing. These measures and means need to be tailored to the local context. This should also be made attractive and practical to investors and society, since if they don’t know the reason behind these strategies they will not do it. For example, the local building regulation requiring 25% of the elevations to be openings, regardless of how much area is enclosed or any other design factors should be reconsidered. Kuwait is a country endowed with plenty of natural elements and natural sources of energy, and therefore, the use of these sources should be maximized. Regulations that enforce solar heating and the
development and use of photovoltaic technology to supplement power in order not have to burn more oil in water desalination plants, should be implemented in Kuwait.

In their response to the seventh question; whether Kuwait should have its specific code for green and sustainable design, 75% of respondents answered yes. Taking the view shared by researchers in another country in the Gulf region, that the government of Dubai has realized that steps should be taken to enforce stringent regulations for a more sustainable environment (Almarashi et al 2008).

One cannot just take LEED and apply it literally in Kuwait, because the conditions and situations are different. There are several major conflict points between LEED, as applied in the United States, and local conditions in Kuwait. Some of these are code related, some are market and practice related, some are place related, and some are cultural related. Examples of these conflict points are the bicycles as alternative transportation which is not possible in Kuwait due to harsh hot climate most of the year, the availability of cheap cars and petrol as well as the cultural issues of privacy and lifestyle. Low emitting, fuel efficient and hybrid vehicles are not readily available in Kuwait. Another example is the use of recycled grey water which is not possible in Kuwait for the religious reasons of water impurity. Green power, which is not yet available locally or regionally, and even if produced cannot be sold back to the grid for code and compatibility issues. As for construction waste management, this is also not that easy in Kuwait, where there is not yet a comprehensive and clear recycling plan. Similarly, use of recycled content since there are not a lot of recycling facilities, maybe only one metal recycling plant in the whole country. Finally the issue of regional building materials within 500 miles is unattainable due to the geographical location of Kuwait.

There is many more conflict points related to electro-mechanical works, that can be mentioned, but only these were selected to make the point. Design responses should be relevant to the context one is designing in. All the local codes, especially Ministry of Electricity and Water codes are very general and old and there has been no follow up to update or modernize them over sometime. The Fire Department has very good codes & regulations, but unfortunately the systems in place to impose them and insuring that they are adopted, operate in general and one can get away without meeting the measurements that are written in the codes. Due to lack of proper expert review and monitoring, probably the government needs to make sure that codes are implemented the way they should. For example Kuwait Municipality’s rule of providing sufficient parking is a response to good architecture, because if you are not going to provide enough parking you will break one of LEED requirements about sustainable sites and parking provision on site. The imposition of the existing codes and making sure they are followed and implemented properly is lacking.

In short, the system needs to be tighter. Local regulations don’t require compliance statement, similar to the system in the United States; where authorities require for each design to show compliance analysis with codes and regulations. Here it is not required to make a document called compliance analysis, which should be mandatory to make an efficient building. While 25% of respondents found no need to think about specific green design codes for Kuwait, rather to properly implement what is already there. There is a need to catch up in respect to green design. Designers have to follow a lot of the examples that were done previously with LEED and sustainable issues, before start thinking they need specialized code for Kuwait. They need to fully understand what is out there before modifying it. But socially it is very challenging in this part of the world to introduce different way of thinking, because a lot of clients and the society as a whole had preconceived notions of what design should be. Government, however, can give incentives to those who make a green office building. It can also make electricity the price it should be, and not heavily subsidized as it currently is (Al-Mumin et al 2003). Those respondents think that designers should not design buildings to only meet government set of standards, since this will be mediocre. They argue that the best buildings come from not any kind of pressure the government could apply, but the best buildings come ultimately because of the client. It is the informed clients that shape the city not the government or regulations. So if the government, instead of just always setting stan-
CONCLUSION

In this paper a survey interview was conducted to 80% of the tall buildings designers in Kuwait. The aim was to find out the obstacles and constraints facing the full implementation of green design strategies. And also to find out the potential opportunities for adopting these strategies from the designers point of view. The main findings were summarized and discussed in the previous section, outlining the major conflict points between LEED, as a global yard stick for green design, and local building codes and regulations. These findings show that while the government should modify some of its building codes to avoid this conflict, it should also pay more attention to enforcing the existing appropriate codes. It also needs to think of introducing incentives for those developers and investors who adopt green design. The hypothesis, mentioned in the introduction, behind the survey interview proved to be partially correct, as far as the literal application of LEED in Kuwait. Yet it also proves incorrect in so far as the effect of a locally devised green codes on the adoption of green design strategies, at least from the designers’ perspective.

This paper will have a follow up research investigating the same issues from both the clients and government point of view, in order to complete this sacred trilogy; client, government and designer. This will hopefully give a clearer picture about the future of tall green and sustainable tall buildings in Kuwait. Tall buildings will continue to have a future in Kuwait, not only because people like to look at tall buildings, and clients like to have tall buildings to proclaim power, status and wealth. Land is also getting scarce in urban favorite areas, so there is a need to maximize what development, which creates the need to go tall. There will always be a place for tall buildings. Whether this is going to be the right architecture in a country that has lots of undeveloped rough land to develop, it remains to be seen. Yet there will always be a case for tall buildings. And if sustainability in cities is defined in terms of reducing resource inputs and waste outputs, and if research shows that denser cities are more sustainable (Newman 2001); then, tall buildings that create dense development in cities play an important role in increasing their sustainability. When design of tall buildings itself becomes green, or sustainable, it could lead the way to more greener and sustainable cities. This proposition was supported by Ali 2008, when he stated that the future of the built environment depends on the strategies, methods and techniques designers adopt to design sustainable and intelligent tall buildings.

The movement towards green tall buildings has already started in Kuwait, as elsewhere in the world especially in the Arabian Gulf region, with a number of tall buildings seeking various levels of LEED certification. As (Wood 2008), states during the past 20 years a small, but growing, number of professionals have started designing environmentally appropriate tall buildings in this region that not only enhanced sustainable building types and patterns of living, but also created a new vernacular architecture that is based on sustainability. Examples for this are evident in Dubai, Kuwait, Jeddah, Manamah, etc. Literature always portrays the vernacular as the traditionally sustainable. Therefore, designing green tall buildings might solve two problems. The first is to adequately address climate change, and the second is to lessen the effect of Westernization and alienation of cities in the Arabian Gulf region.
REFERENCES


CTBUH Tall Building Newsletter (Council on Tall Buildings and Urban Habitat), December 2009 [http://newsletter.ctbuh.org/newsletter/09-12ctbuhnewsletter.html]

http://www.sangimignano.com/sghomei.htm


APPENDIX

The nine basic questions that the Questionnaire Interview started with were:

1) Is your design staff aware of sustainability/green design principles and strategies? How much practical knowledge/implementation or theoretical qualifications (e.g. LEED AP, BREEM certified, etc.) have they done? How often do you employ these strategies in your projects?

2) Have you designed/collaborated/supervised any tall buildings before? If Yes, how many? What is the heights/number of floors? Total built-up area? Functions? Locations? Names of these projects?

3) Have you adopted any of the green strategies in your projects in general? If Yes, have you employed any of these in the design of Tall Buildings? List these strategies that you have used, (e.g. energy conservation/generation, materials recycling, space optimization, daylight maximization, passive solar design, etc.)

4) Frankly, what was the main drive behind the adoption of these design strategies (e.g. building/energy codes, statutory authorities requirements? incentive, client wishes, environmental awareness, conscientious belief in climate change global bad effects, materials/technology supplier/provider advice, Firm’s ethical code of practice, adoption of state-of-the-art design strategies, being on the cutting edge of the consulting market, etc.)?

5) Was the design done in-house or in collaboration with specialized consultant? If in collaboration, can you name the external consultant, and which nationality they are?

6) Do you feel that sustainable design strategies/climate change, are commercially driven by the industrial nations?

7) Do you believe that Kuwait should have its specific code of sustainability, environmentally, climatically, economically and socially? Or following exist-
ing codes such as LEED, BREEAM, and the like should be enough?
8) Specifically, what sustainable design strategies have you adopted in relation to the following items:
   Building envelope
   Façades
   Space optimization
   Material selection
   Systems integration
   Detailing
   Construction methods and technology
   Building automation/operation and post occupancy evaluation
9) Please add any other issues you believe are relevant to the research that we have not covered in the previous questions.

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ARCHITECTURAL CONTINUITY TOWARDS CULTURAL SUSTAINABILITY IN BODRUM

Nezih Ayıran

Abstract
Mediterranean architecture is considered the predecessor of the modern concept of “bioclimatic” sustainable design due to its climate reactive attitude (Coch H. 1996, Vissilia, A.M. 2009). Another aspect which renders it to be associated with the notion of modern sustainability is the employment of recyclable materials such as natural stone and wood. The vernacular architecture of Bodrum peninsula located in southwestern Turkey bears the typical characteristics of Mediterranean architecture. Since the 1970s, Bodrum has been attracting the attention of local and foreign tourists. The “architectural pollution” created by tourism facilities paradoxically devastates the natural and unique architectural characteristics of Bodrum which attract the attention of tourists. In this article, the primary focus will be the residential architecture in Bodrum due to its quite dominant typology among tourism facilities. However, the local building regulations aiming to protect natural values and architectural identity and the sensitive attitudes of some architects about preserving architectural identity and visual ecology can be considered positive aspects with regards to the harmonious architectural development of the region. Visual ecology seems generally more vital than biophysical ecology in terms of sustainable tourism economy, and tourism, is the most important sector in Bodrum. In a touristic region such as Bodrum, cultural and economic sustainability are interrelated. Today, research related to sustainability focuses primarily on energy saving and relevant technological inventions and as a result, issues such as cultural expression, contextual connection, identity formation, local differences and changes do not get their deserved places in the sustainability value setting. This paper aims to detect some clues about the outline of the residential architecture within the context of cultural sustainability in Bodrum in the light of residential architecture samples.

Keywords: Mediterranean Architecture, Cultural Sustainability, Visual Ecology, Relatedness, Identity Formation.

INTRODUCTION, PROBLEM

The Bodrum Peninsula is located on the southwestern section of the Anatolian Peninsula where the Aegean and the Mediterranean coasts come together. Bodrum was close to outside influences because of its geographical location, inefficient transportation, and uneven topographic structure. Therefore, it has protected its traditional architectural character over a long time (Figure 1). Earlier, the main means of livelihood in Bodrum were fishing and sponge fishing. Until the 1970s, the population was approximately 5,000. The tourism boom in the 1970s ended this quiet period. This peninsula, one of the most beautiful and relatively untouched parts of the Mediterranean with its interwoven coasts and uneven topographic structure was discovered by local and foreign tourists after the 1970s. It has become one of the most popular holiday places in Turkey. The winter population of the city is approximately 90,000 at present. It is expressed by the local authorities that this number increases 15-20 times during the summer months. Some of the visitors, who come here to spend the summer, prefer to stay in houses they buy or rent instead of in hotels or motels. Construction of tourism facilities, not conforming with natural and architectural environment is called “architectural pollution” by Pearce (1981). In this article, the focus is on the house architecture because houses are the dominant building typology among those related to tourism in the Bodrum Peninsula. The architectural and natural properties of the peninsula, making it very unique and special for tourism, has paradoxically been under risk because of the “architectural pollution” generated by the tourism facilities in the region. Thus, the peninsula is challenged by losing its attractiveness. Nevertheless, from an optimistic point of view, the rules of local building regulations related to the continuity of architectural identity, protection of natural values and sensitive attitudes of some architects about the
preservation of the architectural identity of the area can be seen as opportunities of this peninsula. In this article, various residential design approaches in Bodrum aiming at architectural continuity will be scrutinized within the concept of sustainability, including cultural dimensions, and the building regulations applied in this region will be discussed. The final goal of the article is to identify some clues to the sustainable architecture in this region.

CHARACTERISTICS OF VERNACULAR ARCHITECTURE IN THE BODRUM PENINSULA

The Mediterranean Basin, one of the oldest regions in the history of urbanization is different from other places. (Kancioğlu M. 2001). Thanks to these circumstances, different cultures have been intertwined. In addition, the climate which is mild in winter and hot in summer paves the way for the so-called Mediterranean Architecture. These architectural characteristics can be seen in the coastal regions of various countries. The Mediterranean identity existing in spaces reflects the accumulation of the results from the interaction between cultures (Schmueli A. 1981). To provide shadow to get away from heat, the streets are narrow, open to the wind and running perpendicular to the sea (Figures 2, 3). They do not obstruct the view of one another. Articulation of small masses, dominancy of white color and small openings are the basic characteristics of the Mediterranean architecture (Figure 4). As the climate is mild, the inhabitants spend most of their time not inside their home but in open spaces such as gardens, courtyards and terraces. These are also indispensable elements of the Mediterranean architecture. It is considered that trial and error methods have survived through generations and formed other vernacular architectural attitudes. Those in Mediterranean regions, are also thought to be the predecessors of modern bioclimatic sustainable design (Coch H. 1996, Vissilia A. M. 2009). The traditional architecture of Bodrum has the same characteristics as Mediterranean architecture. It is considered that trial and error methods have survived through generations and formed other vernacular architectural attitudes. Those in Mediterranean regions, are also thought to be the predecessors of modern bioclimatic sustainable design (Coch H. 1996, Vissilia A. M. 2009). The traditional architecture of Bodrum has the same characteristics as Mediterranean architecture. These are examples of local craftsmen using “recyclable” materials, such as stone and wood based on local construction materials in the context of contemporary concept of sustainability. Traditional Bodrum houses are generally built in a similar fashion (Mansur F. 1972). Although there are several different plan types, all regional Bodrum houses are similar to each other considering their mass organization and façades (Akçura N, Akçura T. 1972). The vernacular architecture in the region consists of repetitive, simple and modular units.
(Steele J. 1992), (Figure 5). All buildings have earth roofs and stone walls (Mansur F. 1972). Thick stone walls are generally painted in white or sometimes left in their original color. The ratio of openings such as windows or doors in relation to opaque wall surfaces is low. Mostly the width and length ratio of windows is 3/5. The plan geometry of the houses is rectangular (Figures 6, 7). The houses are separated from the street and neighborhood through the stone walls which are about 2 meters high and they have courtyards, important elements of open space living. The typical Bodrum house apart from tower houses has one or two stories. Their internal width varies from 3.20 meters to 3.60 meters. Their length is between 5.20 meters and 6.50 meters inside. The external measure of the thick stone walls including the wall structure is approximately 5m x 8m (Akçura N, Akçura T. 1972).

The height of two-storied houses changes from 7 meters to 8 meters (Figure 8). However, it never exceeds 8 meters. In the past, the floor of single story houses was composed of only one rectangular space.

As the time passed, a kitchen space was added to a part of this rectangular divided by a wooden partition. The meals used to be cooked in a fireplace in the courtyard. In traditional Bodrum homes, the lavatory was also placed outside, in the farthest corner of the courtyard. Washing was
done in the courtyard as well and the fireplace was used to heat water (Mansur F. 1972). One type of two-storied houses consists of two rectangular spaces, one on the top of the other with wooden steps going upstairs (Figure 9). In the other two-storied house types, the top floor has two rooms located on the edges of the rectangle and these rooms are connected by stairs in the middle of a rectangular mass. Some of the houses have a space called “musandra” above the top floor which is used for storage.

The other characteristic house type in
Bodrum is the tower houses (Figures 10, 11). These are houses built to have protection against pirate or bandit raids because they are distant from the town center. In old examples there was a wooden movable bridge between the house and the stairs. The need for protection gradually lessened and the stone stairs were subsequently built adjacent to the houses. However, the entrance to the house is still a story above the ground (Türe A. 2006). The entrance gates in other Bodrum houses are on the seaside but in these houses, the entrance is from the landside. The triangular overhangings on the roof are a typical characteristic of these houses. These were used as shields and had the function of bastions. The tower houses’ gardens were large and seemed to be more massive compared to other houses in Bodrum. Their internal space organization which can be defined as rich or fluid as it...
offers various perspectives from different levels is generally based on half story differentiation. The term fluidity connects them closely to the present, since it is generally accepted as a valuable concept in current architectural theory and practice. The dimensions of their width and length are not over 5m x 8m just like other Bodrum houses (Akçura N, Akçura T. 1972).

ARCHITECTURAL CONTINUITY IN THE BODRUM PENINSULA IN THE CONTEXT OF CULTURAL SUSTAINABILITY

Fry (1999) maintains that sustainability is necessary not only in its biophysical meaning but also in cultural terms, and he mentions that biophysical ecology should not be considered more important than ecology of visual. According to Chiu (2004), the concept of cultural sustainability encompasses identity formation and expression, cultural heritage conservation, and a sense of cultural continuity. Lafferty W. M. and Langhelle O. (1999) think that the sustainability concept should be open to local differences and systematical changes. Yet the current sustainability approaches focus on energy conservation and relevant technological innovations and implementations; and therefore such topics as cultural expression and contextual connection, identity formation, local differences and changes are not included within a sustainability value setting as they should be. For a wider inclusion, the sustainability concept, the search for architectural continuity in such regions having unique vernacular identities as Bodrum is quite important. Ma (2008) sets the conditions for cultural sustainability as follows: 1. expressing value of diversity; 2. articulating community identity; 3. recognizing human dignity; 4. sustaining collective memory; 5. manifesting
energetic creativity; 6. preserving cultural heritage; 7. evoking human enjoyment; and 8. enhancing community well-being. The architectural environment, as a significant component of material culture, has a crucial role in providing cultural sustainability. As Li (2004) points out, “The ultimate objective of cultural architecture is to restore a harmonious relationship between human beings and nature” (p. 88). Contemporary architects are benefitting from Bodrum’s vernacular architecture which generates successful alternatives from the perspectives of harmonious relations, climate-adapted solutions developed through trial and error methods. The search for architectural continuity has the aim of sustaining the identity of the existing community and its collective memory. Another aspect is the importance that local unique architectural identity brings to the tourism economy, because the local architecture of Bodrum which tourists find to be visually attractive, is in the first priority in the tourism sector. Garnham (1985) explains the “uniqueness” concept in environmental terms as follows: “...often illusive and very difficult to clearly express or define when it concerns a specific place. Throughout the world, however, exist places which people categorize as unique and mention of them can bring forth strong mental image of a remembered or imagined character” (p. 1). Garnham (1985) also claims that districts that evoke a strong sense of place create feelings of visiting and re-visiting among the visitors. It is observed that in Bodrum, such a strong sense of place is evoked among the people. Architecture of tourism facilities integrated to existing architecture and related tourism architecture has a positive impact on sustainable tourism economies (Mills E. 1983). As Dodd (1987) points out, “A strong visual community character is a significant component of a desirable tourist destination. It is unique identity that draws tourists” (p. 1). Thus, in a touristic region, cultural and economic sustainability seem to be interrelated.

Construction of new buildings in such a region will inevitably change the existing architectural identity to some extent. However, here the point to which one should pay attention is that the buildings needed by tourism facilities should be constructed by preserving the unique identity, considered very valuable in Bodrum and by giving the least possible damage to natural values. To Ryan (1979), the key concept which will provide this is “relatedness”, and he claims that relatedness brings about, “successive development with prevailing design characteristics of a place and seeking to form compatible relationship with new and old” and he defines architectural continuity as “the overall effect of relatedness within district or community” (p. 45). The concept of “contextualism” which has been used synonymously but more widely with “relatedness” in architectural terminology, was coined by Colin Rowe in the late 1960s (Shane G. 1976), expresses an approach which has been very influential in architecture and specifically in architectural education. In new designs, he suggests that the formal and materialistic characteristics such as street pattern, number of stories, color and material of wall, wall length, roof form, window proportion and size in the existing environment shall be referenced.

THE ROLE OF BUILDING REGULATIONS

The continuity of the cultural and natural identity of the Bodrum peninsula with its unique characteristics and an interwoven shore is dependent on the efficiency of legal and administrative regulations and the effectiveness of supervision of these regulations in practice. Currently, 10 municipalities on the peninsula have different building regulations which are not essentially different. The local authorities seem to protect the natural elements and regional architectural fabric on the Bodrum peninsula vis a vis regulations, in order to sustain local identity, in short to aim for a “contextualist” architecture. In this framework, the feature belonging to the traditional fabric such as garden walls, courts, floor finishings of squares and streets, fireplaces and wells should be protected by the regulations of all municipalities. Natural objects such as rocks, trees and citrus gardens are under protection. The houses are allowed to have at the most two stories. Although there are no strict regulations which put limits on roof construction, they should not be seen from the road level. In traditional architecture, the ratio of the surface area of openings to façade is low. In a similar way, according to building regulations, the ratio of
the openings such as doors or windows to façade should not exceed 15 percent in newly built houses. In rural places, far away from the influence of the regional architectural fabric, this ratio is determined to be higher at 25 percent. The ratio of the windows’ width and length should be 3/5 and the total area of each should not exceed 1 square meter in order to comply with building regulations. Although a stone wall is not a necessity, building regulations encourage these kinds of walls. As the traditional houses in Bodrum are maximum 8 meters in length, the newly built walls’ length should not exceed 8 meters. If the length of the wall reaches 8 meters, the surface should be changed vertically with at least 0.5 m depth. To build a contextual connection with traditional architecture, the external wall outer surface should be painted white or exposed of their natural color and texture.

EXAMPLES FROM CONTEXTUALIST APPROACHES

Some of the design approaches in Bodrum which aim to be compatible with local architectural characteristics such as the Aktur Holiday Settlement, the Demir Holiday Village, Iğdıril吉利 House, the Ersen Gürsel House will be examined in this chapter.

Aktur Holiday Settlement: In this summer holiday village, designed by E. Gürsel, Ö. Ertüzün, and M. Çubuk in 1976, the arrangement of the site plan anticipates a street pattern which is appropriate for Mediterranean architecture; that is, open to the wind and running perpendicular to the sea (Figures 12, 13).

Courtyards, including fireplaces give privacy and are arranged between building masses. They blend in with the regional architecture. This scheme also has balconies and terraces to comply with contemporary living requirements. The open spaces are protected from sun shine by pergolas which also strengthen the space effect of these areas. The settlement is more compact compared to a traditional one. Size is compatible with local dimensions. Some variations of the basic modules such as 3m x 3m and 3m x 4m are composed in line with the same principle of the repetition of simple modular units in local architecture (Figure 14). Apart from the terraces, the roofs are flat and the open spaces have sloped roofs covered with tiles. The external walls are constructed of brick. Plaster covered brick walls are painted in white as is the case in traditional architecture (Figures 15, 16). Like
many other new designs in Bodrum, triangle overhangings in tower houses which were used for protection are added here at the corners of the roofs as motifs aiming to preserve cultural continuity. In the regional architecture, in order to provide natural air conditioning against hot weather, vent holes are located at this point.

Demir Holiday Village: The first phase of the construction of the holiday village was completed in 1987, and was designed by T. Cansever, E. Ögün, M. Ögün and F. Cansever. The exterior, scale and materials of the houses are related to the local architecture (Figures 17, 18). The composition which is based on the repetition of simple modular units in local architecture is adopted here as well. The various house types are determined according to the different variations of rectangular prisms (Figure 20). In accordance with the local architec-

Figure 13. General view of Aktur Holiday Settlement from the sea, source: personal archive

Figure 14. Plan and section of a house in Aktur Holiday Settlement, by kind permission of Ersen Gürsel
The basic material of the walls is stone. The walls are left unpainted, exposing their natural color and texture. The main difference from the regional architecture is the usage of materials on the façade. The door and window frames and the joists around the roof are left as exposed concrete that gives a reference to the era they are built in.

The chimney is positioned at the center of the short wall of the rectangular space as is the case in local architecture. The details are also similar to the ones in local architecture. The reason for the success of this project which won the Aga Khan Award in 1992 is explained in the reports of the competition jury: “The Award is given for the foresight of the architect who has re-designed the traditional forms of local architecture to yield a coherent union of new and old materials” (Steele J. 1992: 167). In this holiday village, like local architecture, a respectful attitude towards the existing natural environment has been adopted. So everything has been done in accordance with the local construction tradition which abstains from excavation.
Ahmet Iğdirligil House: This house was designed by the architect for himself in 1996 (Figures 19, 20). The employment of stone in this house and the Demir Holiday Village, taking into consideration the width-length ratios in the main space is quite similar to the traditional Bodrum house. The basic attitude in design is based on extensions made to the living space. Two high masses are bound together with a low mass in the middle. Although it is similar to one of the houses in the Demir Holiday Village from this perspective, the binding mass in the middle is single storied and the spaces between the masses are as wide as utilizable open spaces which makes it different. There are simple wooden stairs going up. Similar to local architecture, timber is used in the floor structure. The external space is perceived from different levels as in the traditional tower houses’ space fluidity (Figure 21). This characteristic gives the idea that they were inspired by the traditional tower house. This scheme seems to comply with the cultural continuity requirements related to present time since fluidity is quite a significant concept in current architecture. This house’s courtyards have privacy for open space activities in accordance with the main characteristic of vernacular architecture. The absence of the partitions indoors can be seen as a reflection of the non-use of internal partitions in traditional houses.

Ersen Gürsel House: The tower house tradition in Bodrum seems effective in this house designed by Ersen Gürsel in 1993 for his own use. The plan form of the house was originally square. It has a
very big garden as did the traditional tower houses and has stairs for getting to the upper entrance floor (Figures 22, 23). The ground floor was designed to be the open space underneath the main square mass which has a stone floor. The main living space on the upper entrance floor opens onto a big wooden balcony. The preference of stone and wood as the main materials, the construction method, the importance of open space living, the solution of lavatories as the secondary mass adjacent to the main mass, and the small size of windows demonstrate that the architect’s attitude is quite close to the traditional architecture. In relation to local architecture, the main differences are
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the choice of a sloped roof system instead of a flat roof and the quite unusual position of the courtyard.

SOME CRITICISM DIRECTED TO CONTEXTUAL APPROACHES

These cases, referenced to certain characteristics of the vernacular architecture of Bodrum, have sub-aims, such as continuity of unique architectural identity, sustaining of collective memory, evoking human enjoyment, sustaining visual ecology, and sustaining tourism economy. However it is necessary to point out the criticisms about contextualist design approaches like the above examples which aim at cultural sustainability. Knowing the criticisms and evaluating the situation from a different perspective are essential to assess the facts more comprehensively. In the new design, as in the above-mentioned, the contextualist architectural design concept takes the formal and materialistic characteristics as reference in the existing environment such as the “street pattern”, the number of stories, the length, the color and the material of the walls, the shape of the roof and window size. Within this framework, it is sometimes difficult to establish a bond between form and content. Perez-Gomes (1991) describes the disadvantages of this approach: “Both positions whether against or for contextualism are equally fallacious if one understands context, as a materialist, dead and objectified ‘formal’ collection of buildings and physical features. Such a ‘context’ can never be origin for the generation of meaningful architectural ideas and built work” (p. 81). The protection of identity
and the preservation of the sense of “place” and cultural continuity in a valuable architectural environment are necessary. However the designs abstracted from the changeable conditions of time and made within the framework of a concept which emulates local architecture or replication of it occasionally pave the way for the overlook of other purposes of architecture. According to Rapoport (1969: 79), “...the distinction between what is constant and what is changeable may be helpful in understanding the form and motivations of both houses and settlements”. This idea points out that it is necessary to discover what is constant and what is changeable in the regional architecture before beginning to design.

These criticisms about the quite relevant arguments for architectural approaches in a vernacular architectural environment make sense only in certain situations and contexts. Only in such a way do they have functional and operational value in design processes. It is probably reasonable to acknowledge that the importance given for the preservation of local identity during design processes and the value level of existing identity are correlated. In addition to the preservation of local identity, enriching the human experience and life, being responsive to the continuously changing feelings, thoughts and behaviors of society are the other purposes of sustainability. Beyond all these, the prediction of future physiological and psychological needs of society, and the inclusion of both past and future in the purpose of cultural continuity are the responsibility of a relevant and sustainable architecture. Because of this, the search for cultural continuity in architecture requires taking the present and future into consideration as well as the past. A timeless sustainable architecture is the balance point among the past, present and future.

CONCLUSION

Evaluating the examples given above from this point of view, the Aktur Settlement proves itself to be pertinent after more than a quarter century since its construction that includes the past, present and to some extent, the future have been taken into consideration in its design process. This settlement differs from the Demir Holiday Village in respect to employing relatively recent technology. The street pattern is highly compatible with local architecture. In the Demir Holiday Village’s search for cultural continuity, the past generally is given more importance than the present and the future. The most remarkable aspect of the sustainability in this settlement is its special attitude for the protection of natural values. This makes the Demir Holiday Village connected to our time as well as to past ages.

In the design of Ersen Gürsel’s tower house, open space living is provided by a courtyard under the main mass on the ground floor which is a radically different solution compared to traditional architecture. There is a large opening on one side wall of the raised entrance floor which goes to the wooden terrace on this level and provides a visual and functional connection with the open space area of the house. This shows that the concept of internal and external continuity has been adopted here. The internal fluid space concept of the Iğdirligil House inspired by local architecture is a feature which also makes the architecture relate to the present. Another such feature is the internal and external space continuity. Open courtyards in Bodrum architecture are arranged as a fragmented structure here. This can be seen, apart from the functional requirement, as a desire, in this respect, to deviate to some extent from regional architecture. However, the architect preserves the original essence of open space living.

The proposition that the clashes among past, present and future aims should be coordinated to preserve cultural sustainability is a highly idealized purpose. In addition, it should be noted that sustainability, as a “contested term” is never complete, and therefore, can only be described as a “more or less” (Lafferty W. M., Langhelle O. 1999: 25-26) concept. As the examples have illustrated, this situation of “more or less” can change depending on each architect’s concept. Because of these, it should be accepted that the tripartite purpose system suggested here and the evaluation of the examples around are open to miscalculation. It is understandable that the purposes about the present and future are given secondary importance in the architecture of recent Bodrum where architectural and natural identity is getting gradually corrupted. In such a context, building regulations give more importance to the purposes about the past. This
seems more realistic and an urgent remedy for the devastation of cultural identity. An effective control mechanism is required in order for the regulations to generate architectural environments based on the sustainability concept. Bodrum has a weakness in this respect. However, from a more optimistic point of view, here the architectural environment is relatively better than other touristic regions in Turkey. The building regulations of local governance and the rules about cultural sustainability play a significant role in the preservation of this architectural environment. The designs of architects who are searching for architectural continuity in Bodrum prove promising for the preservation of the identity of this unique peninsula.

REFERENCES

AKÇURA, N., AKÇURA, T. 1972, Kasaba Ölçeğinde Çevre Değerlerini Koruma Amacı Bir İnceleme: Bodrum, Mimarlık, No: 8, pp. 65 – 71

CHIU, R. 2004, Social Sustainability, Sustainable Development and Housing Development: The Experience of Hong Kong, in Housing and Social Change: East-West Perspectives, R. Forest and J. Lee (Eds.), Routledge, London


GARNHAM, H. 1985, Maintaining Sprit of Place, PDA Publishers, Mesa, Arizona


MANSUR, F. 1972, Bodrum, A Town in the Aegean, Leiden, E. J. Brill Press, Amsterdam


PEREZ-GOMEZ, A. 1991, The Modern City: Context, Site or Place for Architecture in, Constancy and Change in Architecture, M. Quantrill and B. Webb (Eds.), Texas A&M University Press, Texas, pp. 77 – 90


TÜRE, A. 2006, Karia’dan Bugüne Bodrum, Yapı Endüstri Press, İstanbul


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RETHINKING THE LOCAL KNOWLEDGE APPROACH TO PLACEMAKING: Lessons from Turkey

Abstract
This article explores the relationship between knowledge and sustainable placemaking. Distinguishing between “expert knowledge” and “local knowledge,” it first problematizes expert knowledge, and then traces the local knowledge approach to placemaking. The widening gap between expert and local knowledge prompts understanding their sources and modes of knowing. By viewing place as an organization this article draws from Nonaka’s (1994) distinctions of four modes of knowledge creation in an organization, and explores the commonalities between the two. The analogy between place and organization helps gain new insights from the organizational theory literature which links processed information to knowledge creation. Seeking similarities between place and organization arises from how individuals in organizations and places process information to solve problems. Critically examining local knowledge questions the presupposition of a fixed, static mode of knowing, and helps incorporate a range of activities and know-how associated with different stages of placemaking. The study suggests that local knowledge converts existing knowledge into four types of new knowledge during the placemaking process. Furthermore, compared to the top-down nature of expert knowledge which mainly adheres to the principles of scientific rationality for grand planning and problem solving, the local knowledge approach to placemaking is bottom-up, fosters piecemeal growth, and thus is more adaptable and sustainable. Promoting (social) sustainability through knowledge conversion (i.e., converting tacit knowledge into explicit knowledge and vice versa), social interaction and self-help characterize placemaking in informal settlements.

Keywords: Placemaking, Local Knowledge, Expert Knowledge.

INTRODUCTION

This article explores the relationship between knowledge and sustainable placemaking against the backdrop of an informal settlement in Istanbul, Turkey. As “a dynamic human process…anchored on the commitment and beliefs of its holder” (Nonaka 1994: 15), “Knowledge” in general and “local knowledge” in particular guides and informs the physical, social, and political attributes of (sustainable) placemaking. As “the beliefs and ideas of citizens, laypersons, indigenous tribes, ethnic groups and local residents” (Zanetell and Kruth 2002: 89), local knowledge often contrasts “expert knowledge,” which represents the professional ethos of those who specialize, standardize, and regulate knowledge in their fields of inquiry. The question therefore is that, when it comes to placemaking, whose knowledge matters more?

The tension between local knowledge and expert knowledge arises from two divergent worldviews. While expert knowledge propagates the generalizable principles of scientific rationality, local knowledge is informed by collective experience based on local practices and common sense. Research shows that rather than fostering cooperation, the former tends to dominate the latter by its authoritative power (Schneekloth and Shibley 2000). The supremacy of expert over local knowledge, which has widened the gap between the two (especially with regard to placemaking) prompts exploring the sources and modes of each knowledge type. To initiate a discourse on whether local knowledge and expert knowledge could complement each other rather than compete, this article draws from Nonaka’s (1994) distinctions among four modes of knowledge creation in an organization, and explores commonalities between organization and place. Such commonalities arise from how individuals in organizations and places
process information to solve problems. Information processing and solving shared problems derive from the organizational theory literature, which links processed information to knowledge creation. The premise here is that unlike the rational and universal attributes of expert knowledge, local knowledge utilizes multiple modes of knowledge conversion. This observation goes counter to the conventional wisdom, which views local knowledge as static, inferior, primitive, and less creative compared to expert knowledge. The evidence supporting this claim emerges from examining squatter settlements (Leitman and Baharoglu 1999) in Turkey. The article identifies four modes of knowledge creation in Pinar, a squatter settlement (or gecekondu meaning built over night in Turkish) in Istanbul. These modes of knowledge reflect the versatility of local knowledge in placemaking.

This article is organized in three parts. Part one explores the nexus between knowledge and placemaking. Drawing from the two prominent ways of knowledge creation in an organization (tacit and explicit), and tracing them in Pinar, part two shows that although tacit knowledge characterizes local knowledge in the initial stages of placemaking, it transforms into explicit knowledge as the gecekondu subsequently evolves and morphs into a new place. Examples from the case study reveal that the informal networks of trust and reciprocity known as social capital provide grounds for creating, enhancing, and sustaining the nuances of local knowledge in the gecekondu. Some observations will be made in closing.

At the outset it is important to consider the formation of informal settlements as tapping into opportunities of sorts rather than focusing on needs or assets as the other competing approaches to placemaking. The dictionary defines “opportunity” as “a situation or condition favorable for attainment of a goal” (www.dictionary.com). Gecekondu exist because opportunities for squatting in large cities arise as a goal from time to time. The point is not whether the gecekondu residents have needs. They do. The difference between the need and opportunity-based placemaking is the conditions that give rise to each approach. Thus, rather than need per se, other circumstances convince (needy) people to tap new opportunities when they arise, and embark on placemaking without seeking help from experts.

PLACEMAKING AND KNOWLEDGE

Placemaking has captured the attention of scholars and academics, professionals, and government officials over the last decade or so (Schneekloth and Shibley 2000, Bonner 2002, Martin 2003). As the urban population continues to grow the rural population continues to decline across the world. The steady growth of the urban population has posed serious challenges for the kinds of places these rural-urban migrants create. Hence, several important questions come to mind: how do people plan these settlements? And, whether they have an inferior intrinsic quality compared to planned settlements? A more fundamental, but less-thoroughly explored related question deals with the know-how or knowledge behind creating these places, and, whether they sustain over time?

This article explores the linkage between knowledge and sustainable placemaking as part of an ongoing debate on the expert vs. the local knowledge dichotomy in social sciences (Millar and Curtis 1999, Brodt 1999, Schneekloth and Shibley 2000, Davis 2005, Hordijk and Baud 2006). Different models of placemaking exist. For example, in deficit models experts quantify needs and deficiencies of place through grand planning, programming, and implementation (Peattie 1983, Wynne 1991, Petts 2003). However, in opportunity-based approaches, and in the absence of experts, non-experts promote piecemeal growth and engage in placemaking by tapping into opportunities and resources (i.e., land) they have at their disposal. Non-experts engage in placemaking without adhering to the expert-based techniques of need assessment, problem solving, and grand planning. Somewhere between these two poles lies a third approach where experts and non-experts collaborate in the placemaking process. They first identify assets (physical, social, and political) and “affordances” (Lang 1987) of a place, capitalize on them, reach consensus on shared vision, and finally craft management strategies (Arefi 2008a). The expert’s role in this approach transcends rendering merely technical expertise to non-experts just as the non-expert’s role transcends that of a typical client with a wish list prepared for need assessment. Such a collaborative approach, therefore, makes the dis-
tinction between clients who seek advice and experts who render them hard. Seeking equality between the expert and local knowledge, which characterizes the planning and decisionmaking process in an asset-based approach (Kretzmann and McKnight 1993, Green and Haines 2002, Arefi 2004) is rare in the ‘need’ or ‘opportunity’-based placemaking.

The intention here is neither to focus on need- nor an asset-based placemaking. These paradigms have been discussed elsewhere (Arefi 2008b). However, the goal is to focus on the rather obscure but nevertheless important aspects of placemaking particularly the role of knowledge in an opportunity-based paradigm.

A profound bias toward expert knowledge characterizes scholarly debates on placemaking. After all, we live in a world, which trusts, rewards, and allows experts to standardize and regulate our personal and social lives. While expert knowledge conjures up universal authority in scientific disciplines some scholars question the growing mistrust between expert and local knowledge (Corburn 2005, Davis 2005, Shekhar 2004, Schneekloth and Shibley 2000). Different factors drive the schism between these two types of knowledge. Some question the accuracy with which experts collect and analyze data, and generalize their research results. These criticisms include biases in reporting research results in various disciplines (i.e., fisheries, agriculture, forestry, environmental planning, and risk management). Davis (2005), for example, associates desertification in North Africa with questionable evidence that experts provide for policy and administrative reasons, and not due to local knowledge practices (i.e., overgrazing of local pastures). Corburn (2005), reports that decisions experts make for political reasons unduly discount or neglect the insights from local knowledge on environmental and social issues. Shekhar (2004) notes differences in experts’ and locals’ tree planting preferences in Rajasthan, India. Whereas locals prefer slow growing trees for multiple purposes including the needs of future generations, forestry department favors exotic species mainly for timber. These ideological differences manifested in various tree-planting practices have created a wedge between expert knowledge that attempts to main-
from pre-determined principles of knowledge creation. To solve problems in an opportunity-based approach to placemaking information is processed differently. Unlike the predominantly explicit mode of expert knowledge, knowledge remains largely tacit in this paradigm. The tacit nature of local knowledge emanates from common sense, locally specific contexts, and traditions rather than induction or deduction. Tacit knowledge is mainly internalized and observed through customs, habits, experience, and traditions rather than externalized, tested, and practiced through formal education. The subtle and somewhat vague nature of tacit knowledge makes it hard to be explicit.

In an expert approach, placemaking is explicit and follows a logical sequence of planning, programming, and implementation. Planning and programming involve inductive and deductive reasoning and data analysis followed by synthesis and recommendation (or solution). Distinction between planning and programming in opportunity-based placemaking is less clear-cut and more challenging compared to the need-based approach. Part of this challenge owes to the flow of information among people in various stages of placemaking. While tacit knowledge constitutes the main knowledge type in gecekondus, as will be shown, it is not the only type. Depending on the needs and stages of placemaking the gecekondu residents convert knowledge from tacit into tacit to explicit into explicit.

The notion of order in the urban fabric illustrates another difference between the tacit nature of local knowledge and the explicit nature of expert knowledge. Unlike local knowledge users and residents in expert-knowledge placemaking discern a visual sense of order. To many, the lack of recognizable sense of order in informal settlements equates disorder or chaos. Applying the expert-based criteria of visual order used in planned settlements to gecekondus becomes problematic. While order means different things to different people and is somewhat subjective, its existence or lack thereof depends on the users’ perceptions. To some visual order increases imageability and navigability in the urban fabric. While the residents of informal settlements may complain about issues such as poor service delivery and public transportation, and inadequate public and green space, navigation and visual chaos rarely makes it to the top of the list. These residents seem to navigate through complex intertwined alleys just like those in planned settlements may find the gridiron street layout, the housing subdivision, and common setbacks legible for creating a memorable local mental map. People navigate through their settlements easily while to outsiders they may seem chaotic, unorganized, and disorderly.

Social capital characterizes another important feature of tacit knowledge in an opportunity-based approach to placemaking. The gecekondu residents generally know each other from the early stages of the settlement process. Unlike the residents of planned neighborhoods who rarely know each other during the construction phase, the gecekondu residents are no strangers as they might come from different parts of the same region or city. For example, the original Pinar residents mainly migrated from the Black Sea region and particularly from the City of Rize to Istanbul.

In the initial stages of a gecekondu formation, family and kinship ties play key roles in creating informal social networks and norms of ‘trust and reciprocity’. By rendering services and labor to their fellow citizens people who know each other prove that every resource counts no matter how modest. At times, a good carpenter or handyman can help a neighbor to install a door or window. The reciprocal nature of such aids or ‘bonding social capital’ (Putnam et al. 1993) creates an atmosphere of trust and dependability among the gecekondus residents. But ‘bonding’ capital per se does not constitute sufficient grounds for community development. Down the road, bonding social capital facilitates ‘bridging’ and also ‘linking social capital’ (Woolcock 1998) where the former signifies the interaction between the community residents and outsiders (e.g., for funding), and the latter represents the linkage between the community members and people in positions of authority (e.g. for political reasons). Researchers have shown the importance of informal communication networks and voluntary associations (Aksoylu 1996) in community development, self-help, and interaction with the decisionmakers (Aksoylu 1986, 1989). The following section describes this process in Pinar.
FOUR MODES OF KNOWLEDGE CONVERSION AND THREE STAGES OF PLACEMAKING

Knowledge plays a key role in placemaking. Local knowledge refers to the use of common sense and experience compared to expert knowledge, which relies heavily on specialty and expertise. The ‘opportunity-based’ modes of knowledge creation contrast those of the need- and asset-based placemaking. Planning, programming, analysis, synthesis, and implementation do not necessarily occur linearly and sequentially, and may happen concurrently in an opportunity-based paradigm. The following highlights the four knowledge conversion modes based on direct observation and 25 open-ended interviews conducted with various local stakeholders in Pinar (i.e., residents, business owners, and public officials). The research was conducted as part of a Fulbright Fellowship in 2006-2007.

The three consecutive stages of placemaking (occupying, densifying, and legalizing) in Pinar exhibits different knowledge modes. Squatters collectively built houses, roads, and local amenities such as mosques, schools, and stores on public land (Keyder 1999) during the occupying stage. Increasing building density followed this stage where residents both expanded the built areas and improved the construction quality by using sturdy materials and conventional building techniques. The third stage involved efforts for legalization. Granting informal settlements legal status however, may not necessarily occur.

The plot of land where Pinar is located belongs to the National Treasury for Forestry. During the 1970s, initially 2 and later 40 families occupied the land and built homes there. By 1980 the number of households increased to 800; by 1990 an elementary school, 20 stores, three coffee and teahouses, and 3-4 workshops were built. Currently, most residents have drinking water; some have electricity; have access to paved roads and public transportation, sewer, a clinic, and parks; over 80% of the 1500 buildings in Pinar have two or more floors (Eitrem 2002).

The next section discusses the four modes of knowledge conversion in Pinar’s placemaking process. Nonaka (1994) conceptualizes four possible modes of knowledge conversion: tacit into tacit; explicit into explicit; tacit into explicit; and explicit into tacit. Apprenticeship and mentoring mainly through observation characterizes socialization (converting tacit into tacit knowledge). Combination (converting explicit into explicit knowledge) revolves around social processes such as group meetings, conversations, and discussions rather than mere observation. Externalization (converting tacit into explicit knowledge) illustrates successive rounds of critical dialogs while internalization (converting explicit into tacit knowledge) involves learning by doing.

OCCUPYING

Much of the original construction in opportunity-based placemaking demonstrates socialization (tacit into tacit mode of knowledge creation). Building on common sense as a fairly instinctive response to shared problems in which language does not play a major role (Nonaka 1994), socialization allows individuals to learn new skills by “observation and imitation, and practice” (Nonaka 1994: 19), rather than through scientific training. Representing rich stocks of bonding social capital socializing plays a significant role in the initial phase of the gecekondu formation (Aksoylu 1982). After occupying the public or private sector land, the gecekondu residents capitalize on their kinship ties to help and support each other. This stock of bonding social capital enables them to pursue solutions to shared problems including street and housing subdivision, and building construction. But this type of collective action has its skeptics. Some believe that local knowledge “does a better job planning mosques than houses and roads” [personal interview, Pinar 2006]. Interestingly enough, a business owner in Pinar attributes this problem not to poor planning, but a rent-seeking behavior. He asserts that “because people want to have bigger houses they take away from the road as much as they can; this is why the road which should be 10 meters wide all the way through becomes only 7 or 8 meters wide instead in certain areas” [personal interview, Pinar 2006].
The creation of the water fountain before gaining access to public utilities and piped water shows another tacit into tacit knowledge conversion mode. Residents (especially women whose access to the neighborhood’s public spaces is more limited than men) also used the area surrounding the fountain as a communal space even after public service delivery. The fountain as public space exemplifies how women solidified shared experience and promoted socialization. The absence of public space to socialize illustrates another solution to a collective problem.

Although socialization constitutes placemaking during the land occupation phase, residents exercised other approaches including combination (the explicit into explicit knowledge conversion mode). The role of the local Muhtar (headman) who represents the lowest link between people and government is a case in point. Following his election, the Muhtar discussed the community needs with his constituents, collected petitions, and identified the vacant or unsuitable land (i.e., with irregular form or on steep slopes) for redevelopment. Like the typical grand planning phase of the need-based approach which always happens prior to implementation, this stage in an opportunity based placemaking is also part of the planning process. This piecemeal process continues—both during and after the land occupation phase.

After crafting the community’s wish list, the Muhtar allocated parcels for requested land uses (i.e., parks, clinics, tea, and coffee houses). But who designs these places? Despite the gecekondu’s illegal status residents prefer to hire architects for better designs and construction quality. In places like Pinar, however, architects unofficially render their services to residents. In cases where architects and engineers are not involved people hire master builders (Kalfas in Turkish), who mediate between engineers and architects, and have experience building houses on rough terrain and irregular parcels. Architects and engineers (experts) and kalfas (intermediaries between expert and local knowledge) have mastered solutions to many local problems through the explicit into explicit mode of knowledge conversion (combination).

Donating public services illustrates another example of explicit into explicit knowledge whereby the government turns a blind eye to the illegal status of mature gecekondu and donates construction materials and utilities (i.e., gas, sewer, water, and garbage collection). Occupying is then associated with at least two modes of knowledge conversion: tacit into tacit and explicit into explicit.

DENSIFYING

While socialization and combination mark two prominent knowledge modes, internalization characterizes the third mode in an opportunity-based placemaking, during which the residents densify, enhance, solidify, improve, and modify the construction quality of the previous phase. Occupying the land is a stage where “there is no conscious housing subdivision (or other things for that matter), and this creates a mess” [personal interview, Pinar 2006]. However, the explicit into tacit knowledge mode through which people internalize represents the traditional concept of ‘learning by doing’ for sorting out this ‘mess’ along the way. For example, a group of Pinar residents initially laid out the main road on a ridgeline. According to an elderly resident, “twenty or thirty of the original residents got together and decided the location of roads, schools, and two mosques” [personal interview, Pinar 2007].

Learning by doing allows the gecekondu settlers to experience social mobility by building additional floors and improving their architectural and construction quality. For predominantly low skilled workforce aspiring homeownership by increasing building density is a major step toward social mobility and creating “productive capital” (Peattie 1979: 1019). This stage demonstrates a combination of socialization and internalization (learning by doing) knowledge modes.

A similar process highlights the reconstruction of Pinar’s original makeshift mosque and a dozen homes around it. When Pinar’s population increased residents realized that they needed a larger mosque and more open space. The mosque’s relocation gave it a more central address with traditional architectural elements such as the Baraka (Minaret). This process, which illustrates the trial and error (learning by doing), or explicit into
tacit knowledge conversion, should not suggest a design flaw as much as representing the dynamic nature of local knowledge in an uncertain context. Such transformations rarely happen in expert knowledge approaches to placemaking.

Design and planning fluidity can also be discerned in the transformation of initial housing construction in gecekondus. Using makeshift structures squatters start out with building shacks. Over time however, they convert these substandard structures into loadbearing brick or reinforced concrete multi-storey buildings (Dulgeroglu and Akçali 1991). Again, the explicit nature of expert knowledge rarely considers the scales of these alterations acceptable because experts favor pre-conceived and pre-ordained plans.

Local knowledge has learned from this practice by internalizing explicit into tacit knowledge. Residents and business owners near the mosque purchased land for its expansion, which gave it a more permanent look rather than a work in progress. This stands in sharp contrast to the problem solving method of the need-based approach to placemaking where explicit into explicit (combination) knowledge mode represents the bulk of the planning practice. These efforts reflect tried and tested planning solutions proposed by experts regardless of the particularities of the local context. Gecekondu residents learn to apply and enhance their knowledge as they go along. Figures 1 and 2 illustrate how creativity emerged from learning by doing in the use of space and material in Pinar.

LEGALIZING

Legalizing emerges as the last stage of an opportunity-based placemaking where the residents strive to acquire title deeds to their homes. Granting legal status to gecekondus does not happen automatically. However, since the 1980s different administrations have legalized many gecekondus in large cities such as Istanbul, Ankara, and Izmir, and have provided their infrastructure, services, and utilities (Leitman and Baharoglu 1998). Two particular legislations have facilitated the legalization process: the Gecekondu Law (775) and the Redevelopment Law (2981), where the former aims to upgrade gecekondus and to avoid the formation of new ones, and the latter seeks to “clarify the land ownership structures” (Leitman and Baharoglu 1998: 102) in them. By the time a gecekondu evolves from the occupying and densifying into the legalizing stage residents have already experienced different knowledge conversion modes.

Seeking legal status illustrates externalization (Nonaka 1994) as the fourth mode of knowledge conversion (from tacit into explicit) in Pinar. Several years ago, a group of students contacted an architecture faculty member at Mimar Sinan University for guidance and support, and formed a consultancy group, which was later joined in by more than 20 students. Through regular meetings the group managed to stop the Istanbul municipality’s proposed Urban Renewal relocation plan for half of the gecekondu’s population. Regular dialogs between the gecekondu residents and the consul-

Figure 1. Creativity in the face of dense space in Pinar
Photo courtesy of Dr. Ozge Cordan, Istanbul Technical University

Figure 2. The use of bed frame as a means to separate the public from private space. Photo courtesy of Dr. Ozge Cordan, Istanbul Technical University
tancy team led to 34 lawsuits, which ultimately resulted in the withdrawal of the municipality’s plan.

This exemplifies a tacit into explicit knowledge conversion mode. Had it not been for these interactions and dialogs and “successive rounds of meetings and dialogs” (Nonaka 1994), the residents would not have solved the potential relocation problem, which from their perspective, posed a threat to place integrity. Again, this problem, which required a local knowledge solution, would not have otherwise emerged in other approaches to placemaking. These examples show that despite the common perception, gecekondu residents (local knowledge) utilize dynamic solutions to problems as they deepen their loyalties to place.

CONCLUSION

This article problematizes expert knowledge and explores the local knowledge approach to placemaking. Fostering sustainability through knowledge conversion the findings stress three observations. First, while expert knowledge mainly adheres to the reductionist principles of planning based on problem solving and grand planning, local knowledge promotes piecemeal growth by utilizing both tacit and explicit knowledge. Second, the analogy between place and organization contributes to better understanding placemaking—especially, how local knowledge converts existing knowledge into new knowledge. This is important because compared to the need- or expert-based approach the opportunity-based approach to placemaking is more adaptable and sustainable. Third, promoting (social) sustainability through knowledge conversion, social interaction and self-help characterize placemaking in gecekondu. The paper outlines occupying, densifying, and legalizing as the three consecutive stages of placemaking during which the four modes of knowledge conversion occur. These modes include: tacit to tacit or socialization by honing nonverbal skills (i.e., observation, imitation and practice); explicit to explicit or combination involving a community’s long-term planning vision; explicit to tacit or internalization focusing on learning by doing; and, tacit to explicit or externalization through successive rounds of meetings and dialogs (Table 1).

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REFERENCES

AREFI, M. 2008 a, Asset-based Approaches to Community Development, UN-HABITAT, Nairobi, Kenya.

AREFI, M. 2008 b, Revisiting Placemaking: Comparative Case Studies from Boston and Istanbul, Joint Association of Collegiate Schools of Planning/Association of European Schools of Planning Conference (unpublished paper), Chicago, IL.


PEATTIE, L. 1979, Housing Policy in Developing


www.dictionary.com


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Abstract
Since sustainability is an optimization between physical (both natural and man-made), economic and social dimensions of development and conservation, plans, policies and applications in rapidly growing metropolises play a pivotal role for manifestation of this challenge. This article consists of three inter-related parts. First, core issues of a sustainable master plan are identified from a wide range of readings of the current literature. Second, as one of the most populated and rapidly growing metropolises of the world, Istanbul’s master plans between 1980 and 2009 are evaluated in terms of their convenience to the core issues of sustainability. Finally in context of sustainability, the actual position of Istanbul is criticized on the basis of some additional qualitative and quantitative data. The above-mentioned core issues are: urban compactness, sustainable transportation, conservation of historical heritage, a clear balance between nature and man-made environments/permeability of the built environment (for natural corridors), protection of vulnerable natural assets, rehabilitation of natural ecosystems, natural resource management, a place-based economy, control of the population pressure over the environment, (low-income) housing, provision of social equity and cultural diversity. Consideration of these issues aids in analyzing the main policies of the three master plans (1980, 1995 and 2009) in context of sustainability on the one hand and picturing today’s Istanbul, on the other. In fact the gap between planning and the actual situation is a characteristic problem for developing countries where illegal developments are almost legitimate. In these countries, planning also suffers from guiding development in sustainable terms due to lack of institutional capacity, participation and inadequate legal arrangements. In brief, this article focuses on the reasons and consequences of such a gap in the case of a rapidly growing metropolis.

Keywords: Sustainability, Sustainable Urban Development, Urban Planning.

FROM THEORY TO PRACTICE: SUSTAINABILITY
Connections between the theoretical and practical dimensions of the concept of sustainability emerge as a broad discussion to guide urban development and planning. In order to highlight these connections, the first step shall be to briefly discuss the evolution of the sustainability concept, which will then be followed by identification of the core issues of a sustainable master plan in relation to the current literature.

Theoretical Debates
Since the publication of The Limits to Growth (Meadows 1972), constraining growth within the capacity of the world resources has been a major task for development purposes, and sustainability has become both an essential goal and a benchmark for planning and policy debates. Sustainability was initially defined as “…development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED - Brundtland Commission 1987: 8). In fact a similar description was made by NEPA in 1965: “…to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfil the social, economic, and other requirements of present and future generations of Americans” (Jones et al. 2005: 2). The following milestones of the concept are the UN Conference on Environment and Development in 1992 (The Rio Summit), the UN Millenium Summit in 2000 and the World Summit on Sustainable Development (The Johannesburg Summit) in 2002 (Christofferson 2008, El-Ashry 2008). Some definitions on sustainability are summarized as follows:

- sustainability requires at least a constant stock of natural capital, construed as the set of all environmental issues (Pearce, Barbier and Markandya 1989),
• “…improving the quality of human life while living within the carrying capacity of supporting ecosystems” (a definition by the World Conservation Union in 1991) (Wheeler 2004: 24),
• “…is development that improves the long-term health of human and ecological systems” (Wheeler 1998: 438),
• “sustainability also emphasizes the interlinked nature of the individual components of rapid urbanization…” (Drakakis-Smith 2000: 8),
• “…the ability of physical development and environmental impacts to sustain long term habitation on the planet Earth by human and other indigenous species” (Roosa 2008: 44).

As evident in these definitions, sustainable development is a very complex theme. Two of the major reasons for this complexity are hereby discussed in accordance with the literature. First it is an integrated and highly inclusive concept connecting policy, economy, technology, society, ecology and planning, as to why interdisciplinarity is an essential dimension in order to reach this goal (Christofferson 2008). Parallel to this argument, Portney’s (2003: 53) description of sustainability covers “Ecological – environmental – natural resource issues; the performance of the local economy; a variety of quality of life issues; and long term governance issues”. One of the relevant and simplifying approaches is separating the principles and policies of sustainability into three interrelated sub-sets. In many references the concept refers to physical, economic and social aspects (Williams 2007: 14, Wheeler 2004: 31, Finco and Nijkamp 2001, Riddell 2004: 22, Camagni, Capello and Nijkamp 2001). Intersection of each pair symbolizes an alternative attitude for a plan or policy such as environmental equity (physical-social), distributive efficiency (social-economic) and long-term allocation efficiency (physical-economic) (Finco and Nijkamp 2001). It is also obvious that different views of the relationship between man and nature can be classified according to their degree of eco-centrism. From this point of view, Naess (1992) lists five paradigms: (1) frontier economics, (2) the environmental protection perspective, (3) the resource management perspective, (4) the eco-development perspective and (5) the deep ecology perspective, while Wheeler (2004, p. 28) categorizes the relevant literature under four main topics: (1) environmentalists, (2) economists, (3) equity advocates and (4) spiritual writers and ethicists.

Second, both problem definitions and solution proposals are meaningful only if global and local dimensions are simultaneously taken into consideration. While a global understanding is needed for a broader view on the problems, solutions can be reached with the help of regional and local policies and even building scale precautions. In other words, as Harken states “Most global problems cannot be solved globally because they are global symptoms of local problems …” (Roosa 2008: 2). This may be also why Burgess and Jenks (2000: 91) define sustainability as “a universally established urban development goal”.

The literature on sustainability can also be categorized as (1) substantive and (2) procedural attempts. The former seeks an accurate answer to such questions as: “What is sustainable development?”, “What are the extents of this concept?” and “What is the right attitude for mankind in facing the development-protection dilemma?”, while the latter focuses on questions such as: “How can sustainable development be measured?” and “What are the indicators of sustainable (urban) development?”

As the main theme of this study is particularly related with the second set of questions, this article aims neither to develop a classification technique like Lombardi (1998) did nor to suggest a full set of indicators like Singh et al. (2009). The intention is to reach a set of core issues in order to evaluate an urban development process or a master plan in terms of sustainable development.

**Measuring Sustainable Urban Development**

Since the Rio Declaration in 1992, measuring sustainable development has been one of the core research tasks not confining this basic goal into theory or policy. The requirement of operationalizing this concept was mentioned in Agenda 21 in the following statement: “Indicators of sustainable development need to be developed to provide solid bases for decision-making at all levels and to contribute to a self-regulating sustainability of integrat-ed environment and development systems” (Finco and Nijkamp 2001: 294).
At this point it is essential to remember that there is a clear differentiation between developed and developing countries in terms of sustainability. Naess suggests five main themes for wealthy industrial countries in terms of sustainable urban development and spatial planning: “(1) Reduction of the energy use and emissions…, (2) A minimizing of the conversion of and encroachments on natural areas, ecosystems and soil resources for food production, (3) A minimizing of the consumption of environmentally harmful construction materials, (4) A replacement of open-ended flows…, (5) A sound environment for the city’s inhabitants…” (Naess 2001: 506).

For most developed countries, environmentalism is a kind of enlightenment process which is basically a down to top demand, while the position is the reverse for developing countries (Guha and Martinez–Alier 2000). This basic social reality is limiting the success of the participation process in developing countries that is also essential for a sustainable development agenda. Since the main priority is economic development, and economic resources are accumulated in a few metropolitan cities where the majority of the population lives, developing countries are facing the challenge of sustainable development within their own agenda. Thus, a population explosion in major cities, over-consumption of natural resources, lack of institutional capacity and inadequate regulations to manage urban growth and conservation of natural entities, insufficiency of low-income housing policies, and illegalization are well-known characteristics of these countries. In consequence, a bigger gap occurs between the plan and the observed development pattern in developing country metropolises.

From much of the literature on sustainable urban development indicators (Kenworthy 2006, Briggs 2005, Portney 2005, Wheeler 2004, Berke and Manta 1999, Cengiz and Erdoğan 1999, Wheeler 1998), the eleven criteria listed below will be used in the following section of the article in order to evaluate the planning experiences and urban development of Istanbul:

- urban compactness,
- sustainable transportation,
- conservation of historical heritage,
- a clear balance between the nature and man-made environments / permeability of the built environment (for natural corridors),
- protection of vulnerable natural assets,
- rehabilitation of natural ecosystems,
- natural resource management,
- a place-based economy,
- control of population pressure on the environment
- (low-income) housing,
- provision of social equity and cultural diversity.

EVALUATION OF MASTER PLANS OF ISTANBUL

In evaluating Istanbul’s master plans, three steps are taken. First, in Table 1 each master plan’s codes (exact written planning ordinances) are directly taken from the plan reports without involving any comment, and classified in terms of their relevance to the selected criteria. Second, these plan codes are categorized as “compatible”[+], “partly compatible”[±] and “not compatible”[-] according to their conformity to each criterion (also see Table 1), and third, each plan is interpreted. In these specific interpretations, plan codes, plan reports and land-use decisions have been regarded as the basic materials.

1980 Master Plan
This plan was prepared by the Ministry of Reconstruction and Resettlement based on the for-
mer studies of Piccinato and the Istanbul Master Plan Bureau. The main intentions of the plan were expressed in the key sentence which included: “not to lose any unique values”, “enhancing the importance of the metropolis in international grounds”, “conformity to national development policies” and “provision of necessary functions and services in the development and growth process of the metropolis” (Özler 2007). The population estimation of this plan for 1995 was 7.1 million, 67% of which would be on the European side. The deviation was about 2 million compared with the official statistics. On the other hand, the principles, policies and decisions of the plan covered most of the sustainability indicators except for “provision of social equity and cultural diversity” and “rehabilitation of natural ecosystems” (Table 1). The central zone, the Bosphorus, the remaining urbanized zone and new development areas were the four planning zones. The northern part of Istanbul was covered with forests and agricultural lands to be protected. Except for the central zone, the two other urbanized zones were to be partly rehabilitated and populated. Mass-housing was (250 people/hectares) the basic housing policy of the plan for development areas, which were located at the peripheries. The industry was intensely oriented outside the historical core towards peripheries on both continents along the highways (Figure 2).

Besides these planning decisions, construction of a second bridge over the Bosphorus Strait and validation of several amnesty laws (from 1949 to 1984, six amnesty laws) were the basic instruments of urban growth for this period (Tekeli 1994). As a result, population was accumulated along the beltways, near the industrial zones and within the water catchment areas, destroying forests and agricultural lands.

1995 Master Plan

The Istanbul Greater Municipality prepared this plan with an estimation of a population of 13 million of which 65% would be located on the European side. The aim had some similar components with the previous plan such as “protecting the historical, cultural and natural unique values”, “becoming a world-city”, “conformity to national development policies” and some new expressions like “integrating neighboring states’ economies”, “benefiting from regional opportunities”, “becoming a center of culture, science, arts, politics, trade and services” and “balancing development and protection” (IGM 1995). This plan has three main strategies: “specialization of sub-centers and reorganization of housing-workplace relations”, “hierarchy in centers” and “hierarchy of density”.

Figure 2. 1980 Master Plan
The accepted urban form was linear and poly-centric just like the former plan, and the density was planned to decrease outwards the city center where the settlements in the catchment areas were legitimized to a great extent. With this plan some of the new housing areas were concentrated around two sub-centers (Silivri on the west and Gebze on the east) by which the pressure on the existing CBD was thought to be reduced. In the other direction, the development areas were to expand towards forests and catchment areas starting from the beltways of the second bridge on the European side (Figure 3).

From the perspective of sustainability, the plan brought very few decisions about social equity, cultural diversity and natural resource management like the 1980 plan had and almost disregards some very essential natural assets like catchment areas and agricultural lands by merely addressing related by-laws (Table 1). Consequently these “Istanbul Water and Sewage Administrative Office” by-laws were changed eight times from 1981 to 2006 and were transformed for construction purposes rather than for conservation. Furthermore, some decisions concerning the development of sub-centers in proximity to catchment areas can also be criticized in this plan.

2009 Master Plan

The most recent master plan is also a product of the Istanbul Greater Municipality and its population estimation for 2023 is 16 million, 63% intended to be living on the European continent. Compared with the former master plans, the plan clearly emphasizes its goal as: “…to spatialize the environmental, economic and social sustainability principles and increasing the quality of life”. This plan has a wide range of principles and decisions related to sustainability, this time including social equity. Core issues which are slightly touched upon are cultural diversity and a locally based economy. This plan proposes a linear and poly-centric urban development, with green areas penetrating into especially the European side where most of the new housing zones are situated along the seashores and between two catchment areas (Küçükköşkmece and Sazlıdere). One of the two logistic centers is also proposed between these catchment areas on a linear development pattern expanding northwest (Figure 4). Basically the hierarchy of urban centers is similar to the former plans. As a vision-friendly function, cultural industries are proposed in the historical core where several sub-sectors of industry...
are decentralized, leaving valuable lands in the city center (http://www.planlama.org/new/guncel-haberler/1-100.000-olcekli-istanbul-cevre-duzeni-plani-ve-plan-raporu.html).

All these master plans can be criticized in terms of their re-active and institutional manner of participation. They appear to involve participation only after the plan is conceptualized and only the institutional actor groups are included in the participation process as representatives of the community, thus excluding the inhabitants.

THE GAP BETWEEN PLANS AND URBAN GROWTH REVISITED

Since these plans cover most of the sustainability criteria, it would be more significant to show the gap between the plan proposals and the concrete outputs of urban growth. In other words the deviation of planning rhetoric from the reality of urban environment emerges as the basic issue.

Population pressure over natural resources
In the early years of the constitution of the Republic of Turkey, approximately 6% of the national population was living in Istanbul. Today this figure reaches up to 18% with a population of 12.6 million (Table 2). The major shift in terms of population increase started in the 1950s when 1.2 million inhabitants were living in Istanbul. For the following four decades, a considerable number of immigrants were coming in order to have better access to job opportunities, urban facilities, etc. After 1950, depending on the period, the population increase percentage of Istanbul has been two or three times higher than that of the country, and the city has been rapidly growing in terms of both population and built-up areas (Özügül 2005).

Such tremendous change has not only brought a capital accumulation but also deeply affected the structure of the metropolitan city including the vulnerable natural values like water catchment areas, agricultural lands and forests. In the 1970s, 4% of the population was living in seven catchment areas, which were the basic drinking water resources of Istanbul. Starting from 121,000 in 1970, this population reached 216,000 (4.5%) in 1980, 665,000 (9.1%) in 1990 and 1.3 million (13.3%) in 2000. As evident in Graphs 1 and 2, the share of catchment areas’ population shows a dramatic growth between the years 1970 and 2008. Today, approximately 2.2 million people (18 % of Istanbul’s population) live in these enlarging and mostly illegal settlements (TURKSTAT 2008, State Institute of Statistics 1970-2000).

Deterioration of Natural Assets
**Table 1. Istanbul’s master plans**

<table>
<thead>
<tr>
<th>Master Plan</th>
<th>1968 Master Plan</th>
<th>1995 Master Plan</th>
<th>2005 Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td>Urban development</td>
<td>Urban development</td>
<td>Urban development</td>
</tr>
<tr>
<td>Methods</td>
<td>Physical planning</td>
<td>Physical planning</td>
<td>Physical planning</td>
</tr>
<tr>
<td>Results</td>
<td>Realized projects</td>
<td>Realized projects</td>
<td>Realized projects</td>
</tr>
<tr>
<td>Challenges</td>
<td>Economic challenges</td>
<td>Economic challenges</td>
<td>Economic challenges</td>
</tr>
<tr>
<td>Impact</td>
<td>Socio-economic impact</td>
<td>Socio-economic impact</td>
<td>Socio-economic impact</td>
</tr>
</tbody>
</table>

**Diagram:**
- Ecological threshold
- Black Sea
- Marmara Sea
- Historical urban core

**Legend:**
- Open house international Vol 36, No.2, June 2011
- Planning and Sustainability Trajectories...
In addition to the catchment areas, agricultural lands and forests of the metropolis also witness uncontrollable exploitation. From 1970 to 1995, 15.1% of the agricultural lands were covered with settlements in Istanbul. During the 1995-2007 period, the figure became worse. 24.8% of the remaining agricultural lands of the metropolis have been replaced with built-up areas (Table 3).

The amount of agricultural lands per inhabitant also constitutes another related figure which has been rapidly decreasing for the metropolis over the past 38 years, from 386 m² in 1970 to 59 m² (-85%) in 2008. The worst change occurred between the years 1970 and

<table>
<thead>
<tr>
<th>Year</th>
<th>Turkey</th>
<th>Istanbul</th>
<th>Istanbul’s share of Turkey</th>
<th>Population increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1927</td>
<td>13,648,270</td>
<td>805,883</td>
<td>5.9%</td>
<td>7,298,918</td>
</tr>
<tr>
<td>1935</td>
<td>18,515,018</td>
<td>885,499</td>
<td>5.5%</td>
<td>15,444,233</td>
</tr>
<tr>
<td>1940</td>
<td>17,820,950</td>
<td>991,237</td>
<td>5.6%</td>
<td>19,879,620</td>
</tr>
<tr>
<td>1945</td>
<td>18,376,174</td>
<td>1,072,399</td>
<td>5.7%</td>
<td>13,345,536</td>
</tr>
<tr>
<td>1950</td>
<td>23,947,188</td>
<td>1,165,477</td>
<td>5.7%</td>
<td>15,763,043</td>
</tr>
<tr>
<td>1955</td>
<td>24,016,403</td>
<td>1,333,822</td>
<td>6.4%</td>
<td>18,471,926</td>
</tr>
<tr>
<td>1960</td>
<td>27,754,820</td>
<td>1,882,092</td>
<td>6.8%</td>
<td>25,366,607</td>
</tr>
<tr>
<td>1965</td>
<td>31,391,427</td>
<td>2,392,763</td>
<td>7.3%</td>
<td>30,619,586</td>
</tr>
<tr>
<td>1970</td>
<td>36,806,176</td>
<td>2,010,319</td>
<td>5.2%</td>
<td>33,016,857</td>
</tr>
<tr>
<td>1975</td>
<td>40,347,729</td>
<td>2,904,318</td>
<td>7.2%</td>
<td>37,443,410</td>
</tr>
<tr>
<td>1980</td>
<td>44,749,957</td>
<td>3,471,830</td>
<td>10.5%</td>
<td>41,267,120</td>
</tr>
<tr>
<td>1985</td>
<td>50,664,458</td>
<td>5,842,915</td>
<td>11.6%</td>
<td>45,813,543</td>
</tr>
<tr>
<td>1990</td>
<td>56,473,625</td>
<td>7,309,190</td>
<td>12.9%</td>
<td>50,164,435</td>
</tr>
<tr>
<td>1995</td>
<td>62,500,000</td>
<td>9,198,431</td>
<td>15.2%</td>
<td>56,301,569</td>
</tr>
<tr>
<td>2000</td>
<td>67,804,000</td>
<td>10,018,735</td>
<td>14.1%</td>
<td>61,785,265</td>
</tr>
<tr>
<td>2005</td>
<td>71,517,160</td>
<td>12,517,886</td>
<td>17.0%</td>
<td>64,009,275</td>
</tr>
</tbody>
</table>

1990: -58.8%. Consideration of agricultural lands and built-up areas of Istanbul in a graph shows a negatively symmetrical appearance, indicating that these two functions have been replacing (Graph 3) for the last 38 years.

A similar evaluation can be made in relation to the change in forestland per inhabitant. Because of the rapid increase of population, forestland per person decreased from 321 m² in 1990 to 193 m² (-40%) in 2008. At this point it is prudent to remember that 18,233 hectares of forestland was also covered with settlements in 2002 (http://www.cevreorman.gov.tr/2b.htm).

As a consequence, agricultural land losses and decreasing forestland per inhabitant are the basic negative consequences in terms of sustainable urban development and directly related with the increase of the built-up areas in the metropolis (Graph 4). In other words urban growth seriously damages the natural resources mentioned above.

### Urban Sprawl

In much of the literature on urban sprawl or the opposite development alternative, compactness (EEA 2006, Kasanko et al. 2006, Song and Knaap 2004, Goldberg 1999), private car ownership, inner-city transportation preferences, growth of built-up areas, service sector employees working outside the city core, residential density and proportion of low-density residential areas are used as some of the indicators to evaluate the characteristics of urban growth for western cities. In many cases the results of such calculations are more meaningful with comparisons between different cities as Kasanko (2006) did. Most of the explanations below are compared either with the averages in Turkey or with some European and US cities.

Mentioning annual growth of built-up areas, in an EEA (European Environment Agency) report (2006), Istanbul was the most rapidly growing city out of 24 selected European cities from 1960 to the 1990s with an annual growth of 4.5% and the third after Udine and Palermo in Italy for a ten year period (nearly 5.5%) starting in the 1950s. From 1990 to 2005 the same figure is about 5.6% (IGMMPUDC 2005) which means that the metropole is still expanding at an accelerating rate.

The location of service sector employees is also a basic indicator of sprawl. In 1992 nearly 500,000 people were working in this sector and 58% of them were located in the old CBD, which consists of 7 administrative districts; whereas 50% of 1 million service sector employees were located in the city core in 2002 (IGMMPUDC 2005). While the amount of service sector workers in the old CBD increased by 100%, the share of this...
zone decreased by 8%. These figures can be deemed as the signifiers of the development of sub-centers observed in the master plans (like Küçükçekmece and Kartal).

From 1960 to 1980 46%, and from 1980 to 1995 33% of dwelling construction was single houses in Istanbul (TURKSTAT 2002-2007, State Institute of Statistics, 2000, IGM 1998). According to the same EEA report (2006), after Palermo, Istanbul had the least proportion of low-density housing in this period and in 2007 36% of all dwellings were single family houses. As a related issue, some investigations highlight a tendency of movement from city center to the peripheries for middle-age and older age groups and larger size households (Dökmeci and Berköz 2000), also due to improvement of economic circumstances (Dökmeci et al. 1996).

According to the numbers mentioned above, Istanbul (1855 people/km²) seems to be a relatively denser city (London: 1846 people/km², Tokyo: 1546 people/km² and Paris: 791 people/km²) which is a prerequisite for urban compactness (Şenlier and Eryılmaz 2004). However, as in most of the developing country metropolises, increasing density does not symbolize a healthy development pattern in every case. As a matter of fact, in addition to its increasing

Table 4. Housing supply and low-density housing in Istanbul comparing to Turkey (State Institute of Statistics 2000, TURKSTAT 2002-2007, IGM 1998)

density, Istanbul suffers from a lack of urban facilities especially in the illegal parts of the city.

Meanwhile private car ownership in Istanbul has always been higher than the overall Turkish average. Graph 5 indicates that Turkey will catch up to Istanbul after ten years. Today 140 private cars are owned by 1000 inhabitants in Istanbul, whereas this figure is 97 for Turkey.

In 2008, 88% of the passengers were found to prefer motor vehicles (including public transportation), 9% railways and 3% seaways in terms of inner city transportation. 1.1 million daily trips were observed between the European and Anatolian parts of Istanbul in the same year. Likewise, approximately 1.67 million motor vehicles traveled daily in Istanbul, of which the biggest share pertains to private cars with 96%. Another important indicator, 45% of the commuters used public transportation (Alkan 2008). The length of the metro line is 26 km which remains obviously insufficient compared to New York (438 km), Tokyo (219 km) and Paris (200 km) (Şenlier and Eryılmaz 2004).

Lacking Urban Facilities

Availability of sufficient size and number of urban facilities is one of the core issues both for quality of life and for sustainable urban development. Istanbul is getting poorer year after year in terms of green space. Green space per person was 6.8 m² in 1975, 6.5 m² in 1980, 3.9 m² in 1985, 2.8 m² in 1999 (Atabey 2005) and 1.7 m² in 2005 (IGMMPUDC 2005).

Table 5. Urban facilities (IGMMPUDC 2005)

<table>
<thead>
<tr>
<th>Urban facility</th>
<th>Istanbul’s average</th>
<th>National standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green space</td>
<td>1.7 m² per person</td>
<td>10 m² per person</td>
</tr>
<tr>
<td>Elementary schools</td>
<td>0.50 m² per person</td>
<td>4.5 m² per person</td>
</tr>
<tr>
<td>Secondary schools</td>
<td>0.33 m² per person</td>
<td>3 m² per person</td>
</tr>
<tr>
<td>Health facilities</td>
<td>0.11 m² per person</td>
<td>4 m² per person</td>
</tr>
<tr>
<td>Administrative facilities</td>
<td>0.69 m² per person</td>
<td>5 m² per person</td>
</tr>
<tr>
<td>Social facilities</td>
<td>0.09 m² per person</td>
<td>1.5 m² per person</td>
</tr>
<tr>
<td>Cultural facilities</td>
<td>0.13 m² per person</td>
<td>2.5 m² per person</td>
</tr>
<tr>
<td>Religious facilities</td>
<td>0.32 m² per person</td>
<td>0.5 m² per person</td>
</tr>
</tbody>
</table>

Adapted from IGMMPUDC 2005.

Elementary and secondary schools, health facilities, administrative facilities and social and cultural facilities (like museums and concert halls) are other facilities which are lacking. Especially in the illegal and low-income districts of the metropolis, all these facilities remain insufficient, even by national planning standards. Such an urban landscape also points to a deeper problem of social inequality.

Housing Supply and Illegal Development

It is ironic that although there are very few official statistics about illegal development, strongly related issues like inequality of opportunity in reaching resources and urban facilities, informal economy and illegal housing seem to be major problems in Istanbul. In 1995, 51% of Istanbul’s housing stock consisted of illegal dwellings (Şenlier and Eryılmaz 2004). Recent research states that there are 5.2 million unlicensed buildings in Turkey and 1.6 million (31%) of them are situated in Istanbul, forming 52% of the entire building stock of the metropolis (Çanga et al. 2002).

Retrospectively speaking, these consequences have several reasons, including populist policies of administrative bodies, public amnesties related to amnesty laws and also an insufficient housing supply for low-income groups. Istanbul’s annual population increase was 163,000 from 1966 to 1980, nearly 297,000 from 1980 to 1995 and 260,000
between 1995 and 2008 (Table 2) whereas successively 218,000, 165,000 and 498,000 new dwelling units were constructed in the same periods (Table 4). These numbers clearly show something unique for Istanbul - that the problem is not the amount of housing stock but the inefficiency of a (affordable) low-income housing policy. Hence, continuous growth of the metropolis is guaranteed by the exceeding housing supply. Today, Istanbul is facing a new challenge, namely, the over-expansion of the urban macroform on ecological thresholds due to failures in site selection of state oriented mass housing projects (Figure 5).

**Water and Energy Consumption**

Strongly related with its population dynamics, Istanbul is Turkey’s biggest water and energy consuming city. Istanbul’s daily water consumption per person was 238 liters in 1995. This figure is expected to increase to 276 liters in 2040, with the total capacity of watersheds able to provide for approximately 10 million people in the same year (IGMMPUDC 2005) when the projected population is for more than 23 million. Given that Istanbul’s population has been recorded as 12.6 million in 2008, the metropolitan municipality seeks solutions regarding “mega-water supply projects”. Thus, Istanbul is increasingly dependent on external water supplies located in neighboring provinces. Basically the same circumstances are also valid for energy consumption where 14% of Turkey’s electricity consumption (http://www.bedas.gov.tr/dosyalar/html/2007_faaliyet.html, http://www.ayedas.gov.tr/faaliyet2007.pdf) and 27% of natural gas consumption (http://www.igdas.com.tr/Docs/Pdf/IGDAS_Faaliyeti2007.pdf) was made by Istanbul in 2007.

When all these figures are interpreted in terms of the selected sustainability criteria, Istanbul can be defined as an unsustainably enlarging metropolis. Although Istanbul seems to be growing as a compact city because of its decreasing share of low-density housing and increasing dwelling unit construction, all of the urban facilities are insufficient and low-income housing supply is inadequate. In such a case urban compactness is out of question and social equity cannot be provided. Hence, private car dependency symbolizes a big disadvantage in terms of sustainable transportation. The exceeding population pressure over the catchment areas and exploitation of agricultural lands and forests are the basic signifiers that the vulnerable natural assets have not been able to be protected for the last 38 years. Since the metropole is the major

natural resource consuming city and dependent on external resources, natural resource management policy and applications also seem to be inadequate.

CONCLUSIONS

It is now abundantly clear that there exists a considerable gap between the three master plans and the actual reality of Istanbul’s urban growth for each period. While these plans appear to cover most of the core issues of sustainability with regard to their objective framework (including policies and strategies as well as plan codes), the metropolis keeps rapidly growing in an unsustainable way. The built-up areas spread over agricultural lands, forests and catchment areas, population increases enormously, private car dependency stays as a remarkable part of inner-city transportation preferences and an excessive amount of energy consumption is observed for Istanbul. Due to the fact that the affordability of low-income groups seems to make minor change for the policy makers, illegal housing still remains an essential problematic despite the housing oversupply. Moreover, today, Istanbul is facing an old difficulty within new labels like “urban transformation” and “state oriented mass-housing projects”. These mass-housing projects also seem to constitute the major drivers of urban sprawl to the north where there are indispensable ecological treasures.

Dwelling upon the above-mentioned gap, some further evaluations can be categorized under three main topics: (1) failures of plans and their implementation, (2) effective external factors and (3) prerequisites for success of sustainable urban development.

A common failure of these plans is their reactive participation manner. The inhabitants and NGOs were asked for their reactions after the plans were conceptualized, but not before or during. In other words, plans were seen as technical tools in order to build an ideal future for the majority and legitimized with sort of an elitist consensus, excluding the local inhabitants. In such a process, participation transforms into a kind of government technology more than being an effective tool in seeking communicative rationality. Beyond this, the metropolis is being shaped by the partial plans of several actors (investors, mass housing companies, public authorities, etc.) destroying the wholistic nature of these master plans. Furthermore, each of these plans includes some contradicting elements. A number of arguments included within the objective framework of planning do not match with some specific planning decisions concerning sustainable urban growth. For instance, the 1995 master plan aimed to protect the water reservoirs by only referring to the related by-laws without proposing any kind of operational decision about the population living in these areas. While the 2009 master plan declared sustainability as the major principle, it also proposed a western logistic center between two catchment areas which would expand through ecological thresholds.

Two basic types of external factors are worth mentioning in terms of their effects on urban growth, legislation and autonomous decisions of the central government. At this point it has to be remembered that amnesty laws and the “Istanbul Water and Sewage Administrative Office” by-laws have been the major instruments of urban growth. With the amnesty laws the illegal housing zones were legalized while illegal development was legitimized. Starting from 1981, the “Istanbul Water and Sewage Administrative Office” by-laws changed eight times and these changes were shaped in accordance with development concerns within the water catchment areas more than for conservation purposes. There are several autonomous decisions including tourism center declarations, mass housing areas, even construction of a second Bosphorus bridge and its beltways. Thus in some cases, plans follow the progress instead of directing it. All these factors are bypassing planning decisions and obviously are more effective than official plans in orienting urban land use.

It becomes obvious that the success of sustainable urban growth depends on other factors than on planning policies or decisions. These are: “institutional factors” like management and organization capacity, public–private modes of cooperation, and “social preferences” or “attitudes of citizens” including lifestyles, consumption behav-
ior and environmental awareness (Finco and Nijkamp 2001). Consequently, it is clear that only if plans, planning policies, legislation and reality are oriented towards the same goal is it possible to reach healthy solutions.

REFERENCES


IGM (ISTANBUL GREATER MUNICIPALITY) 1995, 1/50.000 Ölçüklü İstanbul Metropoliten Alan Alt Bölge Nazım Plan Raporu
Assessment Methodologies”, Ecological Indicators, 9(2009), 189-212.


STATE INSTITUTE OF STATISTICS 2000, Building Census.

STATE INSTITUTE OF STATISTICS 2001, Genel Tarım Sayımı (Agriculture Census).


TURKSTAT (TURKISH STATISTICAL INSTITUTE) 2002-2007, Building Permit Statistics.

TURKSTAT (TURKISH STATISTICAL INSTITUTE) 2008, Adrese Dayalı Nüfus Kayıt Sistemi (ADNKS) Veri Tabanı (Address Based Population Registration System Database).


Internet References
http://www.planlama.org, access date 2.11.2009.

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DESIGN STUDIO PEDAGOGY: Horizons for the Future
Ashraf M. Salama & Nicholas Wilkinson (editors)

This groundbreaking book is a new comprehensive round of debate developed in response to the lack of research on design pedagogy. It provides thoughts, ideas, and experiments on design educators of different generations, different academic backgrounds, who are teaching and conducting research in different cultural contexts. It probes future universal concerns with which the needs of future shapers of the built environment can be conceptualized and the design pedagogy that satisfies those needs can be debated.

Addressing academics, practitioners, graduate students, and those who make decisions about the educational system over twenty contributors remarkably introduce analytical reflections on their positions and experience. Two invited contributions of N. John Habraken and Henry Swan offer visionary thoughts on their outstanding experience in design pedagogy and research.

Structured in five chapters, this book introduces theoretical perspectives on design pedagogy and outlines a number of thematic issues that pertain to critical thinking and decision making, cognitive and teaching/learning styles, community, place, and service learning; and the application of digital technologies in studio teaching practices. All articulated in a conscious endeavor toward the betterment of the built environment.

Contributing Authors:

From:
Australia, Canada, Egypt, Finland, Israel, Italy, Kingdom of Saudi Arabia, Kuwait, Qatar, Serbia and Montenegro, The Netherlands, Turkey, United Arab Emirates, United Kingdom, United States of America.

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