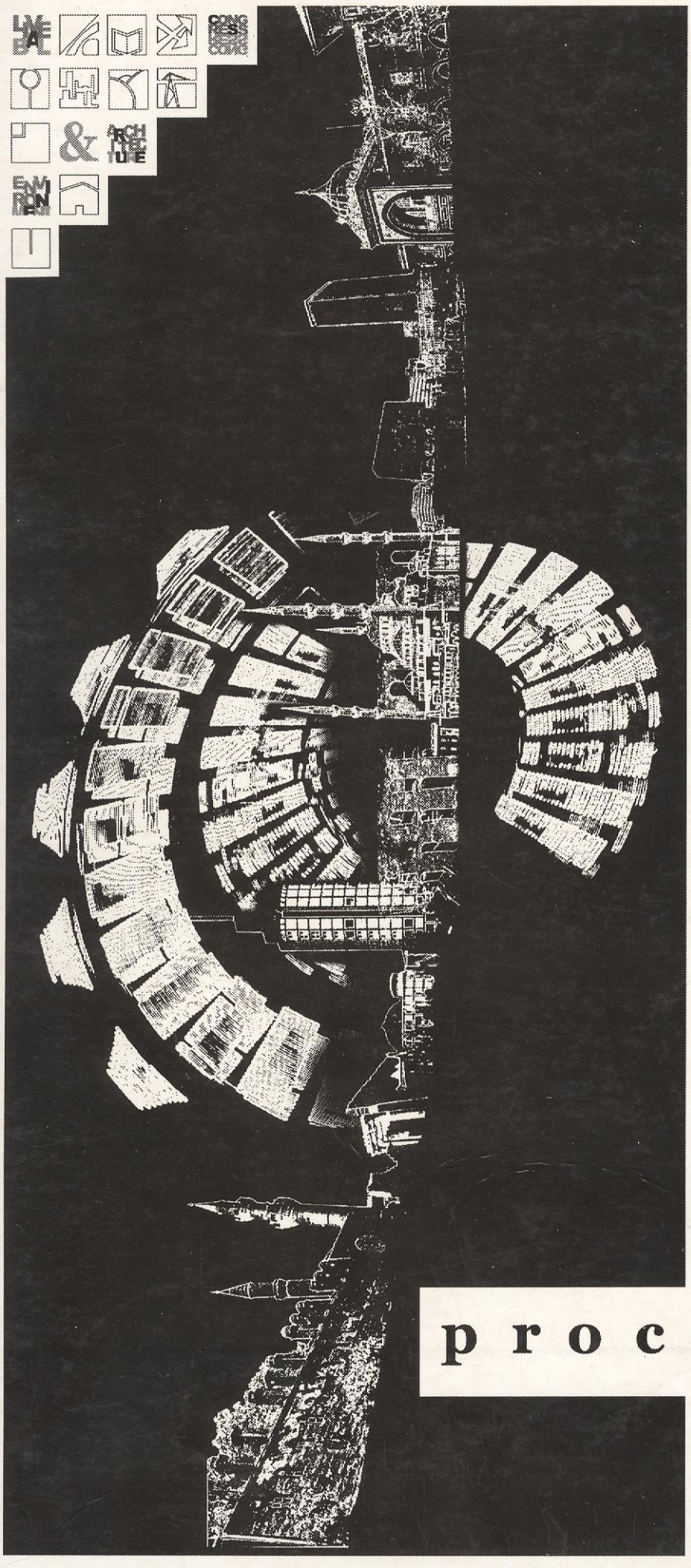

LIVENARCH 2001

4 - 7 July 2001
Trabzon
Turkey

Livable Environments & Architecture International Congress

proceedings

LIVENARCH 2001

LIVABLE ENVIRONMENTS
&
A R C H I T E C T U R E
INTERNATIONAL CONGRESS

nature – cities – architecture
sustainable development

4-7 July 2001

Trabzon / TÜRKİYE

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- Technological innovations
- Thc rolc of thc mcdia

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- Agricultural-Recreational Lands
- Nature and Tourism
- Landscaping
- Natural Energy Sources
- Pollution Human Health

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LIVENARCH 2001
LIVEABLE ENVIRONMENTS and ARCHITECTURE
INTERNATIONAL CONGRESS

SCIENTIFIC PROGRAMME

DAY I : 4th July 2001 / WEDNESDAY

08.30 Opening of the Registration Desk
09.00 Opening Comments

Atatürk Culture Centre
(AKM)

9.30		Keynoter ***Jon Lang***
		Creating liveable environments: the new functionalism and architectural theory
10.30		Coffe break
		1st.Session-Cities:Theory, identity, quality Moderator *Jon Lang*
11.00	97	Pomagranate *Şengül Ö.Gür*
11.15	79	Permeability in urban design: a review and observations in the city of Mardin *Aykut Karaman, Gülsen Özaydın, Ebru Firidin*
11.30	113	Urban identity in the changing context of the city: The case of (Famagusta) *Derya Oktay*
1145	71	Importance of environmental quality in looking for quality living *Figen Karaman, Serpil Çerçi*
12.15		Lunch
14.00		Keynoter: Nejdet Teymur; Live(in)ability: a problem of design or pathology
14.45		Coffee break
		2nd.Session-Cities: perception, identity
		Moderator: Ali Madanipour
15.05	42	Essentials of liveable environment for urban young *Şinasi Aydemir, Saliha Aydemir, Yelda Aydın, A.Melih Öksüz, A.Özyavuz*
15.20	33	Tourism in the historical city: a case Trabzon *Hamiyet ÖZEN*
15.35	04	Significance of place identity for tourist attraction: case of Bellapais *Mukaddes Faslı, Nil Paşaoğulları*
15.50	67	The role of historical and cultural environments: a case study Trabzon *Özge Cordan*
16.05		Coffee break
		3rd Session - Cities: Human needs, culture, change
		Moderator: Yavuz Koşaner
16.25	22	Assessment of customers needs and their transformation in to design *Murat H. Günaydın*
16.40	91	The importance of culture factor in user and designer interaction for today's house representation *Sibel Demirarslan*

16.55	87	A study on game space preferences of children in house near nvironment. *Gülay K.Usta,Ayhan Karadayı,Ayhan Usta*
17.10	78	Flexibility versus variety *Ali Asasoğlu, Nilgün Kuloğlu, Sibel Ural*
17.25	88	Continuity of urban identity and visual impact assessment *Ayhan Karadayı, Gülcan Karadayı*
18.00		Closing

DAY II : 5th July 2001 / THURSDAY

8.30		Opening of the registration desk
9.00		Keynoter : Ali Madanipour 'Design in the city of actors and context'.
9.45		Coffe break
		1st Session – Policies, laws and regulations
		Moderator : Michael Trieb
10.05	42	Do the Turkish Planning Laws ensure the urban liveability *Saliha Aydemir, Nermin Ökten, Cenap Sancar, Dilek Şen*
10.20	46	How development plan alterations can guarantee the liveability in cities: the case of Trabzon *Dilek Şen, Şinasi Aydemir*
10.35	106	Autocriticism of a premature (modern) architecture medium or the shanty "Environmental Design" praxis. *Ülkü Altınoluk, Harun Batırbaygil*
10.50	77	Participation in planning and liveable environments *Ayşegül Özyavuz*
11.20		Coffee break
		2nd Session- Shells: liveable housing
		Moderator: Saliha Aydemir
11.40	101	An Ecological Analysis Of Traditional Mud Houses In Cyprus. *Burak Tursoy, Pınar Ulucay*
11.55	74	House and its surrounding within the context of liveable environments *Ayça A. Ustaömeroğlu*
12.10	76	Methodological analysis of Le Corbusier's houses *Nazan Kırcı*
12.25	48	Liveable housing and kitchen *İlkay Özdemir, Sema Efendioğlu*
12.40		Lunch
		3th Session -Cities: Sustainability, flexibility, identity, style
		Moderator: Zafer Ertürk
14.00	60	Architectural responsibilities within the context of sustainability *Arzuhan B.Aydın, Gülser Çelebi*
14.15	49	City and city life: a synthesis of dilemmas *Pınar Köylü, Murat Yazganı*
14.30	41	Urbanisation problems in the GAP Region and suggested solutions *Güven Şener*

14.45	98	House identity and style related to human well being *Cemile K.Tıftık*
15.15		Coffe break
		4th. Session- Building tytes
		Moderator: Aykut Karaman
15.35	86	Importance of puplic art creating more liveable urban puplic spaces *Nihal Şenlier*
15.50	30	Culture centres in metropolitan cities: palaces of art in Europe or isolated shells for art in Turkey *Tülin Vural*
16.05	06	An urban design approach to the community centres in the realisation of public in Turkish cities: case of Manisa *Ahu Dalgakıran*
16.20	37	Habitating the high rise: a proposal for an alternative urban residential structure *Dürnev Atılgan*
17.00		Closing

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9.45		Coffe break
		1st Session - Global and cultural issues
		Moderator: Şengül Ö.Gür
10.05	109	The civilisation wealth as main factor for sustainable development and social-co-existence: The Black Sea Cities *Papodopoulou, P.S*
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10.35	27	Social, cultural, spatial diversity and complexity in urban housing environment; the city of Bursa, as an example *Arzu Çahantimur, Hülya Turgut*
10.50	96	Built environment and sustainability: people needs and neighbourhood Parks *Mohsen Faizi, Helen Woolley, Peter Tregenza*
11.20		Coffee break
		2nd Session-Energy,pollution,security
		Moderator: Şinasi Aydemir
11.40	61	The designing of the shading devices in relation to the window orientation *Gülay Zorer Gedik*
11.55	95	Energy efficient settlement unit design to reduce urban air pollution *Gül Koçlar Ora, Filiz Akşit*

12.10	14	An approach in determining the need for window in office spaces *İlknur T.Doğrusoy*
12.25	94	The window applications in old town of Gazimagusa in different periods *Ayşe Gökmen*
12.40		Lunch
		3rd Session – Tourism, recreation
		Moderator: Derya Oktay
14.00	66	Contribution of agricultural recreation to the rural development process: a case study in Kalecik,Ankara *Sultan Gündüz, Nevin Akpınar*
14.15	16	Urban agriculture is it a hope for the future *Hülya Koç*
14.30	57	Vineyard concept in the open and green space systems of the Anatolian cities: case of Konya,Meram *Ümmügülsüm Ter*
14.45	07	An in-place employment project: organized green house district *Oytun E.Doğmuş*
15.00	59	Main factors for the sustainability of rural settlements: case of Artvin province *Zehra Eminağaoğlu, Sonay Çevik*
15.30		Coffee break
		4th Session-Mix session
		Moderator: Hülya Koç
15.50	85	Coordination of mass transportation modes for more livable cities *Darçın Akın, Sinan Hınıslıoğlu, Yaşasın Eryılmaz, Semiha Eryılmaz*
16.05	55	The appreciation of data base modelling in Erciyes Mountain, Tekir Plateau settlement *Kemal Demir, Suat Çubuk*
16.20	02	What does computer aided design offer for producing liveable building in the 21 th Century *Şule Taşlı*
16.35	114	Metropolis and the individual *Burçin Güngen*
16.55		Coffee break
		5th Session -Planning after disasters: earthquakes and fire
		Moderator: Nihal Şenlier
17.15	112	Rebuilding after an eartquake: the downtown recovery program of Santa cruz, California, USA *Alvin Mushkatel, İzzet Özkeresteci*
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17.45	44	Fire safety for liveable environments *Figen Kars*
18.15		Closing

PREFACE

LIVENARCH 2001

LIVABLE ENVIRONMENTS AND ARCHITECTURE INTERNATIONAL CONGRESS

Nature,Cities, architecture and Sustainable Development

Initiation of LIVENARCH 2001; Livable Environments and Architecture Congress has come from the staff in the Department of Architecture as means of exchange scholarly and practical ideas and visions in the international milieu.

The studies and implementations related to create more liveable environments furnished with quality architecture and landscapeing are the prime concerns of all the nations disregarding their level of wealth and progress.

Pomegranate

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Abstract

Daily life, which is the social context of the feedback from the economic relations within the society, is the rational nucleus of spatial praxis. However, following the tremors of the 19th century, economic competitions overshadowed the praxis value of space. Space turned into a commodity, lost its poetics, and communal life has been ripped of cultivation and sublimity.
Nevertheless, communities and communal spaces are unalienable for societies to exist, no matter what changes. Therefore, we have to devise ways of improving urban space to make it function fully again.
For this purpose I have chosen the pomegranate as a tool of discovery.
I chose the pomegranate for two reasons: Firstly, the type of problems we are faced with today require totally new approaches, strategies and design principles, non-beheld before. The review of the past literature could be delimiting in this respect. Secondly, I propose the pomegranate as a modest, cognitive and tangible model of the universe, upon which urban and architectural design principles could be based, so that the fascinating chaotic balance of the universe can be simulated on our fatigued earth, as well.
Pomegranate reflects both the mythological explanations of genesis, which rely heavily upon concepts such as mutations, shocks, surprises, propagation, non- mathematical orbits, etc., and the most advanced explanations of biological and botanical genetics. In short, pomegranate is an allegoric figure loaded with many metonyms and metaphors. It models unity, integration, adaptation and toleration by providing facial contact, interaction, individual and communal privacy, right of territory and identity; and it is dynamic, full of energy and life. Let's design pomegranates.

Keywords: architectural theory, mythology, sciences, spatial fit, niche

1. Introduction

Architectural critics might suggest that in an age of individualized economic competition, the discreditation of ideals leaves very little to talk about except indefinable poetry often bordering on the esoteric. It is as if the age of enlightenment had never occurred, as if modern philosophers had never lived. Architecture, in Nietzsche's nineteenth century world view, after what he called man's murder of God, would need to compensate with edifices dedicated to collective mass cults. Now, almost centuries after Goethe's death, and about a century after Nietzsche's and Marx's deaths, architecture is reduced to the status of just another consumer item, available to order.
In a multicultural age of electronics, we are going through different experiences. Different experiences equal different behaviors, and different spaces, naturally. But space has an essential quality that it is of substance and form, without which social relations can not exist. It is both an instrument and the goal of societies in order to exist.
Bacon (1620) who distinguishes four major idols of man, the first of which is inherited from our ancestors, has promoted communal space in philosophy firstly: *Idols of man* represent the belief systems, which are built upon primitive perceptions of the universe. *Cave idols* on the other hand, display the totally individual and idiosyncratic perceptions and cognition of the individual. The third, market-bazaar idols refer to the language, posture and behavior adopted by humans during commercial intercourse and social relations. The fourth, the theatre is a special case of social relations. It is the learned and the intellectual. Meaning that, from philosophies, sciences and wisdom of the others we also develop a learned conception of the universe and universal truths. Through this structured view we judge the traditions, privacy, obedience to authorities, dereliction of duty, neglect, etc.
Daily life is dispersed among these four major idols of Bacon, as space/time universals. Daily life is real, as opposed to the ideal philosophical life, which is abstract. Philosophical life is there and then, daily life is here and now. It consists of repetitions as observed by Vico (1725) and Nietzsche (1883, 1884, and 1892). Although it is entangled with the space/time elements of the universe (Bergson 1896, 1907), and society (Lefebvre 1974), it is distributed over temporalities such as hours, days, weeks, months, seasons and years, etc. Here, the theory of being comes into contact with the intrigue of repetitions. Even the past may gain imagery substance within these repetitions through individual and collective memory. Identicalness, sameness and routines of the daily life, as expounded by Hegel and Marx, also embrace the Heraclitean "other" within repetition and continuity.
Daily life is modest, natural and strong. Looked at its own it lacks history, signs and symbols. However, with a certain use of time, which is at the same time ethical and aesthetic, it ties every necessity and joy together and keeps the individual occupied. It is modern in the sense that it is ready to knead anything new and innovative into its dough. Global daily life of a certain era is the rear façade of the Zeitgeist.
Daily life, which is the social context of feedback from the economic relations within the society, is the rational nucleus of spatial praxis (Berman 1994; Sennett, 1996). However, economic competitions over urban space following the tremors of the 19th century, overshadowed the praxis value of space, in general. Space, instead of being appropriated by the society as a whole, turned into a commodity. Media aided in the divorce between the cognitive and non-cognitive values attached to space. By inducing radical changes in th

creative participation of citizens. Voluntary participation used to unite subject and object, body and soul, as had been alluded in Plato's "Symposion" (1995). In the post capitalist era space lost its unitary character and thereof its poetics. People looked in vain, into the objects and objective conditions of societies for personal meanings, which they could not find. As a result they retreated to their individual life space for security, order, stability and well being. Thus, communal life has been deprived of cultivation and sublimity (Sennett, 1996). The cities known as market places turned into theatres where different segments of society appropriated well-defined territories to rehearse their dictated plays.
Nevertheless, communities and communal spaces are written in the myths; they are unalienable for societies to exist, no matter what changes. This is reflected even in the distopia of the computer age, which is after virtual community. Real communities are what the designers should be after.
Therefore, in the search for amelioration of communities and communal spaces, I might have chosen to re-evaluate and contextualize by geography and culture, the design theories concerning communal spaces, within the many creeds and scientific beliefs of their time, so as to suggest ways of dealing with design problems of today. I might have chosen to render succinct outlines of Goethe's, Nietzsche's, Marx's, Heidegger's and Baudrillard's worldviews with special emphasis on their allusions of community and communal architecture. I could have traced back "the ideal community" through the discursive concepts of utopias, heterotopias and distopias. Still, I could have chosen to re-examine the concept of community design in the works of pre-modern, modern and postmodern architectural historians and theoreticians such as, Vitruvius, Alberti, Vasari, Laugier, Blondel, Durand, Sitte, Giedion, Banham, Benevelo, Broadbent, Panofsky, Wittkower, Zevi, Collins, Jencks, Bonta, Tafuri, Lang, van Dijk, Borradori, Gusevich, Olmo, Colenbrander and Johnson, etc. I could have summarized important views of some renowned sociologists concerning the life bubble of man and community. I chose none.
Instead, in this paper, I chose the pomegranate.
I chose the pomegranate for two reasons: Firstly, the type of problems we are faced with today is not solely design problems but problematic. They require totally new approaches, strategies and principles non-beheld before. The review of the past could be binding, shielding and delimiting. Secondly, I propose the pomegranate as a modest, cognitive and tangible model of the universe, from which urban and architectural design principles could possibly be derived, and whose perfect dynamic balance could possibly be simulated on our fatigued earth.
I believe that the pomegranate reflects both the mythological explanations of genesis which rely heavily upon concepts such as mutations, shocks, surprises, propagation of parts and extremities, non-mathematical orbits of dragons, etc, and the most advanced concepts of biological and botanical genetics.
In short, pomegranate is not a simple analogy or metaphor. Pomegranate is an allegoric figure loaded with metonyms and metaphors.

2. Pomegranate

"Pomegranate is the fruit of a small tree or shrub, punica granatum, grown for both ornamental purposes, notably in hedges and for its fruit. The fruit is a berry from 2-5 inches (5-13cm) in diameter, with a leathery yellow and red skin, crowned by five to seven persistent calyx robes. It has several chambers and contains a great many white or yellowish seeds surrounded by a crimson, yellow or whitish pulp that is juicy, transparent, and acid or sweet" (Encyclopedia Americana, vol. 22; p. 376) (Fig. 1).
In figure of speech it is a simile standing for "very red" as in phrases *like "scorched by the sun as a pomegranate"* and *"fried like pomegranate"*. As a metaphor it stands for *"beautiful women, teardrops of the sweetheart, and the beautiful teeth of the sweetheart"* (Büyük Larousse, vol.16). As a symbol, it connotes abundance and riches for its bright red color. In the myths it is a fruit, which the hero is after. It is usually in a garden protected by a dragon and the whole odyssey is structured around this search and anticipated victory (Mackenzie, 1996). The riddle about the pomegranate in Turkish goes like this: "I got one from the bazaar and found awaiting thousands at home", again, underlining the concept of abundance.

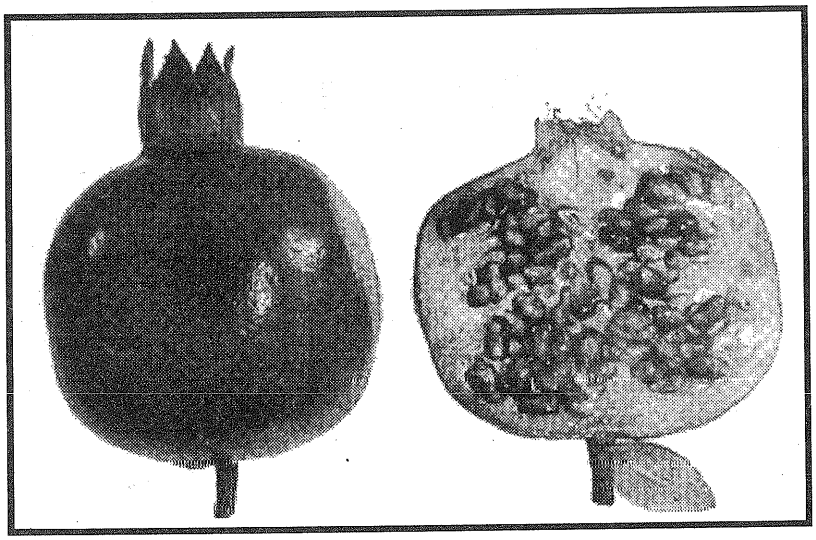


Figure 1: Pomegranate fruit has a leathery skin and a spongy interior. Its many seeds are embedded in juicy capsules

2.1. Myths and science

One, very well known of the creation myths of the universe and humanity is the cosmogonic egg: It somehow exists. It develops and cracks. One major part of the shell turns into silver and becomes the earth. The other turns into gold and becomes the sky. The outer lining of the shell makes up the mountains; the inner creates the clouds and mist. The fertile nucleus in the middle represents the life's infinite dynamism (Campbell, 2000). However, most common to the myths of both east and West is the propagation of one into many-infinite 'ust like the pomegranate.
Universal space is one such infinity created not by expansion only, but by the infinity of forms it may take. Einstein's relativity theory broke up Newton's universe of absolute space and time into a multitude of space/time frames 'each tied to a particular observer, who therefore not only has a different clock but also a different map'. Since then our conception of universe has drastically changed from the mechanical to the organic, thanks to Einstein, Bergson and Whitehead. Now we conceive the space as dynamic, evolving, consisting of inseparable space/time elements; delocalized organisms with mutually entangled space/times; non-linear, heterogeneous and multidimensional space/times; with participatory entanglement of observer and observed (Ho, 1997).
On the other side, the new genetics posit that genes function in a complex, non-linear, multidimensional network-the action of each gene ultimately linked to that of every other. Genes and genomes are dynamic and fluid, they can change in the course of development. Genes and genomes can change directly in response to the environment. These changes being inherited in subsequent generations. Genes and genomes can be exchanged horizontally (ibid.).
The whole is, thus, a domain of coherent activities constituting an autonomous, free entity, not because it is separate and isolated from its environment but precisely by virtue of its unique entanglement of other organic space/times in its environment. The global ecology may also be envisaged as a super organism within which coherence can be established in ecological relationships over global, geological space/times (ibid.).
Ultimately, new science indicates that the infinitely small space/times and the infinitely big space/times are synomorphic in character and that the organism itself is of space/time, anyway.
Philosophers assert that theoretical description fails to capture the organic reality that contemporary science is at its most captivating and that it is the realm of imagery where scientists and artists meet and where no one who is not both can enter.
This is exactly the realm I challenge to enter with my pomegranate. Why not with the universe or with the genomes? It is because I cannot behold them. Pomegranate is a concrete model of the universe where the myths and the new science coincide astonishingly. It is a concrete example of propagation of one into many; its shoots that rise from the base may be used for propagation of the shrub itself, punica granatum, an important space/time entity with which the pomegranate is primarily entangled.

2.2. The pomegranate and the city

If we take the pomegranate as the model of both citizens and city, here is what it looks like (Table 1). Although the power of metonyms and metaphors are clear from the table, a fundamental difference is obvious between the pomegranate and the man-made physical environment. It is that the pomegranate is organic, and capable of self-organisation. It can spontaneously generate order among its parts. It models a perfect unity, integration, adaptation and toleration. It does so by providing facial contact, interaction, individual and communal privacy, right of territory and identity. It obeys to the laws of an organic program, where mutations, shocks and surprises are also possibility. In short, pomegranate is dynamic and full of energy and life.

Table 1.Organic supra and sub-divisions of the pomegranate in order of importance (the first column is more societal, the second is more physical)

The garden	universal entanglements, earth, sun, soil, water, disasters, etc. human involvement	
Punica Granatum	society	geographical borders, country
Roots and veins	ecology, all other space/time entanglements here and now	carriers of global flows, land resources, investments and other concerns
Leaves and branches	migrations, major societal interactions	countryside, flows
Pomegranate	citizens	city
Leathery yellow or red skin	unity, integrity, solidarity, affordable tolerance, limits of programmed growth	any border borders with "others" borders with the countryside
5-7 Calyx robes	members of government, decision makers, sponsors	symbols and discriminating properties of cities
Chambers	organic privacy, territoriality and individualisation of ethnic groups, social classes, age groups, genders, etc.	division of districts, nodes, edges and paths
White or yellowish red seeds	individuals, peer groups, classmates, officemates, neighbours, etc.	economic, cultural, social and personal context of relations conceptual constructs
Crimson, yellow or whitish pulps	function and meaning	buildings, rooms, niches, settings, etc.

3. Re-appropriation of space: punica granatum and pomegranate

Societies and cities need invention today. They have to invent glocal (global +local) de-regulation policies for the re-appropriation of space. This is a most difficult goal to accomplish. It requires joint efforts of decision-makers, planners and architects to work against centrality.
Centrality has a mathematical origin and is reflected in the analysis of abstract spaces. It is "a form empty in itself but calling for objects, natural or artificial beings, things, products and works, signs and symbols, people, acts, situations, practical relationships" (Lefebvre, 1974; p.331). It is a logical form, which has centrality as logic. It implies simultaneity and it is the result thereof. In centrality everything is organized either at a point or around a point.
Space, notably the urban space today is organized around a superior political rationality which has surrendered itself to the capital. The center, almost everywhere in the world, continues effectively to concentrate wealth, means of action, knowledge and 'culture'.
Let's look at the relationships of punica granatum and the pomegranate at this point. Punica granatum has strong ties with the universe through its roots. It absorbs power. It decentralizes wealth, means of action and the life per se. Pomegranates are shifts in centrality. They are exactly where the life energy ruptures and explodes into blossoms.
Centrality of punica granatum is movable, variable and flexible. It can afford choices and preferences. It scans the possibilities and probabilities among its branches and leaves and decides where it can afford life. Thus, the pomegranate is conceived. It starts to develop from within. Seeds and chambers grow simultaneously. They feed pulps of various colors, which has function and meaning both for the pomegranate and the punica granatum. Close investigation of the punica granatum and the pomegranate is illuminating in many respects.
Concept of decentralized power, self-regulation, scanning of possibilities, dynamic simultaneity of chamber and seeds require further investigation from the standpoint of planners and architects.

4. Planning and design principles

When I started to see everything around myself as punica granatum and pomegranate I personally gained new insights and drew out some principles some of, which are very old, and some are new for me. These I will render under two subheadings: planning and design.

4.1. Planning

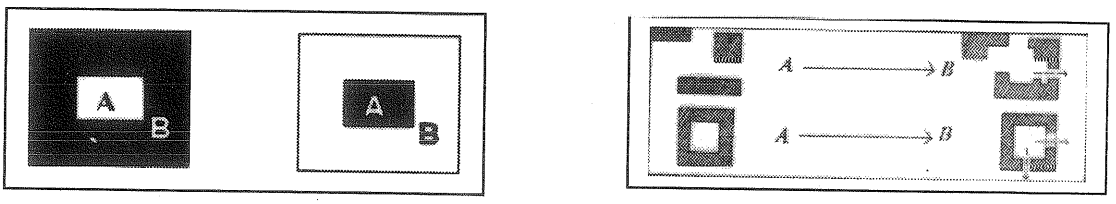
"The rosy expectation that "a rising tide lifts all boats" was at best naive. The tide of globalization is raising only some boats, and to a different level in different ways" says, Smadja (2000; p.13). The challenge of inequalities -in health, education, prosperity and urban space-remains as pressing as ever, both within individual nations and between the nations of the world. Critics of economy-politics suggest that politics should abandon diatribe and move towards dialogue.
In this respect the 21st century is going to be a century of politics rather than economics. Politics will have to re-assert itself as a driving force in the coordination of life, and not the capital. As we have seen above, the centrality of punica granatum is centered on life, not around the capital.
In order to realize and speed up deregulating processes at the periphery, politics has to decentralize power. It has to prepare the substructure of local decisions by passing liberalizing laws and regulations. It has to review the physical planning laws and practice. Self-regulating, participatory planning processes are mandatory in freeing of the space.

4.2. Design

To foster complex relations to exist between urban space and the temporality (rhythms) of urban life has always been the purported goal of environmental design. Arguments on fit vs. non-fit date back to early seventies. Neither is correct. The pomegranate has taught us a *dynamic space/time fit.*

4.2.1. Dynamic space/time fit

In order to achieve the perfection of pomegranates in urban design and architecture the mechanisms inherent in pomegranate should be translated into design rather than devising merely formal principles for the physical enclosures. In other words, those researchers and designers who study the physical forms of streets, squares, building counters, corners, intersections, morphological character of this and that, should rather turn their sight to the dynamic interactions of society and form, meanings attributed to specific spaces by certain populations.
Although 'positive space' properties proposed by Ashihara (1970) and Alexander (1977) are important in conceiving the space (Fig.2), the most important quality that makes any space positive is not the form but people-form interrelations. Although housing typologies depicted, for example, by Deilmann, Bickenbach and Pfeiffer (1982) are important in terms of the housing environments they create (Fig.3), the more important is their match with the property of populations who are going to use them. Even the traffic flow models are important in the making of the environment, but which one of them is more conducive than the other in fostering positive interpersonal and communal relations depend upon the properties of users (Fig. 4). The relations between the height and depth of buildings facing each other can be important but not without the sight of people who are to make use of it (Figures 5&6). Building counters and height differences are important in creating intriguing and exciting environments if you have got people to rejoice them (Figures 7&8). Promenades and pedestrian paths may create excitement by curios angles, landmarks, fountains, etc., for the right kind of users who can attribute meaning to these (Fig.9). Meaning is an attributed value, not an inherent one. It demands interpretation on the part of the user. For the public open spaces, squares and the like, to reassume their meaning, social context of the places must be reviewed and restructured in terms of meaning for the users and occupants.
To summarize, in architectural and urban design unity should come to mean the unity of seeds and pulps, integration should mean the integration of groups with districts; and adaptation and toleration should mean seed to seed, seed to pulp, and pulp to chamber adaptation and toleration. A dynamic, space/time fit.



(a) (b)

Figue 2: a. Relationship of positive and negative spaces (Ashihara, 9.18)
b. Transformation of negative spaces into positive (Alexander, p.522)

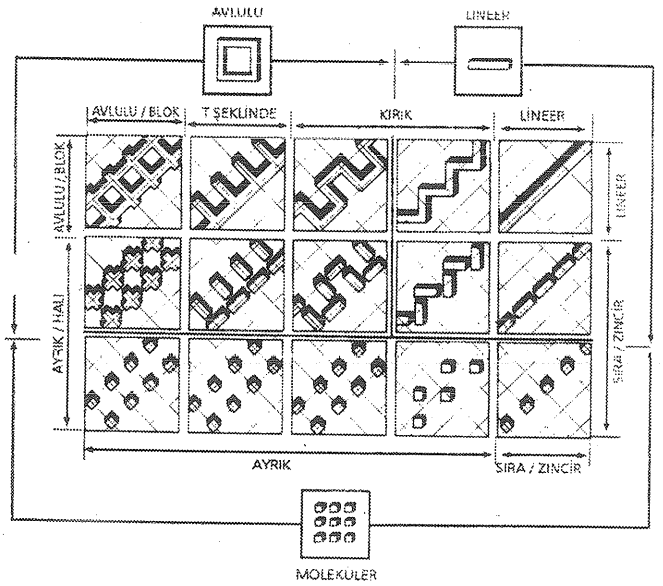


Figure 3: Housing configurations (Deilmann et al., p.16)

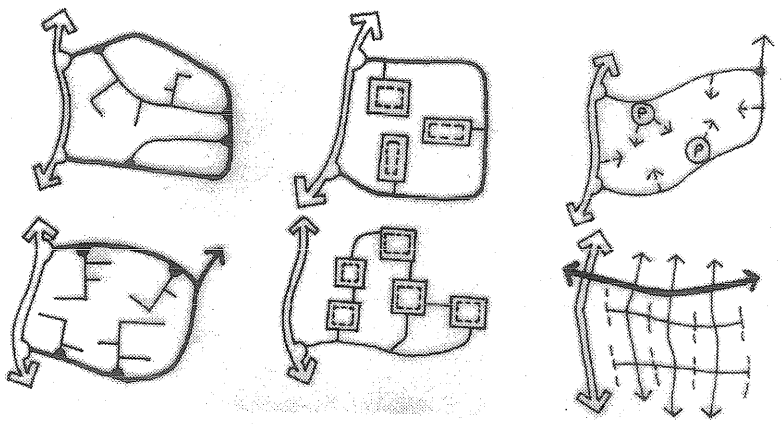


Figure 4: Traffic flow models in residential areas (GLC, p. 59-61)

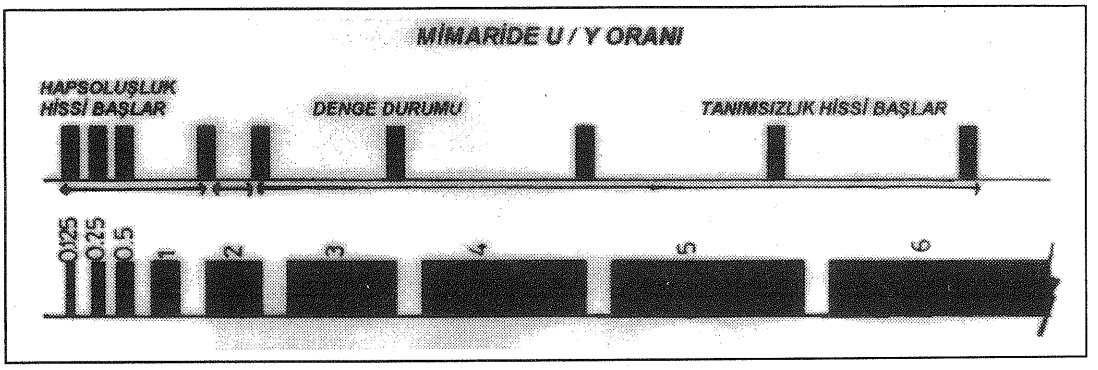


Figure 5: Height and depth ratios (Ashihara, p. 43)

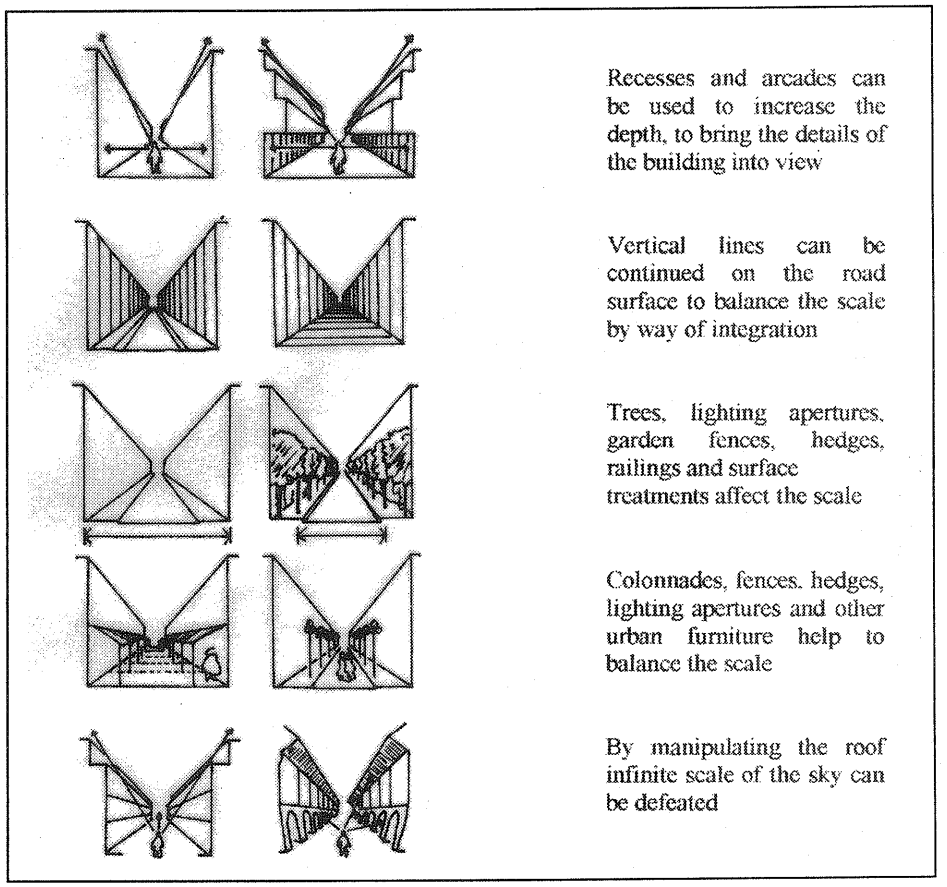


Figure 6: Organizational measures for human scale
(Prinz, p.23; Alexander, pp.75-77)

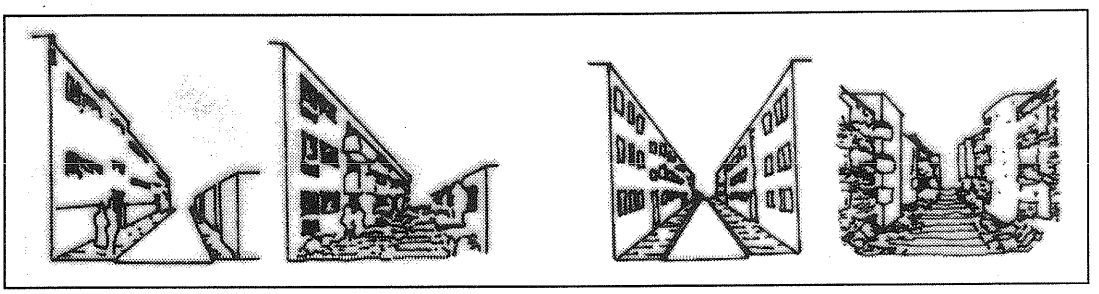


Figure 7: Treatment of walls as behavior enclosing elements (Prinz, p.29)

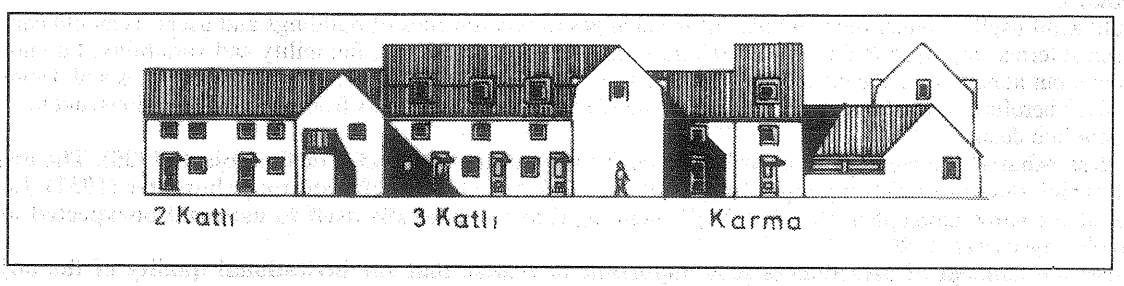
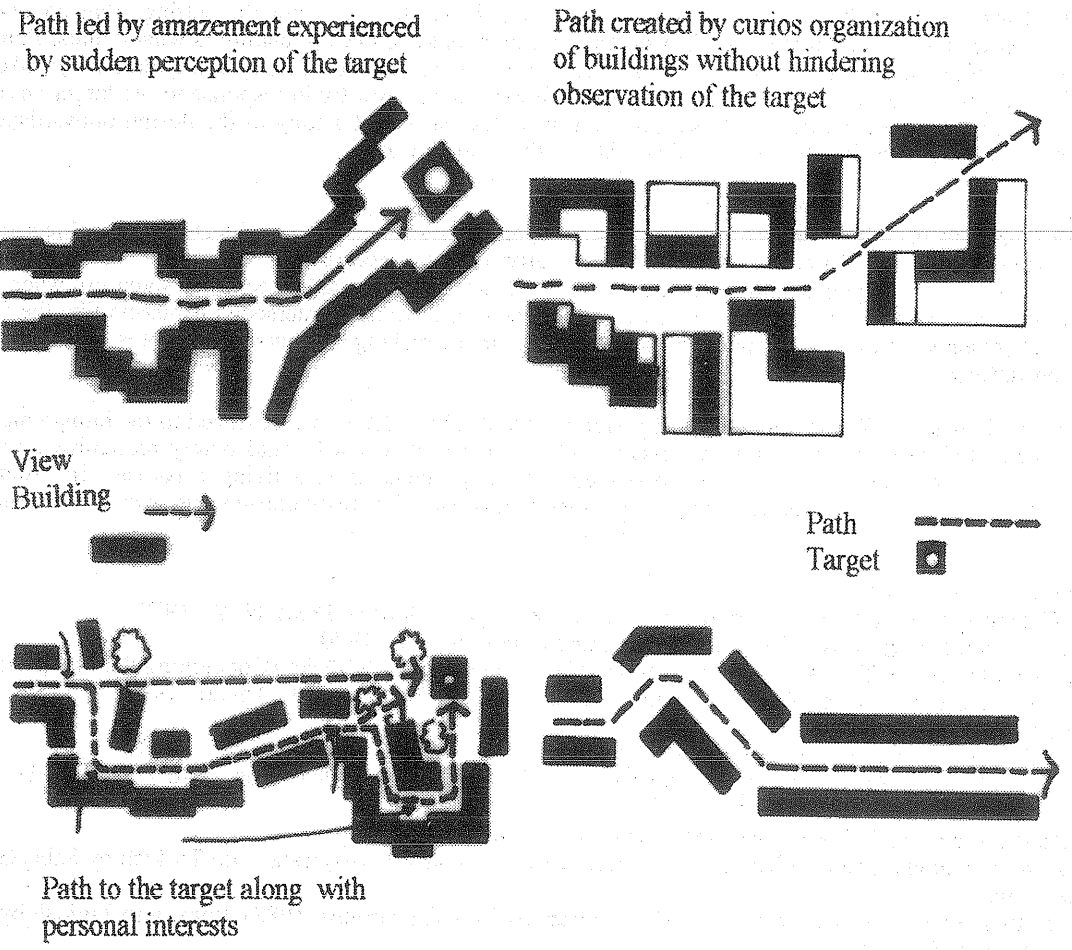


Figure 8: Transformation of height for visusl enrichment of environment (GLC, p.39)



Figur 9: Different paths determined by vistas for reaching a landmark or a center of attention (GLC, p.96)

4.2.2. Affordance

'Design should avail itself to synchronic and diachronic changes in relationships of buildings and users' is an old canon by now. Classical terms employed in this kind of relationships are accommodation, flexibility and variability. I do not deny their value, but none is spontaneous. Punica granatum scans the existing environment for possibilities and decides instantaneously. Therefore, it is a better way to observe the *phenomenal affordances* from real life situations and to implement them into design.

Koffka has first debated the concept of affordances as the invitational character of the object (1935). The origin of the word, which does not exist in proper English dates back to Lewin's aufforderungscharacter (1951). Louis Kahn has used the same concept as "availability" meaning that which avails itself to uses and unexpected uses, and that which improvises itself.

To reinterpret the concept of affordances it is important to realize that the invitational quality of the object depends upon mutual relationships of object and subject. The subject would feel the need of a certain configuration in the environment, would be able to perceive the possibilities inherent in that environment, and ultimately would be able to realize changes in that environment according to his purposes. *Spontaneity and extemporaneity* of this situation resembles the organic and dynamic self-regulation of the pomegranate, more than the planned accommodation, flexibility and variability.

Affordances are scanned possibilities. They rely on the organizational quality of the space, spatial elements, technology and materials. Affordances rely on the poetics of space rather than the cognitive properties of space.

4.2.3. From within

If we are to design pomegranates, we should start working *from within*, from the seed/pulp/chamber relations, in other words. Barker's invaluable "behavior setting" concept, which suggests this, is also very old. After the teachings of the pomegranate it also needs to be revised. Pomegranate has taught us that, it is not the settings that counts, but the interactions of settings with one another and their entanglements with the punica granatum is what counts. Pomegranate functions in a complex, non-linear, multidimensional network-the action of each pomegranate ultimately linked to that of every other. It can change in the course of development. It can change directly in response to the larger environment. If we are to design pomegranates we should start moving from the innermost setting of the design outwards;,each new setting enclosing the previous like the Russian Matruskha or the pomegranate.

4.2.4. Niche

A pomegranate is a niche full of niches. It is a dynamic, spontaneous unity of the subject and the object due to the aufforderungscharacter of the chamber (object) and the creativity of the seed (user). A niche is a reality which comes into being when it isolates or gathers, when it encloses or discloses, when it makes one sit or stand up, when it locates or strolls, when it concentrates or disperses, when it attracts or repels, when it intersects or bisects like the functional and meaningful chambers of the pomegranate. A niche is a stage in the making without scale (Photos 1-6)

5. Recommendations

One of the recent issues of a Turkish architectural periodical (XXI, No.6, 2001) was reserved to the human niches of all sorts. It contained 151 beautiful color photographs in only the three of which I could barely recognize a few human beings. A niche is not a nice vista or a secluded piece of environment. It is a living organism. In order to fully understand the pomegranates and design them, we architects must start by restructuring our own views. And this we must.

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Photo 1. Life within determines the niche

Photo 2. Niches are spontaneous and extemporaneous

Photo 3. Niches are related to life activity

Photo 4. Niches are not necessarily clean and beautiful

Photo 5. Niche is an affordance

Photo 6. Isn't it?

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Permeability in urban design: a review and observations in the city of Mardin

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Abstract

To enhance the vitality of urban environment is among the priorities of urban design process. This issue has always been of importance in constructing theoretical framework and in enlarging the categories of knowledge and in improving the quality of practice of urban design.
It is hypothesised that the way of buildings open out into public and private spaces, psychology of the spaces dealing with cognitive mapping show us that vitality has to do with the physical features, spaces, streets, and activity patterns of the urban environment.
The basic argument of the paper is that in the interaction of the three elements of physical features, sensory experience and activity patterns with the concept of permeability is the most critical variable that contribute to the vitality of the urban environment.
Permeability as the basic premise of the paper is reviewed theoretically based on the works of Jacobs, Alexander, Bentley. It is found out that features of permeability varies according to the degree of availability of the behavioural settings and to the typomorphological condition of the urban environment.

The concept of permeability is examined on the city of Mardin which is an historical hill town reflecting a highly complex and interesting urban morphological elements. The accessibility to public space, the relationships of fronts and backs and the street patterns are analysed in terms of fit between topographical condition and activity patterns.

It is concluded that;
- Permeability enhances the affordance of a place.
- Permeability is a vehicle that helps ease accessibility.
- Permeability contributes the vitality of urban experience.
- Permeability is a way of providing the legibility of urban space.

Key words: permeability, accessibility, sense of place, behaviour setting, affordance.

1. Introduction

To enhance the vitality of urban environment is among the priorities of urban design process. This issue has always been of importance in constructing theoretical framework and in enlarging the categories of knowledge and in improving the quality of the practices in urban design.

2. Urban Vitality

The vitality in an urban setting is taken as the frequency and the amounth of the daily usages. Achieving vitality depends largely upon the three interacting elements of physical features, activity patterns and sensory experience.

2.1. Physical features

The way of building open out into public and private spaces not only determine the typomorphological aspects of the cities but they also provides settings that foster activities.
Participating in social interaction an public and private domains promoted by the availability of behaviour setting is much depends on the linkages. The importance of the linkage as the typomorphological structuring device is emphasized by several researchers. Alexander (1965) argues that the links between activities can be achieved in city setting that are organised as semi-lattice instead of a tree-like configurations. The tree-like hierarchy of spatial organisation provide very limited access to public activities as can be observed in the traditional settlements of the middle eastern cities. Whereas a semi-lattice organisation has the highest degree of accessibility to public domain and activities. There are examples of semi-lattice spatial organisation in which the vitality is correlated to the way streets and blocks are put according to the size and geometrical configuration which permeate activities with an ease (figure 1).

Urfa Süleymaniye, Istanbul

Figure 1. Tree-like (Urfa), semi-lattice (Süleymaniye) urban layouts.

2.2. Activity patterns

The vitality of urban space is correlated with the physical aspects which encourage activity patterns and sensory experience. Passage ways, steps, terraces, square, niches are the crucial environmental patterns which provide settings to human activities of passing by, climbing, steering, observing, chatting, gathering, waiting, meeting, sitting, etc. In other words, the physical features of urban morphological formation is vital in affording activity patterns (figure 2). While the niches might afford waiting, standing and resting, the stairs and terraces might allow sitting, watching around and the squares provide meetings, they all many increases activities depending on the availability and the degree of complexity of sensory elements (Rapoport, 1971).

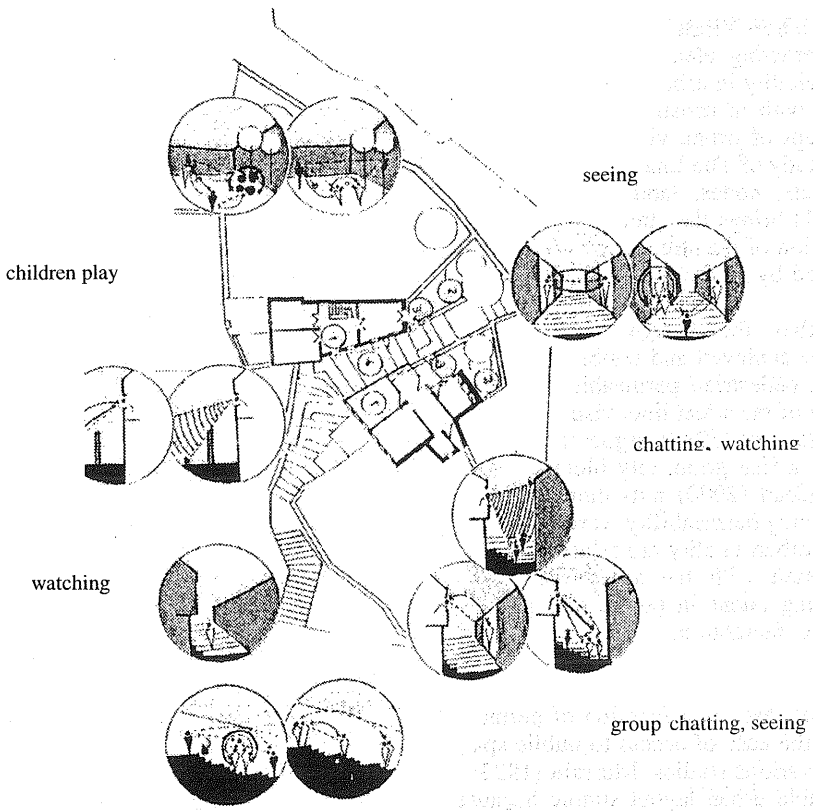


Figure 2. Street in Trabzon affords steering, meeting, sitting, etc. (Çevik, 1991)

2.3. Sensory experience

Cities consist of places and links through which people experience the meaning they convey. Urban morphological formation must contain architectonic and townscape elements that stimulate various sensory experiences. The urban spaces, streets, squares, surfaces and blocks that are rich in patterns stimulate sensory experience and therefore support the vitality (Alexander, 1977; Cullen, 1971; McCluskey, 1979, figure 3).

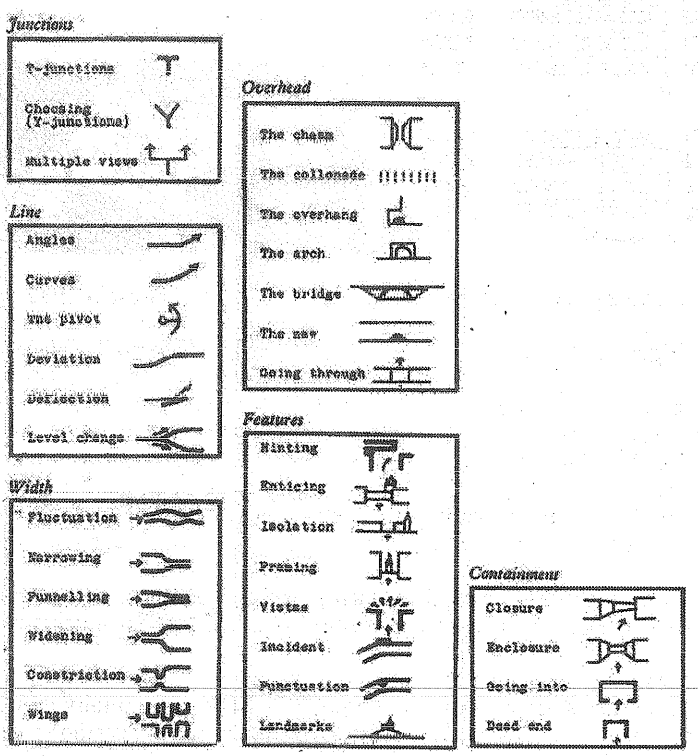


Figure 3. Townscape elements enhancing sensory experiences

3. The Elements Of Urban Vitality

Although the three interacting elements namely physical features, activity patterns and sensory experience are of importance in creating vitality in urban environment, the concepts of accessibility and permeability are the most critical variables to be tackled with in urban design process and analysing. In a review of writings and practices, it can be observed that the concept of urban vitality has always been in the agenda of urban design at various scales. Lynch (1959) in his classical study of The Image of City concludes that for an environment in order to be legible must contains five elements of districts, nodes, landmarks, edges and paths which enhance imagibility and contribute to the liveability. Jacobs (1961) brings the attentions to the importance of liveability of urban life that would come from the way of spatial organisation of the streets, architectural solutions and social interactions. She argues that rows of blocks defining streets supported by mixed uses and corner stores are among the spatial features that support social interaction and hence liveability.

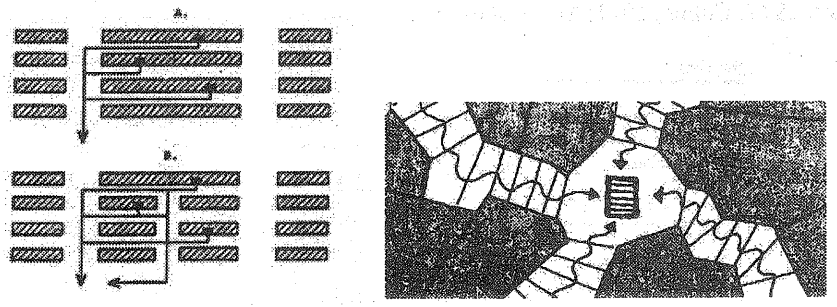
Bentley (1964) describes the design variables through which responsive physical environments or visual appropriateness could be achieved and legibility, adaptability, permeability are analysed in detail. For Tibbalds (1988) encouraging mixed use, pedestrian permeability, legibility are priory issues of designing for vitality. Holyoak (1985) also emphasises the role of the street line, visual accessibility as Urban Design Group (1988) list public access to places and mixed uses. Montgomery (1988) argues about the principles of form to provide vital urbanity with variables if mixed use, building for a fine grain, city blocks, permeability, architectural style as image, streets and public realm. Wansborough and Mageean (2000) puts emphasize on the theme of public realm which could be made vital with attentions towards achieving permeability, variety, legibility and adaptability.

All these arguments on urban vitality are related to typomorphological aspects of the urban environment which convey hidden meaning expressed with the adjectives of legibility, adaptability, variety, accessibility and permeability. Experiencing the meaning latent in public and private domains of the cities depends on the linkages that provide accessibility and promote interaction.

4. Permeability

Accessibility of an urban space is a function of permeability. The permeability is to give opportunity to movement of people in urban space . the ease of access to public spaces and activities in city life is conceptually elaborated with the term of permeability in various studies. Murrain (1993: 88) emphasize that "permeable cities must be the basis for any democratic and sustainable urban layout simple because if you can't reach a place you cannot use it". Bentley et all (1985: 12) take the concept as a key measure of responsiveness of an environment which "allows people a choice of access through it, from place to place".

In this study permeability is taken as the capacity of a behaviour setting which helps easy access to activities in various places. It is a very crucial element of urban morphology in creating well used places that promote social interaction and encounters (figure 4).



Montgomery, 1998 Petreschi,1982

Figure 4. The short blocks make the access easy to public places

The lack of permeability in an urban setting might end up with dullness and low level of vitality in urban life. This can be illustrated with the typical site plans of most of the new developments designed with an understanding of modernist movement which allocates building blocks so isolated from the street lines and from the public domains that cannot create linkages between places.
The findings of several researches on urban neighbourhood life reveal that the vitality could be achieved by social interaction fostered by the very spatial configuration of building blocks which connect activities with their immediate surroundings (Gehl, 1987).
Permeability in urban morphology may be achieved by such physical features as topographical morphology, pattern of block layouts, patterns of public spaces, the relationship between block and public – private domain.

4.1. Topographic Morphology
The system of the network of spaces is affected by the morphology of the topography they sit on. The same network of spaces i.e. a grid system or organic one may provide different sensory and kinaesthetic experiences depending on the topography of the street being flat, steep or undulating. Thus the ease of access to activities may be correlated with typomorphology of the urban setting. The permeability elements may be allocated in critical points favourable for activities. In slops the blocks must be short, thus providing more street to walk or gates to pass through and more opportunities to turn corners (figure 5).

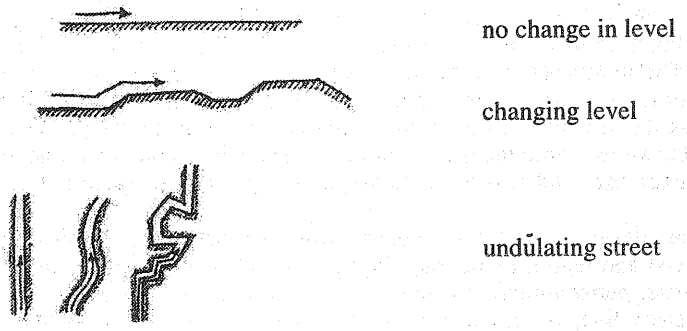


Figure 5. Topomorphological configuration affect sensory and kinaesthetic experiences (Rapoport, 1971)

4.2. Patterns of block layouts
The size and the configurations of the blocks affect the permeability. Some studies make generalisations the permeable size of the block based on empirical findings. According to Montgomery (1988) permeable block size must be 90 metres. Duany and Peter-Zyberk proposes approximately 165x83 metres in USA based on a subdivision system of 4,8 metres frontage. Thorne (1983) propose 140x60, and an MA study by J. Baulch (1993) proposes 115x80 metres as optimum for the fine grain mixed use (Murrain, 1993: 94). A study made in Kadikoy Carsi District of Istanbul shows that 30x30 metres blocks are repeated in a large shopping area and is concluded that the liveability observed fostered by permeability stemming from the repeated blocks and linkages between them (Firidin, 2000). Alexander et all (1987) seven rules of growth of a city as a whole in which the block is the most critical element in providing permeability. It is clearly described that the relation of a large building with block and street must allow people to pass through it like to walk around it (figure 6).
It can be concluded that the shorter block size the more access to activities. The fenestrations of the block surfaces with gates, with passages, doors, entrances are among the factors that act as stimulant sensory experiences and hence help ease the permeability. The long street make it hard to both spatial and psychological access.

The streets which are perceived as long and uncomfortable are monotonous that can not stimulate sensory experience. Passages at ground level make it possible to special movement channels and different activity patterns for pedestrians and also increase the permeability. This type of city blocks affords commercial activities in passages and therefore enriches activity patterns, stimulates sensory experience. The fragmentation of a building rather than one large building creates different movement ways for pedestrians like pass ways or courtyards or both of them in the same block. These elements increase the accessibility and permeability. The entrances which are more than one in a block enrich public accessibility and support vitality (figure 7).

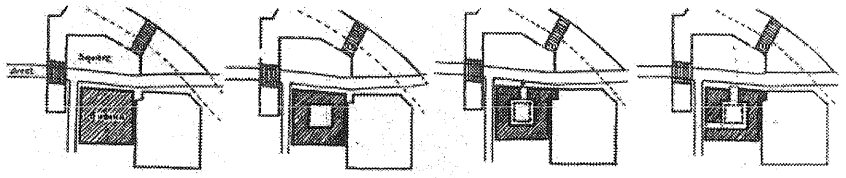
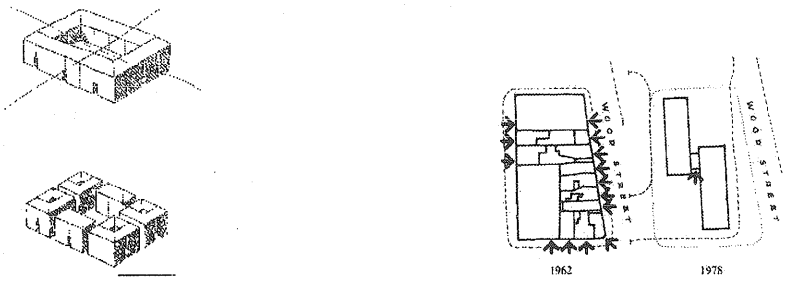


Figure 6. Patterns of block layouts affect permeability (Alexander, 1987)



Krier, 1989 Bentley et. all., 1985

Figure 7. Block layouts with more entrances enrich public accessibility

4.3. Public and private domains and visual permeability

The way building entrances are related to public spaces through hierarchical organisation contribute the level of visual permeability. The clear-cut definition of public and private interface give the user the change to use their private domains according to their needs and this make the public – private space perceived at once with activity .

The visual permeability is another aspect of vitality in urban design which is a quality that provides visual contact between places, unless there is no physical access. It is permeability between public and private spaces (Figure 8).

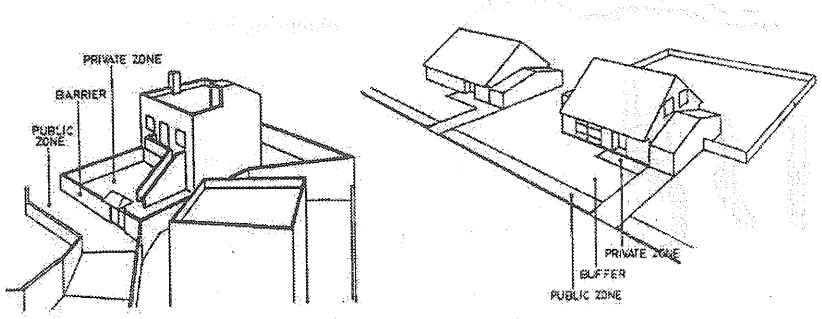


Figure 8. Relation between public – private spaces, (Nalkaya, 1980)

The relation between public and private places is ensured by interfaces. There are two types of visual connection according to features of interface: if the interface is an hard one, relation between public and private places is a direct connection. The extent of massivity or transparency of an interface determines the degree of visual permeability and relation between public and private spaces. Transparent interface increase visual permeability with providing direct contact, while the massive one has only one relation point of a gate is therefore decrease visual permeability. Soft interface has an hierarchical order that consist of semi-public and semi-private spaces between private and public spaces. In the condition of this, visual permeability determined by walls of garden. If the wall is high and/or massive, the degree of permeability is low, but if the wall is low and/or transparent the degree of permeability is high. Visual permeability between public and private places is regulated with respect to social and cultural values and private activities. visual permeability between private places is made through walls of gardens. If the wall is high and/or massive, the degree of permeability is low, but if the wall is low and/or transparent the degree of permeability is high. Visual permeability between private places must regulate with respect to social structure and private activities should be protected.

4.4. Patterns of public spaces

The frequency and connection of streets to and through public space make the movement of people possible. In other words, the way the network of spaces connected with streets and divided with block vary in shape and size, thus create the permeability differing from settlement to another. Studies show that the network of spaces with high level of permeability influence the level of activity in urban spaces (Figure9).

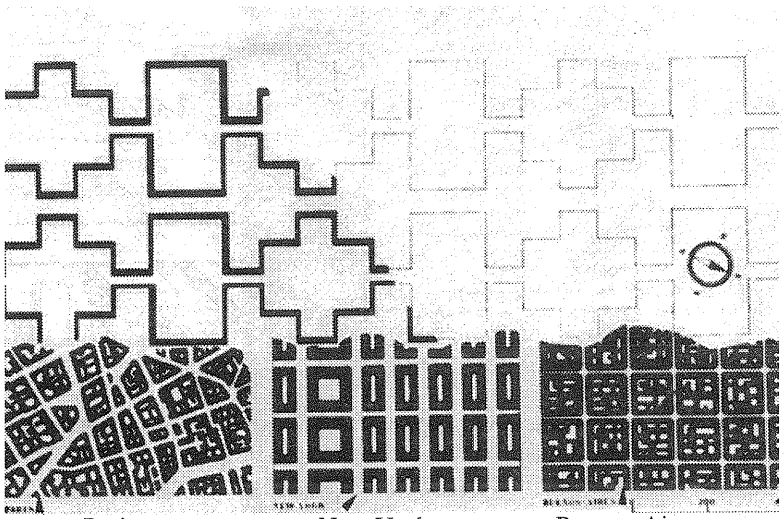


Figure 9. Permeability differing from settlement to settlement (Trancik, 1986)

5. Permeability in The City of Mardin

Mardin is located in the south eastern part of Turkey facing the large plain of Syria. It has been location for some of the agricultural societies of the fertile Mesopotamian plateau, its geographical location and unique topography made this town favourable not only defence but also for the economic and ecological purposes.

5.1. Topographic morphology

The system of the network of spaces is characterised with long streets parallel to counter lines and narrow staired pathways connecting them. The slope provides terraces which provide vista points and access to the entrances of the buildings. This affect the pace of the pedestrian experience of the city.

5.2. Physical permeability of Mardin

The topography of the site effects the patterns of of the city. Buildings are built on the slope of the hill on terraced forms. Streets run parallel to the topographical contours and paths accent via stairs towards the plain spatial organisations of the whole settlement conforms to the characteristics of the slope forming a compact terraced city (figure 10).

5.3. Pattern of slopes

The whole settlement can be considered as the setting for life and the dwellings are more private enclosure (figure 11). Public places are long, well defined streets and courtyards of the buildings. The streets are made narrow to keep out the sun (Karaman 1997).

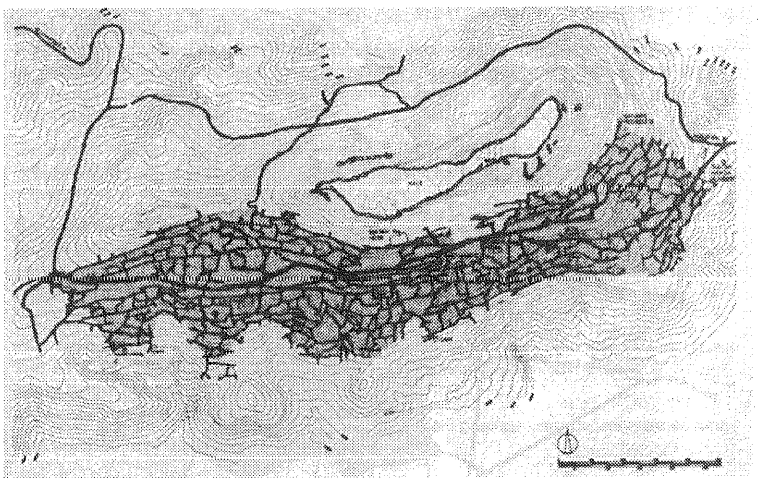


Figure 10. The tree-like urban layout of Mardin, (Aru, 1996)

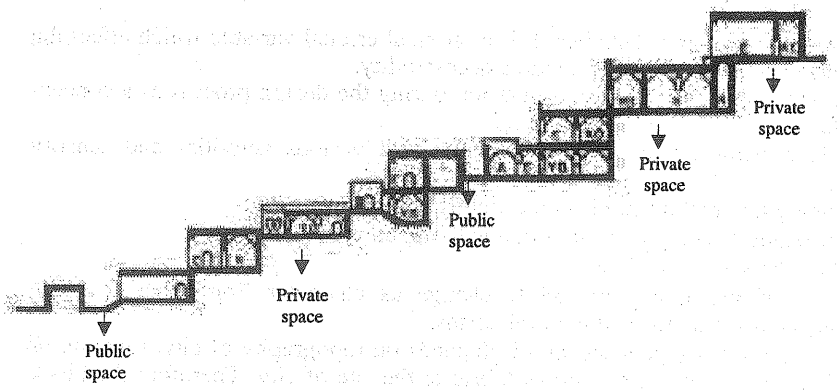


Figure 11. Dwelling – topography relationship, Mardin , (Alioğlu, 1991)

5.4. Patterns of block layouts

The unique urban pattern of Mardin come from the topography and dwelling types generated as a result of interfacing of both. The design features of the individual houses in the settlement take advantage if the slope site. Because of the slope the houses types are characterised by having double courtyards and large terraces. The grouping of this type of conformity with the potentials of the site make Mardin as terraced compacts hill town figure 10).

Whole settlement act as a setting for life activities of community through its enclosed public and private courtyards or linear long shady streets and on the staired narrow ways (Karaman 1997).

5.5. Public and private domains and visual permeability

The buildings in whole settlement are characterised with courtyards. Pedestrians experiencing the city the passes through the linear public spaces of streets and reaches to private domain of the houses or to public buildings i.e. the courtyards of the mosques or khans. The staired narrow pathways perpendicular to counter lines of the topography provide accessibility from place to places. A tunnel passage called abbara, is a passing area which is permitted to public usage at ground level through a private property in the city block which extends a huge area. It is a shortcut between the streets on different level levels around the blocks. It provides the city block a permeability and also contribute to sensory

experiences (Karaman, 1997, figure 12).

The visual permeability is observed to be a low one. This stems from the massive, high blank interfaces between public – private domains. The facades are directed to courtyards and to the prevailing view toward the plain. The facades are highly permeable with eyvans, large fenestrations and terraces all provide settings for various activities of the household, i.e. chatting, sleeping, steering, etc.

It can be concluded that the compact morphology of the city stemming the topographical condition and ecological considerations makes the life of the city intraward. The vitality can be observed on the linear market street and in the courtyards of public buildings and in the dwellings. There can be observed low level of social interaction in the public places which functions as passing through. It can be correlated that low level of permeability, that is, long blocks, lack of public spaces for informal interaction, intraward configuration of the blocks, lack of visual opening to public places all make the whole settlement as the setting for life. The dwellings are more vital in 24-hour uses.

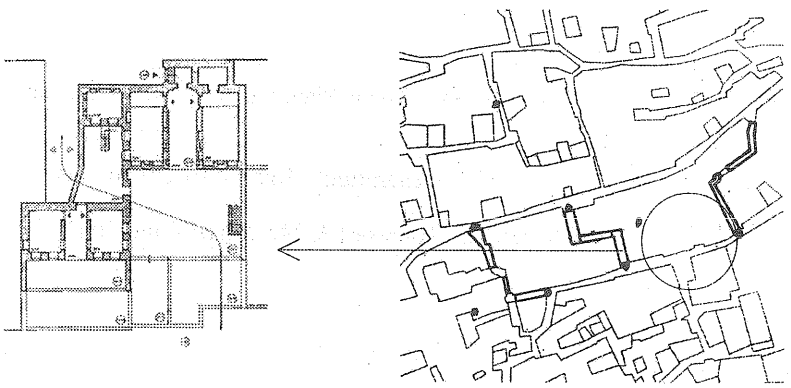


Figure 12. City blocks and abbara in Mardin

6. Conclusions

The permeability is a qualitative aspect of urban morphological studies. It is a physical critical variable which affect the vitality of urban spaces. It encourages the usage of public space by providing accessibility.

There are no standards for permeability but it has to be taken into consideration during the design process as a concept which help to enhance the vitality of urban life.

- Elements of permeability act as behaviour settings which afford different and various activities and sensory experiences.
- Permeability may be taken as a tool regulating the relationship between public and private spaces.
- The spatial configuration which afford permeability should be supported with mixed use.
- It is a tool helpful in analysing urban setting in terms of vitality.
- In researches and studies on existing it is shown that permeability change its character from place to place depending on the topographical condition, activity patterns and cultural norms.
- Permeability varies in different conditions and activity patterns, and it depends on topography of city, function of urban space, sensory experiences, fit of behaviour settings and urban fabric to the site of city. Therefore the block size is not the only feature of permeability but the formation of city blocks is another determinant of it. Passages, courtyards with back gates and pass ways increase the permeability. This setting of a block allows to differentiate the specific uses, commercial functions, and gives opportunity to variation of activity patterns in these passages, courtyards or pass ways.

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Urban identity in the changing context of the city: The case of Gazimagusa (Famagusta)

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Abstract

Urban identity is created through the complex interaction of natural, social and built elements. Amongst these, built elements are the most critical ones in terms of changing the identity both in negative and positive ways in a short period of time (Oktay 1996). This is also significant in creation of 'a sense of place', an important factor in achieving identity in urban settlements as stated by many theorists, such as Relph (1976) and Punter (1991).

Considering the older and historic cities of strong identity in general, it is agreed by many theorists that the organizing elements of the city are districts and the public domain. It is also accepted that, in such cities, the city context is the generator of architecture. However, this acknowledgement is in opposition to important trends in contemporary city planning. New urban developments, owing to the local economic politics and insensibility of the professionals to their local values in many cases, are usually oriented towards creating a monotonous and standard image. Consequently, buildings are designed with little concern for their relationship to each other or for the global effect of the city. Spaces left between them have become undefined, undesirable, useless and unliveable, providing no contribution to the identity of the city.

This paper will assess the identity of the city of Gazimagusa (Famagusta)[i], where transformations in the urban environment are dramatical due to the dynamics of urban growth and development, and determine the modes by which the built elements may contribute to creating identifiable districts. Undertaking a research and an analysis in the older and newly developed quarters of the city, the study will then expand on what is needed to strengthen the identity hence sustainability of the local urban form, and will explore how we can move towards such understanding.

Key words: *Urban identity, districts, public realm, traditional urban pattern, new developments, Gazimagusa.*

Introduction

Identity is 'the distinguishing character or condition of a person or a thing' according to Webster's Ninth New Collegiate Dictionary (1983). Lynch (1961) also defines identity as 'the extent to which a person can recognize or recall a place as being distinct from other places'.

The need for place identity was highlighted by Relph (1976, 147) in his pioneering book *Place and Placelessness* as follows: "A deep human need exists for associations with significant places. If we choose to ignore that need, and follow the forces of placelessness to continue unchallenged, then the future can only hold an environment in which places simply do not matter. If, on the other hand, we choose to respond to that need and transcend placelessness, then the potential exists for the development of an environment in which places are for man, reflecting and enhancing the variety of human experience."

Many advantages can be gained by discovering and reinforcing a city's own identity. Small differences may be magnified, special events may be commemorated, designers may seek to set their stamps on projects, and many other motives may encourage efforts to undertake the quest for urban identity.

In response to many factors, cities are always changing; a city is never static, it is evolving, and in the process of evolving can also destroy and replace its parts. In this context, urban identity is created through the complex interaction of natural, social and built elements. Therefore, the urban environment has to be considered from a historical perspective, not merely understanding historically significant buildings, but rather understanding the evolution of the local urban context, with respect to human activity, built form, and nature. Amongst these, built elements are the most critical ones in terms of changing the identity both in negative and positive ways in a short period of time (Oktay 1996). This is also significant in creation of 'a sense of place', an important factor in achieving identity in urban settlements as stated by many theorists, such as Relph (1976) and Punter (1991).

Considering the older and historic cities of strong identity in general, it is agreed by many theorists that the organizing elements of the city are districts and the public domain, streets and blocks. However, this acknowledgement is in opposition to important trends in contemporary city planning. New urban developments, owing to the local economic politics, is usually oriented towards creating a monotonous and standard image. Consequently, identifiability

of the districts are lacking and buildings are designed with little concern for their relationship to each other or for the global effect of the city. Spaces left between them have become undefined, undesirable, useless and unliveable. Considering the latest modern developments that form huge interior spaces without taking the urban spaces and the sense of place into consideration, today, these spaces should be paid attention more than ever. We must develop a sensitivity to public spaces not only in central districts, but also, and most importantly, in urban and peri-urban quarters, where such spaces are becoming more important as densities increase.

The significance of districts

The district, quarter, and neighborhood are terms with different meanings for different authors. Lynch's description of the district (Lynch 1961), however, could be considered most useful for the discussion: "districts are the medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters 'inside of, and which are recognizable as having some common identifying character'.

When local urban context is considered, the district or quarter/neighborhood is the identifying symbol both for the evaluation of the city, and for the new urban extension, and it is also fundamental for sustainable development (Oktay 1998). A creative design response to the context of the districts by reinforcing them can heighten local distinctiveness and create memorable places (Moughtin 1996). Accordingly, how to give the area its own physical identity, and how to make it a place with its own character distinct from that of other places is the first aesthetic problem in the design of the district.

The identity of the neighborhood grows from the continuous relationship between the place and its residents. In this way, the neigborhood is expected to become its residents' cultural creation and at the same time a means for the preservation of the cultural continuity of the city. At this point, nature should also be taken into consideration owing to the fact that inhabitants often regard preserved greenery and big old trees as the main aesthetic resource of their neighborhood (Berglund 1998, Oktay 2000).

The role of public domain

Public space is regarded as "the common ground where people carry out the functional and ritual activities that bind a community, whether in the normal routines of daily life or in periodic festivities" (Carr et al. 1992, xi). The provision and use of public open space in a city is a vital factor in promoting social cohesion and urban revival. A city can be evaluated by its public spaces which reflect its public life, civic culture and everyday discourse. As the public domain extends from the streets, squares and parks of a town or city into the buildings which enclose them, it makes the most important part of our towns and cities (Madanipour 1996, 146; Oktay 1999).

Basically, the urban experience is, and has always been, the collective experience of places and spaces. It is the experience of places and spaces conceived to link people and to create a vital social life. From a distance we may see a city as a skyline, the shapes of its buildings standing against the sky, but within the city the urban public spaces are most of what we see and provide much of the information by which we characterize the locale. Accordingly, the quality of urban public spaces, mainly that of the street and the square, has a significant role in making the identity of a city.

Perhaps the best evidence for the vital importance of public urban spaces is historical. From the times of the earliest cities there is evidence of a basic human impulse to govern streets and open spaces, to make them more useful in the necessary and desired activities of the old city and to make them more beautiful and restorative to the citizens of the community.

The above discussion is especially true in the case of the street where people are oriented through. In fact, the 'street' is the prime exterior space of the city and an intrinsic component of the urban pattern. The primary quality of a street is due mainly to the handling of volume, but the mood or character of the street is created by its architecture. The optimum definition for a street is 'an enclosed, three-dimensional space between two lines of adjacent buildings'. A sense of place in street design is best achieved if the spatial volume defined by the frontages is perceived as the positive form, the figure seen against the general ground of the surrounding architecture.

Streets with identical qualities play an important role in the image of a city, hence in the orientation of people. Jane Jacobs (1961), an important critic of the urban forms resulting from the application of design principles of Modern Movement, highlighted the significance of the street stating that "streets and their sidewalks, the main public places of a city, are its most vital organs. Think of a city and what comes to mind? Its streets. If a city's streets look interesting, the city looks interesting; if they look dull, the city looks dull". Indeed, we all know of examples where open spaces have become synonymous with the identity of particular cities: Trafalgar Square in London, Red Square in Moscow, *Piazza del Campo* in Siena, *San Marco* in Venice, or *Ramblas* in Barcelona. Besides such main public spaces, there are some cities where the urban identity is enhanced by the unique architectural and urban quality of network of spaces: canal streets in Amsterdam, streets lined with white terrace houses in London, steep narrow streets with steps in Lisbon, and the streets of Bath which are the result of a wonderful example of eighteenth century design where the buildings take their place within a disciplined contextual framework.

The square is the most distinct element of the urban structure and 'a psychological parking place within the civic landscape' (Zucker 1959). As a clearly delimited place it is most easily imaginable, and represents a goal for movement.

The square is determined by the same formal factors as the street, with the difference that the buildings should

form continuity around the space. In other words, the effect of different masses has to be reduced in order to obtain a continuous surface. Because of its size, the square provides the necessary perspective in which to admire main buildings of the town, whose functions as physical and psychological 'landmarks' are thereby accentuated.

However, it should be remembered that there is some danger in attempting to transfer design concepts which may be effective at one particular time, or at one place or in one culture to a quite different setting. The great wealth of impressing squares in Italy may be explained in part by a combination of climatic conditions conducive to outdoor living and the temperamental attitudes of Italian culture. These conditions and the outgoing nature of the Mediterranean people led to a public life, which in turn gave form to street and square. Accordingly, the most successful squares, which have the great power in making the image of the city and creating urban identity, are located in Italian cities. *Piazza del Campo* in Siena, and *San Marco* in Venice are the most significant ones.

In fact, the importance of squares could be best explained through its conceptualization as a center. In any composition there is a need to emphasize some parts and subordinate others; this is the art of design. As Unwin (1909, 176) says, the best way to achieve this in town planning is '...to have definite centers'. It is nly in this way that a relationship and proportion can be established between the different parts of the town design.

Moreover, becoming familiar with a place not only means walking through its squares and streets, but also going beyond the barrier of the streetscape into buildings and engaging with its people. Therefore, when the identity of a settlement is assessed, private spaces need to be examined as well, including the analysis of public-private interface. The key term in this framework is 'locally appropriate spaces' (Oktay 1998).

In line with these discussions, this study focuses here on the characteristics of the districts and the urban spaces in the older core and newly developing quarters of Gazimagusa, where the changes in the city has reached dramatic dimensions in the last fifteen years, to determine the modes by which the mentioned elements may contribute to creating identifiable urban environments.

Case study: The City of Gazimagusa

Gazimagusa, the second largest city of Northern Cyprus with a population of 25.000, is situated on the eastern coast of the island of Cyprus in the Eastern Mediterranean Sea. The city reflects a long and unique history in the form of a rich cultural, urban and architectural heritage in its older core, the Walled City, a fortified Medieval city dating back to the 15th century[ii]. In the past, the city had an excellent harbour surrounded by formidable walls, but lost its importance in years owing to the lack of daily public access. The fortifications are the most significant historic elements in terms of their architectural quality and contribution to the imageability of Gazimagusa. Throughout the years, the Walled City has been surrounded by newer urban developments most of which are questionable in terms of sustaining local qualities (Figure 1)[iii].

The situation in Gazimagusa reveals a unique experience of rapid expansion in the towns, which is neither related to the usual mode of increase in population, nor to the developing mechanisation and industrialisation, as in other developing countries. The main factor has been the establishment of the Eastern Mediterranean University in 1986, the biggest international university on the island with 12,000 students, that has led to remarkable changes in the socio-demographic characteristics of the city, and an uncontrollable galloping urban development. The other factor has been the tendency of middle-income people to live in modernist individual houses, which seems to increase social status.

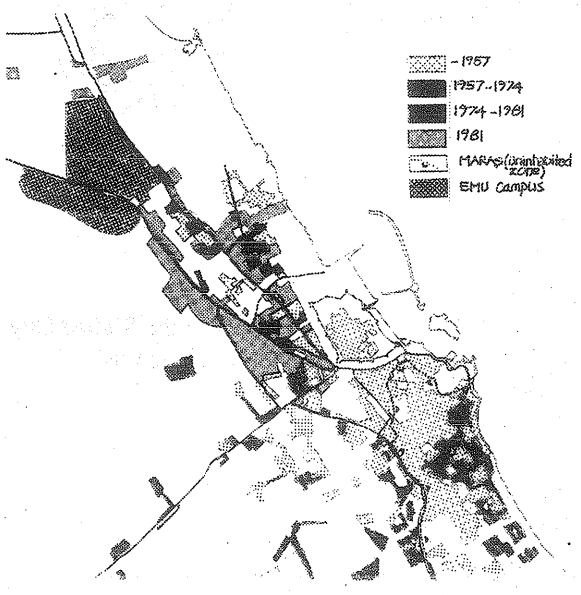

Figure 1: Map of Gazimagusa illustrating the urban development and expansion.

The Walled City

The urban pattern in the Walled City has an irregular layout with well-scaled narrow streets and cul-de-sacs. This organic pattern, together with the presence of some historic monumental structures and a definite center, greatly contribute the imageability and identity of the Walled City (Figure 2).

The concept of neighborhood, *mahalle*, has been greatly significant in Gazimagusa until the deterioration of traditional life, as similar to the case of traditional Anatolian towns. The neighborhood was not only a physical entity within the city but also a social unit providing social and economic collaboration among neighbours. Since it was a very compact community, neighborhood cohesion was very strong and widespread; families were concerned with their neighbours and neighborhoods. Accordingly, there was a great sense of belonging among the residents (Oktay & Önal 1998, Oktay 1999).

The organic pattern in the Walled City comprises well-scaled narrow streets and cul-de-sacs (introduced in the Ottoman Period), enclosed by one or two-storey houses of simple character. The planning of older houses revolve around an inner courtyard, *'avlu'*, in Turkish and *'havli'*, in local Cypriot Turkish (Figure 3). The courtyard is well-defined and well-protected, and serves a variety of uses such as sitting, drying laundry, gardening, preparing winter food, cooking, storing, etc.

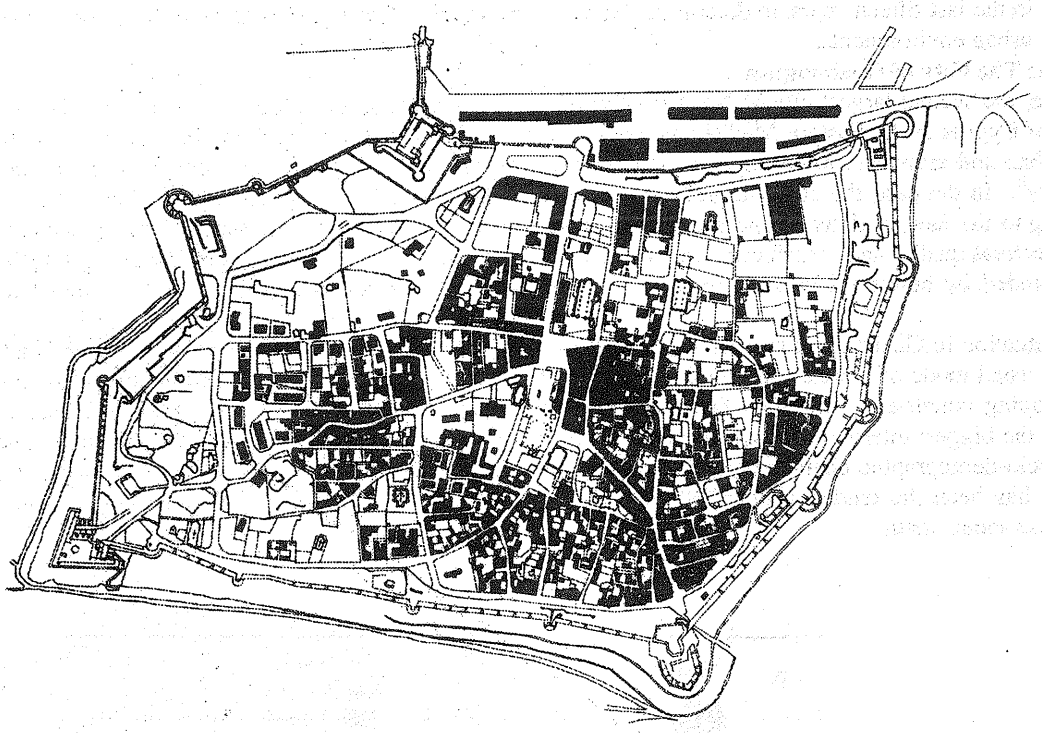

Figure 2: The urban pattern of the Walled City,
the old core of Gazimagusa.

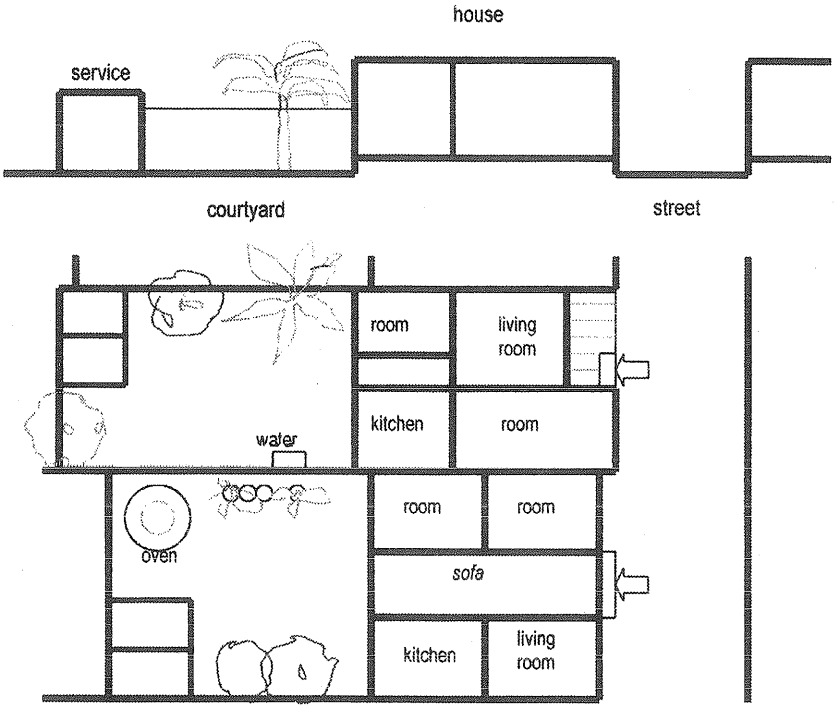

Figure 3: Typical plan and section of a courtyard house

Figure 4: A view from a street in the Walled City

Connecting a group of houses with each other and to a larger circulation artery, the street was the most fundamental of intersections between the private and public domains (Figure 4). This familiar territory was almost an extension of the home where a multitude of communal activities, such as weddings, circumcision parties and funerals, were also accommodated within the limits of privacy. Today, despite the functional transformations, social gathering among the neighbours in the street is still popular as observed in certain parts, even if the houses have private courtyards at the back. However, in some places where the vehicular and pedestrian traffic flow is dense, they sit close to the entrance inside and keep their door open to watch outside.

Namık Kemal Square, the main square in the center of the old city, which once was the largest and riches square in Europe, is the most identifiable public space in the city. St.Nicholas Cathedral *(Lala Mustafa Pasha Mosque)*, one of the most significant historic buildings in Cyprus, and the arched façade of the *Palazzo del Proveditore*, the royal palace of the Venetians, is situated (Figures 5-6). In the Medieval Period, the square was the center for royal activities. In later periods, as the town lost its significance as a center for the authority, the square was changed to a public one. Since then it became the major node of the Walled City and hold the old city in people's images.

However, there are some problems threatening the image of the square. The new buildings enclosing the square have no architectural quality at all and they are not in harmony with the historical structures (Figure 7). The use of the square is not sufficient during the day, and much less at night owing to the incompatible uses of the surrounding buildings.

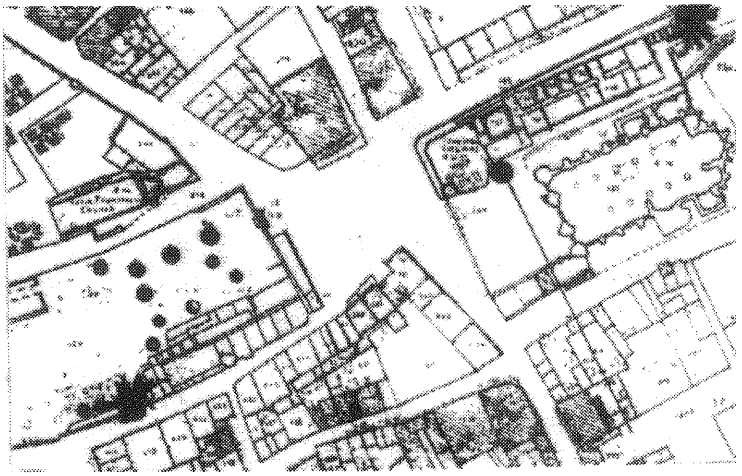

Figure 5: Plan of the Namık Kemal Square in the old core

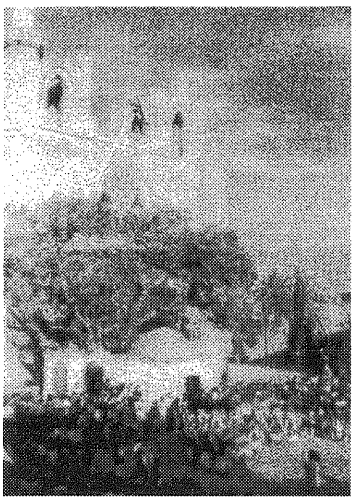

Figure 6: A view from Namık Kemal Square

Figure 7: Inappropriate uses in the buildings surrounding the square

İstiklal Street, the main strip in the Walled City, however, cannot be said to be significant in making the identity of the city owing to the nature of the functions in the enclosing buildings. Despite the pedestrianization in the street carried out recently by the Town Planning Department, the street lost its previous role in the town because of the lack of compatible uses, such as social and cultural activities and the dissenting architectural quality of the buildings. The street is currently being used for pedestrian circulation only, not in a sufficient level at all.

The other problems which are threatening the general identity of the Walled City are the fast development, the vacant historical buildings and the abandoned spaces around them, the inappropriate uses given to these spaces, the insensitive restorations on the façades of older buildings, and the new developments contrasting to the spatial qualities of the older spaces and buildings.

Moreover, the existing situation of the Walled City reveals that there is no integration with the other parts of the city in terms of functions; this means, even if the physical environment is improved, it will not be sustainable due to the lack of use and vitality[iv].

Newly developed districts

Owing to the uncertainties in political and economic aspects mainly, the city of Gazimagusa has not revealed a noteworthy development rate until 1980s. Following the transformation of the High Institute of Technology to a pioneering university in the island, the Eastern Mediterranean University, in 1986, the rapid development trends dominated the urban environment and the university put its stamp on the socio-economic structure of the city both positively and negatively. The pervasive horizontal development trend in the city changed to a vertical one, introducing the apartment blocks to Baykal, Sakarya and Karakol, being the most popular by the students and staff of the university because of their location, that is closer to the university and far from the uninhabited Maraş district, the area of conflict due to the political uncertainties[v].

In these areas, due to the lack of a master plan for urban development and growth, neither a logical development system nor a locally appropriate urban pattern is followed. The typical attempt here is a sort of standard international exercise, which makes no concessions at all to either climate or tradition. In this context, two types of development form the current image of newly developed areas in Gazimagusa.

The first type of development is the free-standing villa often standing in open terrain in peri-urban areas - as the substitute of the courtyard house type which went along with the older pattern (Figure 8). Despite its unsuitability for this hot-dry climate and its lack of privacy and related inconveniences following on from the loss of the traditional internal open spaces, the villa is now the preferred status symbol for old and new generations alike. The second type can be described as an anonymous and monotonous development of concrete blocks lacking any green elements and other facilities, which are normally included in any appropriately designed housing scheme such as semi-private meeting places, recreational areas, play grounds and car parking (Figure 9).

The positive qualities of a definite center, as discussed previously, cannot be observed in the major node of the expanded city, Anıt Roundabout. Despite its critical location where the main distributors of the city, Salamis Road, Lefkosa Road and the other two important streets cross and the magnificient fortifications are in a close vicinity, the node serves as a traffic island only, lacking three-dimensional qualities and public use to e great extent.

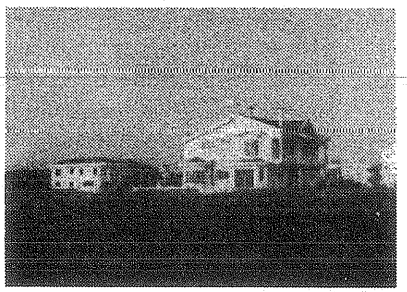

Figure 8: Villa-type houses in Karakol, a newly developing quarter

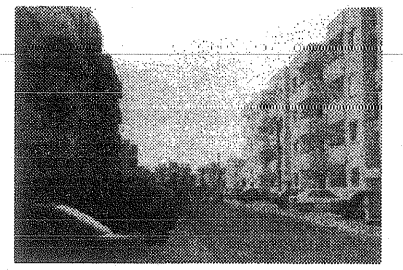

Figure 9: Typical apartment blocks in Baykal, a new quarter

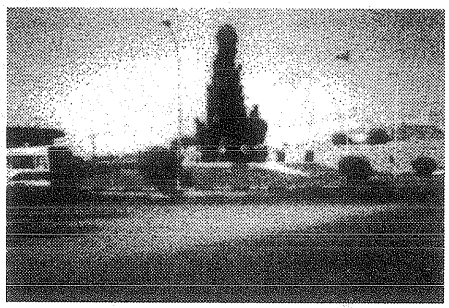

Figure 10: A view from Anıt Square, the main node in the extended city

The similar negative critic refers to the Salamis Road, the major path in the city linking the University to the city center and major residential districts[vi], which was once a mere traffic artery linking Gazimagusa to the Karpaz region in the North with no public and residential uses. The street has been and still is prone to a continuous development and functional transformation after the Eastern Mediterranean University was established, however, demonstrating no sensitivity in the urban spatial and architectural quality. There is an en extensive chaos created by the presence of many incompatible uses, i.e. apartment blocks, cafes and restaurants located next to mechanics' garages. A fine-grain mixed-use development control is urgently needed along the path.

The street in the residential areas is generally lost and reduced to a means of traffic, lacking three-dimensional and social qualities, as a consequence of the current scattering of the buildings and the increasing motorized traffic.

In addition to these inappropriate types of development, the urban fabric in these areas faces a serious problem created by the unused building plots. These vacant areas, which are not maintained at all, are a big threat to the quality of the environment in general.

Consequently, there is no identity in the newly developed quarters and their negative features greatly endanger the identity of Gazimagusa.

Conclusion: recommendations for the future

It is agreed by many theorists that the organizing elements of the city are districts and the public domain, comprising streets and blocks. In line with this, giving primacy to identifiable districts and the public domain comprising of locally appropriate outdoor spaces should be a major issue for the designers and the other professionals when dealing with the quality and identity of a city in a period of change.

However, the term public domain or public space should not refer to the spaces between buildings merely, i.e. voids as distinctive from corporal mass. The term should be used in a broad sense, to encompass all the buildings, spaces and objects in an urban environment, as well as the people, events and relationships with them.

In Gazimagusa, a city revealing a great dynamism in terms of urban growth and development, the social, cultural and morphological dimensions of spatial structure both in the city scale and district scale has been enormously changed and much of the urban landscape has been subjected to a universal design standard that denies a sense of place identity.

To that end, the Walled City, the older core of Gazimagusa provides useful clues in achieving a more identifiable urban form despite some decay. Amongst these, the following points should have greater emphasis than some others that may contribute to the sense of the city.

- *Three-dimensionality at the large scale*

This refers to an urban spatial pattern including an organic network with public and semi-public outdoor spaces which have a three-dimensional quality and a sufficient level of public use. In this context, important nodes and major paths in the expanded city should be given prominence and be made more identifiable through the implementation of a design strategy where their physical and social qualities promote the general urban identity and civic pride.

The organic network may be translated into a flexible grid structure in the newly developing quartes allowing the formation of contained outdoor spaces. This would convey a sense of belonging in local people.

- *Three-dimensionality at the small scale*

This firstly includes the street space that is physically contained. The other types of outdoor spaces such as gardens in connection with the street or private and semi-private courtyards should also be well-defined in a three-dimensional framework demonstrating sensitivity to green elements. Such an environment evokes a strong sense of place in the residents.

- *Narrow horizontal frame*

The narrow street system intensifies the identity together with a dynamic urban pattern that enables one easily orientate through the streets. In the newly developing settlements, this would refer to a street structure where the contrasting qualities of the urban spaces (i.e. hard and soft spaces, linear and courtyard-type spaces, smaller and larger spaces, ...) create a positive effect in serial vision.

- *Extension of life into the street*

Our previous survey (Oktay 2000) and observations verify that the street is still significant in today's daily life in Gazimagusa like in all Cypriot towns[vii]. Therefore, design should take the street as an integral part of the dwelling environment considering its components as in an outdoor room, and provide a direct relationship between the street and the house. This quality may also refer to the multi-storey housing development

Finally, to achieve success in achieving unity and identity in the whole city, the future efforts should be oriented in a way that the Walled City will be integrated with the other parts of the city through a functionally and economically viable revitalization scheme.

The problems and opportunities discussed above brings into the view one fact: it is crucial that in the future legislative framework for development and growth, the 'urban design' scale concerning with the creation, regeneration, enhancement and management of the built environments which are sensitive to their local contexts and sympathetic to people's needs, should not be neglected. Such a negligence has been the primary reason for the lack of a long-term sustainable solution to the problems regarding the quality of our cities like in many cities in the other developing countries.

Notes

[1] The Turkish version name Gazimagusa will be used throughout the text.

[2] The history of Gazimagusa dates back to the first century AD and the city has developed in seven periods: the early periods of foundation (648-1192 AD), the Lusignan (1192-1489), the Venetian (1489-1960), the Ottoman (1571-1878), the British (1878-1960), 1960-1974, and the period after the war in 1974. (Solsten, E. *Cyprus: A Country Study*, Library of Congress, Washington, 1993).

[3] For a detailed review of historic development of Gazimagusa, see Dağlı, Önal, Doratlı, "Gazimagusa Şehrinin Kentsel Gelişiminin Sürdürülebilirliğine Yönelik Çözüm Önerileri", *Gazimagusa Sempozyumu 98 / Proceedings,* Doğu Akdeniz Üniversitesi, Gazimagusa, 1998.

[4] This disintegration has been verified by the students' mental maps of Gazimagusa as well. In Urban Design Course at the Department of Architecture of EMU coordinated by the author, drawing mental maps as a tool to represent the image of a city (Lynch 1961) has been the first assignment in each semester. In these maps, the great majority of the students did not include the significant elements of the Walled City; they showed its surrounding fortifications only.

[5] In the Asagi Maras, a district developed between 1957-1974, the proximity to Maras, the uninhabited district with an uncertain future, has been the primary reason for the absence of new housing developments and new additions to the existing buildings.

[6] Salamis Road has been shown as the major path in the mental maps of all students.

[7] This aspect creates a contrast between the street in the Cypriot town and the street in the traditional Anatolian town, where the daily life does not spill into the street owing to the privacy reasons.

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Figure Captions

Figure 1: Map of Gazimagusa illustrating the urban development and expansion.
Figure 2: The urban pattern of theWalled City, the old core of Gazimagusa.
Figure 3: Typical plan and section of a courtyard house
Figure 4: A view from a street in the Walled City
Figure 5: Plan of Namık Kemal Square in the old core
Figure 6: A view from Namık Kemal Square
Figure 7: Inappropriate uses in the buildings surrounding the square
Figure 8: Villa-type houses in Karakol, a newly developing quarter
Figure 9: Typical apartment blocks in Baykal, a newly developing quarter
Figure 10: A view from Anıt Square, the main node in the extended city

Importance of environmental quality in looking for a quality living

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Abstract

It can be considered that environmental quality effects life and condition and characteristics of urban environment is one of the main indicators of life quality.

Environmental quality had generally been examined from the point of technical and physical aspects. However nowadays it's well understood that, the concept of quality is also related to cultural, psychological and social needs of the users as well. Environmental quality can be evaluated objectively in terms of its capability in meeting the main physiological needs, however, a subjective evaluation is needed when dealing with qualitative aspects (Gür,1995) such as the preferences, satisfaction, needs and expectations of users. This paper focuses on a qualitative, user based evaluation of the environment and architectural characteristics in housing areas.

In developed countries, a large number of housing schemes succeeded in establishing a quality in environment and life, as well as creating their own environmental and architectural identity. Particularly, their sensitivity in handling physical, social and psychological issues in the design and establishment of housing areas is noteworthy. However in our country quality in the built environment, particularly in housing areas is an issue which does not received enough consideration yet. Solid efforts to obtain environmental quality can only be seen in some mass housing projects.

What is the criteria for environmental quality in housing areas and how can the problem of creating a high quality living environment be solved? To answer these questions, this study checks the components of environmental and architectural quality, to determine some strategies to raise the quality in housing areas.

In this paper, the city of Adana is taken as a case study area. The scope of this study does not cover the environmental quality in traditional housing areas. Its scope is rather limited to the newly designed and realised housing projects.

1. Introduction

Environmental quality is a topic that captured the attention of public and officials in the 1960s and it is a matter of continuing concern since then. It is considered as one of the solid indicators of quality of life as well as being one of the main determinants of a liveable environment.

While answering the physical need for shelter, the buildings and their environment reflect the cultural and social status of the users along with their preferences, needs and expectations. They also create an environment for social interaction. Nevertheless, it is a well known fact that in Turkey since the 1950s, with the rapid growth in population and the increasing need for housing, the quantity of housing production had been the prime concern, while the concepts of architectural, urban and environmental quality had often been neglected. The outcome was unhealthy built environments with architecturally unsatisfactory housing schemes.

2. Definitions and Indicators of Environmental Quality

The production and establishment of the physical environment relates with the expectations and preferences of the users. These expectations and preferences are generally shaped according to the political, technical, social and cultural profile of the society. The improvements in living conditions and life standards, boosted the expectations of contemporary society for a quality living along with quality in the built environment (Özsoy, 1995).The studies in the area confirmed that after meeting the main physiological needs, human beings seek for environmental quality through which they can satisfy their higher expectations and needs (Gür,1995).

This paper aims to outline the factors which effect environmental quality, both positive and negatively, along with the quality of life. However while doing this, it will be taken into consideration that the concept of environmental quality shows differences, in terms of its content and permanence, in different areas and societies.

Within the context of this study, **environmental quality** is considered as the capability of the built environment in answering the needs of the users, in physical, social and psychological terms, and in improving the quality of life, particularly in housing areas.

Quality is defined in TS-ISO 9005 (TSE,1996) as a system which produces a product or a service in an economic way to answer consumers needs and expectations. We can define **quality** as 'a criteria that we use in describing, defining and determining objects or facts'.

The main indicators of **quality in life** can be defined with elements such as;
economic indicators (income level, job opportunities)
-**social indicators** (health (both physical and psychological), education, social and cultural opportunities)
-**environmental indicators** (environmental and physical comfort, conscious approach in environmental issues such as air-pollution, noise, drinkable water, waste-water and safety)

-aesthetic indicators (a conscious approach in design both in architectural and urban scale considering meaning and identity, site characteristics, plasticity, materials, colour, texture and form as well as the relationship with natural elements and cultural heritage)
-institutional indicators (public participation, collaboration between the institutions) Royal Commission on the future of Toronto Waterfront,1992) (Gür,1995)

A liveable urban environment confirms quality in life and for the continuity of this liveability and quality, norms and standards have to be established. In the existing standards, the criteria for quality concerning the housing areas mainly cover some physical components such as the public services within the reach of the hosing area, its connection to the city centre, public and private gardens and open areas. However the qualitative and social aspects in housing areas, particularly for the domicile of buildings, did not receive enough consideration yet.

Rapoport (1977) outlines the **physical and social aspects of environmental quality** as follows:

Physical Aspects;
-architectural variety and richness
-symbolic elements
-environmental identity and general layout
-relationship with the landscape and natural elements
-maintenance and repair
-density
-transportation and communication means
-noise level

Social Aspects;
-social characteristics and composition
-social homogeneity
-the quality and variety of the services provided
-the status of the environment
-good social relations within the neighbourhood

Urban areas have distinct characters and particular identity with elements such as landmarks, paths and nodes (Lynch and Hack,1984). Symbolic elements, materials, texture and colour combinations, and other environmental details are all important in the establishment of environmental/spatial identity in the built up areas. These aspects create a kind of pleasure and ease for the users and increase the environmental quality in the urban environment. However this particular identity can be lost with rapid urbanisation. This will result with an unhealthy urban environment with social and physical complexity and disorder, high-density built up areas, traffic problems and air/environmental pollution.

3. Reviewing the Subject

From the 19th century, in some European countries like Holland, France and England, there were some proposals considering ideal cities and settlements which were free of the problems that most industrialised cities face (Chonay,1989).

Directing people to nature to minimise the effects of industrialisation, Ebenezer Howard's Garden City (1898) proposal was an attempt to restore the human measure to the new image of the city and tried to create a synthesis of urban and rural living taking the maximum advantage of both a big city and country. It was a rural city with its central park, single family houses, shopping arcade and industrial estate. In this scheme, the concentric central city was surrounded by satellite cities from which it was separated with country, and to which it was connected by rail and road. The urban centre was surrounded by green areas and parks. The public services were left within the walking distance from the houses which were set within gardens and a lot consideration had been
given to privacy while providing healthy, green and quiet environments (Johnson-Marshall, 1966; Fishman, 1982). Howard's ideals had been realised in the First Garden City of Letchworth which was begun in 1904, and then came the City of Welwyn.

Figure:1 Schafbruhl Housing in Germany

In 1922, Le Corbusier proposed 'Contemporary City' with high rise buildings, instead of a horizontally developed one. With this approach, as well as conserving the green, he was also providing users ample open spaces by leaving 85 % of the total area to parks, greens and recreational activity areas. In this city Corbusier placed public buildings, administrative offices, city park, warehouses and the industrial area around the central business and communication area which were all surrounded by garden cities or residential areas (Mumford,1968).

Within the contemporary design approach, content is becoming more important in every scale, from environmental planning to interior design, considering equality for everyone for a higher quality built environment and life. Architectural and urban planning systems create a new context and language in design by dealing with the social and psychological aspects of environmental quality as well as plantation, clean air, water and sunshine for a healthy living, and. In countries that considers quality along with quantity in housing, initiate research on the future systems in housing. The concept of 'Ecological Architecture' gains validity day by day with its user and environment friendly, organic, energy and resources saving approach (Çimen,1995).

In Tubingen, Germany, Schafbruhl is an example of ecological housing with 110 dwellings. In this project a lot of consideration has been given to quality in environment and life with a rational and sensitive design approach. The low storey apartment blocks, inner courts with gardens, timber framed windows and stairways, sheltered passage ways and corridors provide a warm and natural architectural effect. Conservatories and glass surfaces offers the maximum use of sun shine and passive solar energy. Environment friendly energy resources are facilitated and natural resources, electricity and water are used consciously. While providing every kind of comfort for the users, the characteristics of the building site and area are fully considered, and a design compatible with its natural and built surrounding is created (Çimen,1995).

The successful contemporary examples are all creative products with their overall innovative designs, sensitive use of space, scale, materials and technology, reflecting the current styles and tendencies with respect to human scale, in defining their environmental and architectural characteristics. They all have their own identity and are all finished products within themselves with private, self contained spaces. The social and psychological function of environmental quality had been taken into consideration appropriately (Altaş,1993).

Quality in environment and in life are also related to the cultural, social, economic, political and legal structure of the society. In our country, the legal measures concerning environmental quality are mainly limited with the sanctions and controls over mass housing projects (Çubuk,1985). In the last 20 years some standards on environmental quality have been set up within the body of Mass Housing Laws. The 3rd and 33rd articles of the Mass Housing Law of 1981, numbered 2487, were important steps taken in the establishment of environmental quality in housing areas. Covering the newly designed mass housing projects, these articles required the establishment of environmental quality through a direct relationship of the housing with its environment. Replacing this law, the law numbered 2985, required some establishments to improve the social life of the population living within the mass housing areas. These include sports, education, health, religious and other public institutions along with the maintenance, exploitation and management of them. Green areas and play gardens were the other elements that this law required for the establishment of environmental quality in Mass Housing projects.

The solid efforts to obtain environmental quality can only be seen partly in the mass housing projects realised by public institutions like Emlak Bank and private building companies like Mesa and Soyak. These projects set models for a new and contemporary understanding in housing schemes. In these mass housing projects, the overall effort is noteworthy in creating settlements with designed, good quality environment, in spite of the inadequacies in application and details. Garden City (Bahçe Şehir) is a project by Emlak Bank which is structured as a satellite town. It is an effort in building a small scale, self-contained settlement set in greens with the necessary social and technical infrastructure.

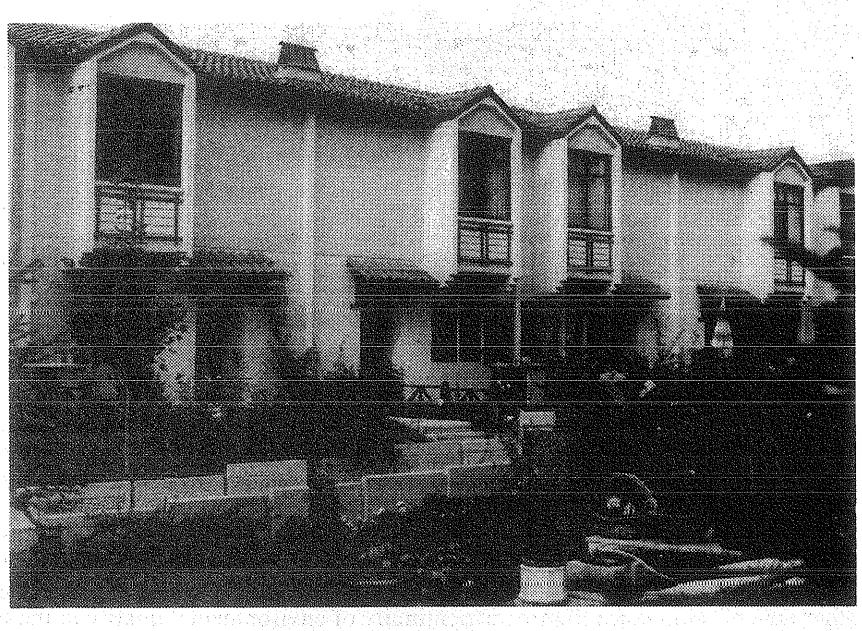

Figure 2: An example of Emlak Bank Housing Projects: Konut Kent

4. The Adana Study

The main aim in this case study was to get the opinions of users about environmental quality, in terms of their expectations, prefences and needs, in their own housing areas, in the city of Adana.

Through history, Çukurova Region, in which Adana takes place, has always been a favoured settlement area with its rich natural sources, strategic location and mild Mediterranean climate. From the early years of the Republican Era, Adana has turned out to be a rich and developed city due to the extensive cultivation and processing of cotton. This economic progress brought the changes to the physical structure of the city as well and Adana began to expand to the north, a development which is also implied in the Urban Development Plan of 1939. However, in the last 20 years, the development became so rapid and unplanned that it resulted with densely populated housing areas, without appropriate technical and social infrastructure and environmental quality.

The methodological approach adopted in this study uses the subjective evaluations of the users, both qualitative and quantitatively, to define the parameters of environmental quality in housing areas. The main body of data had been provided through the literature review, field studies and questionnaires, which were analysed through.

Firstly a model had been established to be facilitated in users evaluation of the environment based on cognitive, behavioural and sensitive parameters. This model aims to specify the measures in defining the concept of environmental quality in housing areas. The housing areas with multi-storey apartment blocks which were mainly developed after the 1980s in the northern part of Adana was the main area of concern.

The questionnaires were mainly consist of scaling questions (Likert type) along with closed and open questions. Questionnaires which were taking an average of 30 minutes to complete, were conducted in 1997, with 400 people at their living and working environments. The results were analysed through quantitative analysis techniques such as chi-square test and cross tabs, by using SPSS statistical package.

The findings of this case study can be outlined as follows:

-Users dissatisfaction about their built environment are mainly related with the inadequacy of parking areas, green areas and open spaces between the buildings.

-Users are mainly asking for an housing environment that can provide adequate social means and services as well as maintenance and safety.

-Users have high expectations about diversity and richness in their physical environment, both in architectural and urban scale, in terms of environmental identity, general layout, landscaping and materials.

Figure:3 The examples of housing areas in Adana

Users are dissatisfied with the social relations in their neighbourhood, such as the absence of social activity areas in their neighbourhood and absence of good social relations between the neighbours

In terms of environmental quality in housing areas, as a result of the findings in Adana study, it can be considered that users prefer sheltered housing areas with adequate physical and social means as well as adequate social interaction with the neighbours (Çerçi,1997).

5. Suggestions

The definition of the context of quality in the built environment, particularly in housing areas can vary individually according to the personal preferences, family structure, educational, social, cultural and economic profile and the living style of the users. It is a well known fact that people always look for higher standards in their living and tries to provide better conditions. And it is also known that preferences and needs can change in time (Gür,1995).

User satisfaction is an important aspect in the establishment of environmental quality in housing areas. Quality in the environment in housing areas can only be meaningful within the context of a development of urban culture along with health, education, and socio-economic issues. The establishment of norms and standards along with the maintenance, development and management is another area of importance to provide continuity of environmental quality in the built up areas.

Within the limits of this paper, suggestions for a higher quality in the environment in housing areas, and particularly in mass housing areas, can be outlined as follows:

-the density has to be kept rather limited in order to leave adequate green area between the buildings

-design of buildings has to differ from each other in terms of plan, massing and facade design, contributing to the visual quality, variety and richness of the environment
-the buildings has to be designed and laid out in an integrated approach with their environment without isolating them from the green areas, parks, activity areas and pedestrian paths.
-in the design of buildings and outdoor areas, needs and expectations of users has to be taken into consideration with their varying social, cultural and psychological characteristics as well the different physical characteristics (such as the elderly, disabled and children)(Avlar,1992)(Dülgeroğlu,1992).

Developments in the 21st century and the widely used communication means brought sensitivity and consciousness for quality in environment and life. To satisfy the needs and expectations of users for environmental, particularly in the domicile of buildings, suggestions for both short and long terms can be made as;
-the adoption of an integrated and collaborative approach in the establishment of policies and strategies on architectural and environmental issues
-facilitating scientific research in the area to improve quality in the environment
-the use of traditional settlements as examples in addition to contemporary European models in setting up the design criteria for quality living in housing areas
-establishment of urban development strategies, norms and legal framework for a defined environmental quality in housing areas
in addition to controls over the design and building of the new, evaluation of the existing built structure and its qualitative rehabilitation

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*Data show is needed during presentation

KEY WORDS : Environmental quality, liveable environmental, quality of living, indicators of quality

Live(in)ability: a problem of design or pathology?

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The term 'problem' has two quite different meanings:
1. A negativity, an abnormality, an aberration, ... i.e. a condition that is undesirable and unwanted, and must somehow be 'solved', i.e. got rid of, reduced, stopped, etc.
2. A well-defined issue or object of science to be understood, solved or known better.

For the first definition, one needs tools of scientific analysis, but also, design, engineering, policy, decision-making, etc. For the second, one primarily needs scientific theory and methodology.

The 'problems' listed in the Livenarch Conference brief are of both types:
The very statement of them needs both scientific outlook, scientific terms of reference and scientific methodology; yet, 'their solution' needs policies, politics, design, and planning.

I would like here to point out a 'problem' that is different from the two defined at the beginning: a meta-problem, that is, a problem of epistemology, of theory, of discourse, of research, of policy, of education.

To put these in other terms: what type of problems are they? How are they known and defined? Who defines them, and are those who define them above and outside those 'problems'? Which discipline or profession are best qualified and are able to handle them? ...

Secondly, is our discipline / profession, i.e. design and planning, capable of (a) defining and formulating those problems; and (b) solving, them?

For, if the question to (a) is a positive one, we should already have defined them and known them. If, on the other hand, the answer to the second one is positive, those 'problems' should not have been around in the first place.

These questions may at first seems to be pedantic and abstract. They may look like play of words or they may be evading the question. But, they are to do with the nature of the very 'problems' listed in the conference brief (which this author has had a hand in writing); and with the tools and practices that are supposed to tackle them, i.e. architecture, design and planning. The key question is whether they are really adequate to this task? And, more importantly, are these 'problems' architectural or planning problems?

And, more fundamentally, could it be that architectural (and planning) practices are not supposed to be those which could probably 'solve' these problems, but that they could be part of the problem. If so, can they handle them with the tools that they have at their disposal? If they cannot, what is the way out of the paradox of worrying about problems which one is part of, and which one is not sufficiently equipped to deal with?

Is the world a design problem? Can socio-environmental pathology be handled
by disciplines of the 'beautiful'? If yes, how? If not, why not?

Essentials of liveable environments for urban young

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Abstract
Copenhagen Declaration and Programme Action pointed out that "the ultimate goal of social development is to improve and enhance the quality of life for all people". The term "quality" implies very wide range of environmental features. The features not only vary by content (i.e. mental and physical health, safety, social needs, aesthetics, etc.) but also vary by scale (micro, mezzo and macro) and man made physical environment (indoor and outdoor).
The aim of this paper is to bring forth the features of liveable physical environment from the point of view of the perceived priorities of young urban inhabitants who have different social, economic and cultural background.
A field work is set out to investigate the desired basic environmental characteristics of urban areas in general and neighbourhood in particular. The sample of universe is the student population of Karadeniz Technical University.
The major outcome of analysis is that urban young tend to favour, on the whole, in order of importance, structural/land use attributes, clean and well maintained environment, walkable streets and spaces, vital social and cultural milieu for passive uses, and civility in public places. Although not as strong as others freedom from close watch of public is demanded especially by female. Except the type of education, all other personal characteristics of young (i.e. origin, personal geography, gender and economic well-being) seem to not effective on their environmental priorities.

1. Introduction

Copenhagen Declaration and Programme Action pointed out that "the ultimate goal of social development is to improve and enhance the quality of life for all people" (Kessler, 1996) "... keeping in mind that the needs of those from 'developed' and those from 'developing areas' vary" (Goody,1988). As Maslow said "there is a certain hierarchy in human needs. The physiological needs come at the bottom of this hierarchy, and unless a lower order needs are satisfied man do not require the higher order needs (Dökmeci & et. al., 1995). Hence, the attributes of the term 'quality', differ depending on the priorities given; on the one hand, it refers to the healthy environment to the people from developing parts of the world, equipped with clean drinking water and sanitation, sewers and safety, on the other hands refers to aesthetic, cultural and social needs, well equipped public spaces and refined services for the people in developed areas.
Not only in North-South blocks, but also at settlement scale the 'quality' or 'liveability' can hold different meaning, hence attributes. City is defined as a socio-physical organism with interdependent tangible and intangible components (i.e., social, cultural, physical, and ecological). Therefore, attributes of quality/ liveability can differ depending on urban inhabitants' gender, occupation, welfare, life style, environmental and cultural priorities and political involvement.
In the literature, on the whole, there are two types of approaches to the topic. At exogenous approach, which use second hand data in general, basing on pre-set set of liveability attributes, the quality of subject is investigated, ranked, etc., where the 'subject' covered generally group of cities from one or more countries or blocks, (Sufian, 1993; Giannias, 1998; Rogerson, 1999), though it concerned with urban sub-scale also (Furuseth, 2000). At endogenous approach, which adopts the methods of environmental psychology and based on first hand data, environmental preferences of individuals are searched for either basing on given set of attributes or deriving essentials from individuals. There are ample research adopting this approach, which can be classified within broad spectrum as scale, material context and methodology adopted (Galster & Hesser, 1981; Nasar, 1983; Goody, 1988; İmamoğlu & İmamoğlu, 1996; Newell, 1997; Abu-Ghazzeh, 1999).
Researches and practices range from local scale in urban and rural areas to whole urban scale, and concern to single aspects of liveability to multiple aspects; betterment of local and neighbourhood environment functionally or visually, regeneration of city centres and city wide rearrangements of public open spaces, traffic and pollution control, conserving heritage buildings and sites, generation of positive image to urban area, appraisal of sensitivity to natural environment and set policies, etc.
Since the ultimate goal is to secure the quality of life for everyone, at endogenous approach, studies are also concern on individuals' perception of liveability and aspiration of the local environment or city/city centres, in relation to their tangible and intangible peculiarities, i.e. age, gender, profession, welfare, and culture (Nasar, 1983; Wooley & et. al., 1999; Pennantz & Elsinga, 1990; Montgomery, 1998).
The purpose of this paper is to bring forth the features of liveable physical environment from the point of view of the perceived priorities of young urban inhabitants who have different social, cultural and economic backgrounds. Planners and elected officials ought to consider the requirements of individuals and communities in their policy decisions in planning, designing and betterment of urban environment in order to maximise the well being of urban inhabitants and visitors in general.

2. Materials and methods

A field work was set out to derive the priorities of young people on the physical, social, economical and ecological environmental attributes of urban areas and neighbourhood. The sample of the universe was the student population of Karadeniz Technical University (KTU). The university, which has six faculties (38 departments) in two campuses in Trabzon, recruits students all over the country. The participants are selected among the graduate students of 13 departments, who have been attending to 3rd and 4th classes. The selection is done from the list of students on the basis of random sampling of 20 p.c. Total 374 student were questioned by self-registering style.
The questionnaire covered, three groups of questions. In the first group, participants' information on age, gender, place of residence before joining to university, extent of personal geography, economic status, etc. In the second group, actual and desired out-of-house activities of students, their favourite indoor and/or outdoor places in city and neighbourhood, their best and the worst attributes, the general characteristics the settlement they wish to live in future, and the most pleasing and

displeasing attributes of a street/road were investigated. These questions are open ended. In the third group, the student were asked to chose among 40 urban and neighbourhood features that are invaluable for them. The last group questions was, in a way, the cross-checking questions of the former. The survey data is analysed by basic statistical techniques (i.e. Chi square and standard deviations, etc.).

3. Profile of participants

. Personal characteristics

The average age of student is 21.7, though it ranges between 18 and 29. Almost two fifths of them are female, three fifth are male. Pre-university education of the most participants is ordinary high schools (64 p.c.) or career high schools (23.3 p.c.).

Although KTU's recruitment area is nation wide, in term of the main enrol-ment surface, it is a regional institution; the provinces of Black Sea region (51.8 p.c.), Eastern and Central Anatolia (17.9 p.c.) were the major place of residence of respondent students before joining the university[1]. These areas have gross domestic products per population (GDP) are well below the national average. The respondents come from major metropolises (namely Istanbul, Ankara and Izmir), and coastal provinces of Marmara, Aegean and Mediterranean regions (MAM), which are more affluent, have higher GDP than the national average, sum up 16 p.c. and 14.2 p.c. respectively. About three fourth of total respondents' permanent place of residents are province centres and the remaining live in district centres (generally small towns) or villages, small portion of which is in affluent regions (6.4 p.c.).

The personal geography of student covers also places he/she knows other than the place of residence. In this respect, 31.9 p.c. of sampled students had the opportunity to live/to be in at least one metropolitan city. 24.6 p.c. and 43.3 p.c. of students are familiar to coastal provinces of MAM, and other parts of the country respectively. Only 0.1 p.c. of students have foreign country experiences.

Accordingly, more than half of the participants know, to certain extent, some of the more affluent provinces, where the variety within social, cultural and physical environment are richer than the most inner provinces. It is expected that the larger the personal geography the students have the more cultural, aesthetic and civic values about cities/places, and richer experiences/perceptions will have to judge the liveability of cities/environments.

. Family characteristics

Most respondents have large family with 3-4 children (55.1 p.c.) and more (23.0 p.c.). Only 21.9 p.c. of families have 1-2 children.

If the families' employment profile is regarded as an indicator of economic st.tus of student, the great majority of students come from low-middle and low income families. Because, the fathers are mainly retied (37.4 p.c.) or paid employees (24.9 p.c.). Also, 9.2 and 5.6 p.c. of fathers are petty-traders and farmers respectively. Only 22.9 p.c. of fathers are self-employed professionals that may be the reference of middle income. On the other hand, heavy proportion of mothers are house wives (87.0 p.c.), 8.6 p.c. of them are retied and 4.5 p.c. of them engage in farming.

However, despite the short income, 87.1 p.c. of families are house-owners. The tenant families are about 12.0 p.c. Those family attributes may indicate that the sampled students have rather traditional/conservative family background.

4. Empirical results

4.1. Free time activities and favourite places of participants

Living experiences in the city provide various opportunities to people for spending his/her leisure time, such as, exchange of information, friendship, culture, knowledge, and also exchange of emotional, psychological and spiritual support. These are the factors of embedding place and social attachments, hence sense of belongings and place satisfaction which is the indicator of its liveability.

However, place and social attachments depends, on one hand, experiencing and consuming of social, cultural and recreational provisions of city, on the other hand, depends on the required quality of provisions that attracts people. As much as one perceive the network of public spaces supplied and their attributes, he/she can spend his/her free times personally effective, which requires ability to read the city's leisure pattern, find the most suitable places, and also can be able to access them.

The already performed activities are restricted both with the perception of consumers, and with the possibility and availability of some special places and spaces. The aspired activities wished to be involved in, on the other hand, are effected by the perception/awareness of consumers solely. Therefore, students are asked what they do and what they want to do most in their free times within city.

Place satisfaction covers wide range of attitudinal factors related to indoor-outdoor environment of city as a whole and neighbourhood. Questioning at "the places regarded the most valued by inhabitants and why" can reveal intrinsically the desired characteristics of a liveable community.

4.1.1. Free time activities of participant

. The existing activity pattern of participant

The passive and active social activities are the most common free time activities of students (39.1 p.c.). The passive activities like gathering, chatting, playing games (card, billiards, backgammon, etc.) and using internet have equal weight with active social involvement such as walking, wondering around with friends (Figure 1). The former activities mostly take place in cafes (tea house, coffee house-kahvehane), parks, clubs, internet cafes, and the latter are hold in public open spaces of city centre, also in parks and water fronts, etc.

The passive cultural activities such as going to theatre, concerts, libraries, conferences, and especially to cinema are also seen important (25.8 p.c.). Only 3.8 p.c. of sampled students are actively engaged, as hobby, in some type of cultural activities. These activities performed in the city centre and at the university campuses, in general.

Sports activities are favoured by 16.1 p.c. of the participants, most of whom are the active players at indoor and outdoor sport areas (13.7 p.c.). Shopping, entertainment in disco and clubs, and working for charity or in part time job are rather insignificant free time activities.

. Desired activity pattern of participants

About 26 p.c. of respondents are not answered to the question related to the most desired activities. This attitude can be interpreted in different ways; considerable part of student are wholly satisfied with present condition, hence have nothing to mention, contrary to this, they have lack of aspirations. Knowing that the former is not prevalent, especially among the student of art and architecture, and female participants, the latter reason is more possible.

However, the respondents' answers are statistically different from what they have been doing (X^2 sig.=0.007). As the social, entertainment and shopping activities lose their share in total activities, sports gain more importance (22.8 p.c.) than the previous (Figure 1).

One interesting point in the answers is requirement for 'more freedom and tolerance' from the parents and from public at large. This is expressed especially by female students. In this sense freedom means not to be disturbed and offended when they are out at any time in the day, and to be able to go public places of all types, such as pubs, discos and the like.

Although, there is strong correspondence between the performed activities and gender (X^2 sig.=0.000), no significant difference is observed in desired activities by gender. This may indicate to the existence of strong community pressure on young people, especially on females who are the one expressed "more freedom and tolerance" as mentioned above.

Contrary to the assumption that having living experiences in more affluent cities and in different places enriches one's perceptions about built environment, the origin of students and their personal geography make no significant difference in actual and desired activities. However, the type of education they have been getting seem to make significant difference (X^2 sig.=0.05 and sig.=0.008 respectively). The students of architecture and arts wish to involve considerably more in cultural and entertaining

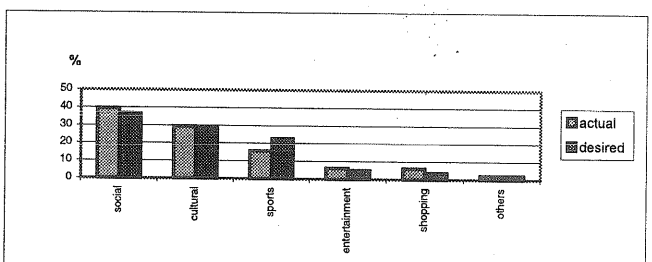

Figure1. Actual and desired in-outdoor activities

activities than other students whose preferences are nested mostly on social and sportive activities.

4.1.2. Favourite places within the city in general and neighbourhood

. Favourite places within city

Among the favourite places of students in the city they know best, places within nature (greenery, waterfronts, parks, etc.) come out most frequently (40.1 p.c.), followed by urban outdoor places (22.6 p.c.) and urban indoor places (13.1 p.c.). Particular neighbourhoods, historical places, heritage buildings and their sites, and institutional sites[2] are the other favourable places.

The appreciated places differs significantly by the students' origin and the type of education he/she has been getting (X^2 sig.=0.000 and sig.=0.01 respectively). Young people of metropolitans appreciate places within man made environment more than the other students who, especially those come from inner provinces, like places more either in natural setting or contain adequate natural elements. Art and architecture students valued equally high the places located in nature and man made environment-city centre, while others students are appreciated KTU campus and/or a particular neighbourhoods.

The best features of the favourite places stated as; having natural-ecological values (44.6 p.c.), being quiet and calm (16.6 p.c.), vivid and amusing (10.8 p.c.), and accessible (10.7 p.c.) (Figure 2a). Natural elements are the most significant features of all types of appreciated outdoor places. Besides, places in the city centre and neighbourhood are liked because of the vividness and the calmness respectively.

However, even the most favourite and appreciated places can be criticised from various aspects, and consumers have view in the way to be improved. In this respect, preventable environmental inadequacies/problems, such as improper maintenance of place, lack street furniture, noise pollution and filthiness (32.7 p.c.) are the most common reason of criticism (Figure 2b). People criticise the best loved places located especially in city centre (out door and in door) and neighbourhood because of social problems and conflicts (i.e. isolation, incivilities and offends which come from co-consumers of places) (18.3 p.c.). Also, the pedestrian discomfort and inaccessibility (13.9 p.c.), and closely related to it, inadequacies in land use planning (i.e. insufficient space for social, cultural, sports activities and functional disorderliness) (13.5 p.c.) seem to important especially in KTU campus, and indoor/out door public spaces/ public use private spaces in the city centre. Complains from the lack of visual aesthetics and mis-management of provisions, on the whole, seem to be the least important environmental aspects.

Lacking properties of the favourable places coincide, in essence, with criticised features given above. In order of importance, pedestrian comfort, improper allocations of provisions, visual aesthetics, well maintained and kept environment, and civilities and adequate servicing are the stated deficiencies (Figure 2c).

. Favourite places within neighbourhood [3]

It is striking that nearly 35 p.c. of students found nothing to appreciate/like within their neighbourhood, which means there is no relation between person and his/her home environment. In other words, considerable amount of young people are alien to their neighbourhood milieu, in general.

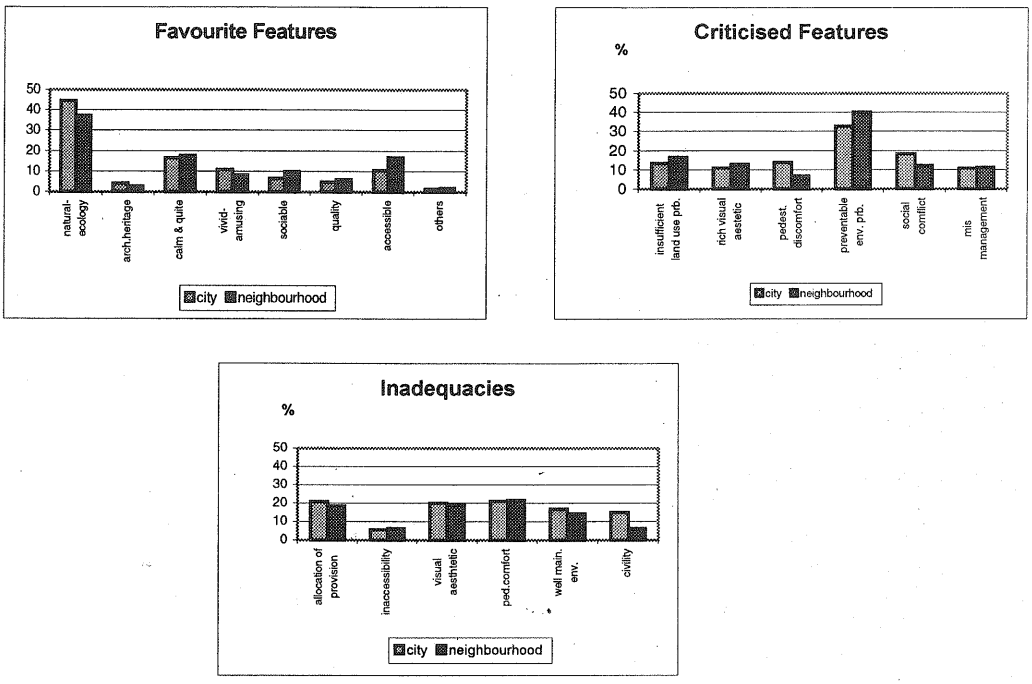

Figure 2a-2c. Features of favourite places in city and neighbourhood

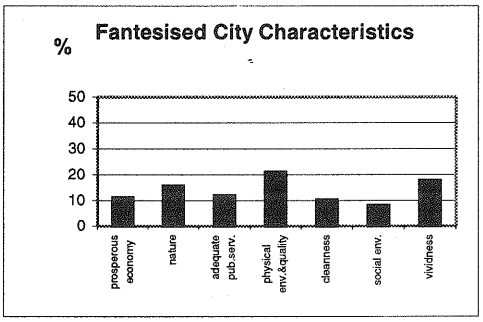

Figure 3. Features of desired city

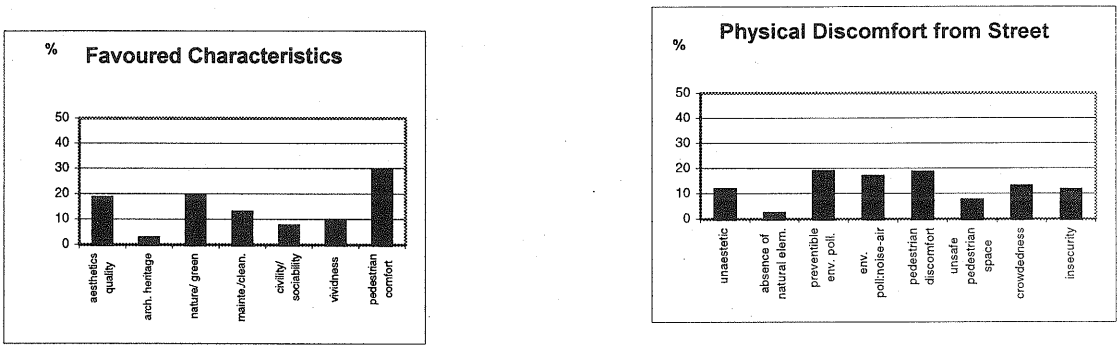

Figure 4. The best and the worst characteristics of public spaces

Among responders, 45.4 p.c. of them appreciate very much the place which hold natural features (i.e. parks, gardens and well-landscaped areas with soft elements and good panorama sites). The open spaces in neighbourhoods, which includes KTU campus, come up to be important places for students (19.2 p.c.) due mainly to quality of environment, wandering around opportunities and being only the place available close to home. Also the indoor private and public places, such as friend's home, cafe, internet-cafe or shopping premises are sited as the favourite place (16.5 p.c.).
The best attributes of the favoured places in neighbourhood are nature-ecology, quietness and comfort, and accessibility (37.2 p.c.,18.0 p.c. and 16.8 p.c respectively). Having sociable and friendly atmosphere is also an appreciated feature (Figure 2a).
However, the favourite places are criticised strongly for the environmental problems that are preventable (40.1p.c.)(Figure 2b). The following critics are mainly structural; planning deficiencies and functional disorderliness, visual aesthetic of buildings and environment, and pedestrian comfort. Besides, considerable amount of dissatisfaction is created by the social milieu and mis-management of provisions.
Pedestrian comfort (21.8 p.c.), visual aesthetics (19.1 p.c.), improper allocations of provisions (18.6 p.c.) and well looked after environment are the significant deficiencies of favourable places in neighbourhoods (Figure 2c).
On the whole, both in city and neighbourhood, the largest group of dissatisfied feature is attached to preventable/adjustable physical attributes (filthiness, ill-maintenance, lack of furnishing, etc), which foster misperception of environment, hence weaken the place attachment.

4.2. Fantasised settlement characteristics

In order to find out criteria for evaluating liveability of a settlement at large, participants are asked to define their individual attributes that a settlement they would wish to live in future should carry.
Respondents demand quality in physical environment for their future living city (21.1 p.c.), which is consistent with their aspirations about the places in city and neighbourhood they have been living in. Physical environmental quality refers to, in order of importance, well designed and planned neighbourhoods and the city at large, calm traffic, free from noise, comfort for pedestrians and facilities for disabled. Vivid urban life (i.e. variety in social, cultural and entertaining activities and provisions, and vividness) comes to second fantasised attributes (17.9 p.c.) (Figure 3). Young people also dream to live in city which have nature and large water surfaces (15.8 p.c.), adequate public services and amenities (11.9 p.c.), prosperous economy (11.2 p.c.), cleanness (10.3 p.c.), and social environment (i.e. respectful citizens and security) (8.1 p.c.) .
The features of fantasised settlement do not change significantly by origin, personal geography and economic status of students, though the type of education and gender cause statistically significant difference (X^2 sig.=0.001 and sig.=0.001 respectively). The students of art and architecture are more sensitive to economy, vivid urban life, image of settlement and participation than other students who give more emphasise to nature, adequate public provisions and physical environmental quality. In terms of gender, the male students wish to live in settlements, which have prosperous economy, adequate public provisions, free from visual and air pollution and sociable environment, while female students look for quality in physical environment, vivacious urban life and nature within settlement.

4.3. Characteristics of public open spaces

Physical environment is one of the factors that influence to activities a varying degree and in many different ways. Good quality environment endorsing functional, recreational and social activities make public space in city and in neighbourhood more meaningful and attractive. In order to highlight subjective preferences participant are questioned about the most pleasing and displeasing characteristics of urban public open spaces.

. The most pleasuring attributes of public open spaces

The most pleasing feature of a street/road/square seem to being comfortable for pedestrian movement (29.3 p.c.). Pedestrian road or sidewalk is valued if it is well paved and wide enough not be interfered by other pedestrians, free from cars, well lighted, equipped with litter boxes and sitting arrangements. Nature/green elements, which give pleasure to pedestrians and passer-by and aesthetic quality of streets, squares are seen constituent of pleasurable public open spaces (19.6 p.c. and 18.6 p.c. respectively) (Figure 4). Also, maintenance and cleanness, civilities and sociability, and vividness are the noticeable street and square characteristics that give pleasure to consumers.
Gender, origin and personal geography of student and his/her family's economic status are not effective on their perception of 'pleasurable street/road'. However, the type of education, again, seem to be influential. In the public open spaces, the art and architecture students look for aesthetic quality, historical remnants, green elements and vividness, all of which valued more than the remaining participants who give emphasis to more essential features, such as pedestrian comfort, and cleanness and maintenance (X^2 sig.=0.07).

. The most disturbing attributes of public open spaces

Young people, as walking and wondering around on the streets and squares are disturbed most, regardless to their personal characteristics, from dirtiness, untidiness, graffiti and ill-maintenance (18.7 p.c.), discomforting features of pedestrians such as narrow roods and pavement, insufficient street furniture and poor lightning (18.5 p.c.), environmental pollution (noise air and) (16.8 p.c.), crowdedness (12.9 p.c.) and insecurity (11.5 p.c.) (Figure 4).
Only the education of respondents make statistically significant difference in given priority of such attributes (X^2 sig. = 0.02)

5. Functional, physical and social characteristics of liveable cities

In the previous sections, peculiarities of liveable urban and neighbourhood environments derived from open ended, spontaneously answered questions at which, details of attributes can possibly be omitted. Therefore, attributes which frequently come out essential for liveability in various studies are given to participants to get more precise picture of perceived liveable urban environment, and also provide a kind of cross-checking.

Two sets of features were given to participants and asked them to chose those which they regard indispensable. The first set of features are related directly or indirectly to the functional context of cities, and the second set of features are concerned with social and physical aspects of liveable cities. Answers given to both sets are clustered into 11 groups. Also, the features are grouped and ranked in respect to their outcome frequency[4] on the basis of standard deviation (Figure 5).

Group 1: urban economy
An active and prospering economy giving opportunities of employment to all age, gender and occupational groups are not indispensable for the young people, even the potential of job mobility is less important. It matches with the fantasised settlement characteristics, where prosperous economy came about last. This is rather unexpected outcome knowing the reality of Turkish economy where job creation rate is low, hence, unemployment rate is rather high. In such condition, the young are expected to value 'urban economy' the highest, since they will enter job market in the near future. Such attitude may reveal that young people are living daily rather than look to the prospect.

Group 2: Urban environment and urban infrastructure
Functional urban environmental characteristics related to efficiency of urban infrastructure (road, water, sewage, etc.), low level noise and clean air, low level traffic volume in residential areas and in the centre, maintenance and cleanliness of the city come out to be mostly indispensable features of liveable environment.

Group 3: Social, cultural and entertainment facilities
Richness of cultural activities as theatre, concert, exhibitions, dancing and friendly talks are indispensable which increase the quality of urban living. Variety of entertainment facilities, the milieu of actively and freely participation in joint activities are given less priority. This fits to actual and desired activities, in which mere entertainment and active cultural involvement seen insignificant.

Group 4: Spatial-social facilities
The spaces equipped for sitting, relaxing, chatting is indispensable. However, availability of spaces for joint activities with neighbours and places to wander around freely (squares, streets, pedestrian areas, etc.) have little value for respondents. Although, the former attitude can be understandable regarding the conservative background of students, in which joint communal activities are not widely practised traditionally, the latter contradicts the actual and desired activities of students, where walking was the frequent activity.

Group 5: Cultural milieu/cultural space
Respondents were not give much priority to the urban rooms of various size which are the valuable attributes of urban street life. This means that the public space concept of this type has not been widely recognised by public and the people.

Authentic events, traditional and popular culture are not widely exhibited and the celebrity places are almost non existent in Turkish cities. As expressed "quarter commodity relies heavily on culture and cultural activities are the means of exposing social energy of the community" (Glasson & et al, 2000). In this sense, the network of pedestrian friendly open spaces for amateur works and activities like folklore, musical performance, exhibitions of arts and crafts, exchange of information, skill are not ample in the cities as seen above in 'Group 3'. The existing system of educatic n together with the level of education of public at large are not motivate people to express themselves. Also, the political milieu has sometime been intolerable to spontaneous joint activities. Therefore, the cultural and related physical milieu is not urgently needed and valued essential for the urban young.

Group 6: Recreational environment
Recreational provisions such as easily accessible natural and man-made greens, places for resting and relaxing, and sport provisions are the most important features of liveable settlement.
Majority of urban and neighbourhood areas in Turkey are characterised with high density build environment with inadequate open spaces containing little vegetation. Hence, in the preceding sections, too, the answers focused on "green". This may reveal implicitly the strong feeling on lacking of such essential urban amenity. Although each city in Turkey has one or two central parks and/or natural recreation places, more accessible neighbourhood parks (as in western context) are not common even in the recently planned areas.

Group 7: Pedestrian comfort
Young people think that comfortable public open spaces is an indispensable urban feature. Arrangements sensitive to disabled and elderly, well furnished pedestrian spaces, and security in both city centre and neighbourhood are regarded important. As seen above, those come out most frequently as defining elements of space satisfaction directly or indirectly. On the other side, spacious and sunny pedestrian spaces, lightning, and order and quality in all types of signs and signals, all of which are related to comfort, security and visual aesthetics respectively, are not found important. In other words, the young content with only essential pedestrian amenities.

Group 8: Urban aesthetics
Colourfully paved and well maintained pedestrian spaces furnished with sculptures, fountains, and pools and visual richness of urban architecture are seen very little value for urban young, in general. On the other hand, planting and flowering, aesthetic quality of building facades are the appreciated features of a liveable city.
The reason of given no priority to aesthetics can be nested in the characteristics of existing build environment, which hardly provide alternative townscape and streetscape, hence hinder enriching the visual experiences of urban people[5].

Group 9: Urban identity
Some urban identity features such as historical sites and buildings in use, and sites with natural beauties are valued high, but the presence of known/ familiar places, and the existence of places reminding the collective past of community are regarded not important.
Turkish cities have been rapidly transforming from traditional patterns to planned urban forms destroying the traces of the past. Many cities have lost their historical remnants such as buildings worth to preserve, fountains, personally attached places/features etc., make cities legible that contribute to urban identity which are the joint properties of psychology of place and physical attributes of buildings. Therefore, the urban young do not know much about their cities and they do not care or feel lack of the above peculiarities.

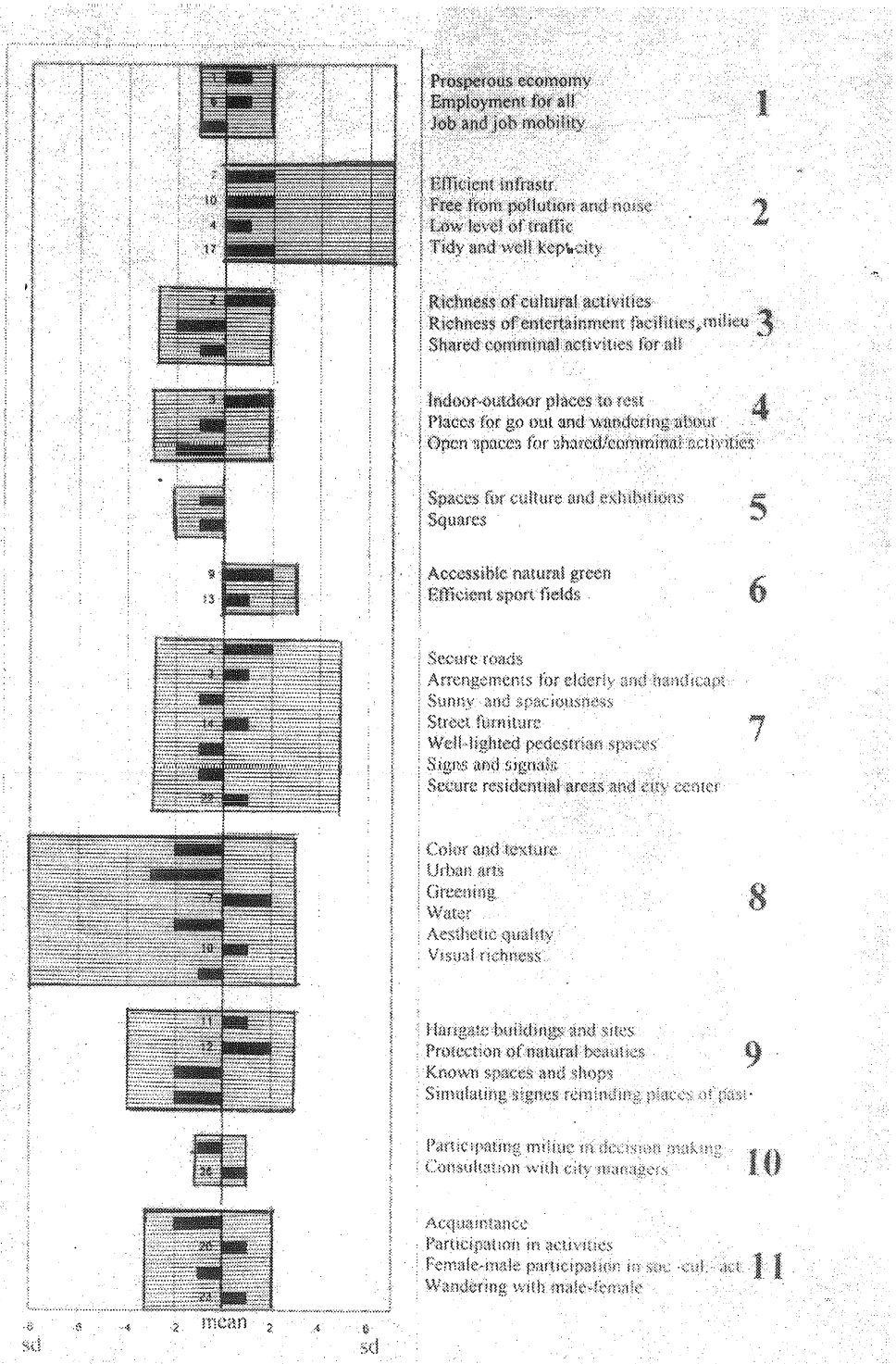

Figure 5. Functional, physical and social characterics of livable cities (standart devition)

Group 10: Participation in planning and development
Respondents do not find essential to participate in planning and communal affairs willingly, but they welcome wholeheartedly for the consultation of local authority.
Although young people are not have strong inclination to participate, still some of the people are prone to dedicate themselves to public life partaking in social and public services and community development studies. If the people are given the chances and the means to express their ideas and visions in urban and community planning process, this can be beneficial for authorities and participants. This chance is not given to the public by law in Turkey, and especially the local administrators are not aware of benefits of mutual participation .
Group 11: Social environment
Participation of male and females in to social and cultural activities either actively or passively is less important, and to have slight acquainted people around in public is not important at all. The chances of participating all age groups actively/ passively in social and cultural activities, and wondering around, chatting together with his/her sweetheart in public spaces are the desires of the young. However, some are, especially females, shy and hesitant to express themselves because of social, familial close watch.

6. Conclusion

In summary, evaluating the findings given previous sections reveal that;
. one of the attributes of pleasantness is cleanness and well maintenance which are the most frequently complain of city centre and neighbourhood environment. However, such problem can be solved more easily, in short run with modest resources, than other sited problems (structural and social) which demand more time and resources. Local authorities should regard this an opportunity to make the living environment of inhabitants more pleasant, working together with the public in general.
. both at the city and neighbourhood levels, natural areas, greens, parks, and play fields are generally valued higher than other type of places/spaces. The reason of such attitude may be the scarcity of green areas and/or elements within city that those reflects the inhabitants' yearning to active and passive green. Local authorities ought to re-evaluate all public spaces at city centre and neighbourhoods in this sense, and ought to design providing green elements and urban rooms where are possible/ suitable. These arrangements facilitating place attachment will improve liveability of cities/neighbourhoods.
. among young people place and social attachment are rather weak, especially at neighbourhood level, partly because publicly and/or privately supplied provisions are very rare. This also hinders seriously leisure activities wished to be involved (i.e. sports, etc.). The issue of 'attachment' deserves much attention since it related to number of urban questions at all scale (i.e. willingness to participate to planning, care to living environment, etc.).
. although visual aesthetics, on the whole, seem to have some priority evaluating places/public spaces, in detail, only the basic components of aesthetic (soft landscaping public spaces and building facades) are valued. Public arts, visual richness of places and hard landscaping are hardly considered. However, this may bound with the profile of sampling universe, those mostly coming from less prosperous areas, families and physical/social environment where in their hierarchy of needs, as seen in above statements, the higher order needs are not yet essential as Maslow indicated.

Notes

1. Spatial distribution of sampled students' origin is rather similar to the universe they are taken from (X^2 sig.=0.25).
2. In the study "institution" is named heavily as KTU campus.
3. In this study the neighbourhood is defined as an area within 10 minutes walking distance from home.
4. Standard deviation of each feature from the mean frequency of two sets of features scaled between –3sd and +3sd; and named as "indispensable"(+2), "important"(+1), "less important"(-1), "not important"(-2) and "indifference"(-3).
5. Turkish planning regulations set minimum for urban provisions and do not regulate the urban aesthetic and visual quality of environment (such as design guides), then the constructors, planners and the public authorities agree on using the lower limits of those planning standards, which, on the whole, create commonplace build environment.

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Tourism in the historic city: a case Trabzon

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Abstract

Historic buildings and sites represent a continuity and connection of the human past, present and future. The present is born of the past, and yet the future rests with the present. With globalisation and rapid urban development, in many places have lost their historical settings and identity around the world. In this way, historic places are under increased destruction and deterioration process. Today people travel places where have an unique architecture and cultural heritage which are different from other place to gain first-hand experiences. Thus, there is a strong linkage between historic heritage and tourism. Indeed, historic preservation plays an important role for developing and promoting the urban tourism in the historic city. Tourism is one of the major contributor to economic development in the modern sense. At the same time, tourism is also very complex and complicated phenomenon because it brings many components in to destination area such as accommodation, transportation, food, recreation, entertainment and retail services. This complex industry requires short and long term planing and management for the future development to prevent the impacts on the destination areas.

The scope of the study is to research potential urban tourism and the way of how do developed it for the city of Trabzon. The material of this work is the historical built environment and cultural heritage of Trabzon. This rich historic architectural and cultural heritage are the product of different civilizations, religions and as well as nations from its past. Many type of buildings still exists in the city that are churches, mosques, monastery, historic city walls, houses, inns (han) and Turkish bathes as well as bridges from Byzantine, Pontos and Ottoman periods.

The tourism in historic city

Tourism is considered an activity that spending the leisure time away from home and work environment. Tourism industry contains of activities, facilities and services to delivery a travel experiences; accommodations, transportation, restaurants and bars, shops, entertainment, and the other hospitality services to individual or groups traveler. This complex and complicated industry is a contributor to economic development in the modern sense that has became one of the major growing industry and a key part of the economic development for many places. There are many types of tourism but historic heritage has been the main source of attraction under the form of cultural and historical tourism contemporarily. Beside providing vital economic income, there are significant impacts of tourism on historic places in terms social, economic and environmental aspect (Özen, 1994).

In the related literature, on following characteristics of tourism are listed: (1) it involves the voluntary and temporary movement of people to destinations outside of their normal places of work and residence which are a relatively long distance, or for periods exceeding at least 24 hours; (2) it is undertaken for the purpose of recreation, holiday, health, education, sport, or business; (3) it includes the recreational activities undertaken by tourist during their stay in those destinations; (4) it implies the creation of wide spectrum of facilities to serve the needs of tourists (Cohen, 1974; Mathieson and Wall, 1982).

Urban environment is a collection of memory of its people from the past and a store of cultural symbols. This heritage indicates the user and visitors appreciation of the past which may be more tangible than that illustrated in monuments, possibly a social insight into the life of previous or foreign era, and more often a sense of identity, and belonging within physical surroundings responding to the human scale.

Tourism is not only concerned with historical resource in city but also a critical role in the development of such resource while conversely historical heritage form a vital part of growing tourism industry. In the tourist city, this dissimilar phenomenon has become a major activity and a force in the design and structure of the modern city. Urban tourism is typically organized either in a network of historic cities or as the centre-piece of regional tourism, and it is usually in the inetrest of local aoutorities and tourist associations to continue to promote it in these contexts.

The tourist in historic city is can be viewed as: (1) both form and a function. It is particular type of urban morphology but also, and increasingly urban activities; (2) both a special kind of city and specialized morphological functional region within a city; (3) both a particular use of history as a tourism resource and a use of tourism as a means of supporting the maintenance of the artifacts of the past and justifying attention to the historicity of city (Orbaşli, 2000).

The historic city originates from architectural forms and morphological pattern as well as historic associations. Urban conservation is more than just preserving a few buildings, it is concerned with the urban fabric as a whole (Cohen, 1999). It is an action that is officially sponsored and systematically organized attempt to protect the historic environment is a recent phenomenon. This is a functional view of commodity makes a city as the marketable place. The goal is to preserving valuable elements, image, sense of place and urban identity. A city is by definition, spatial concentrations of culture, traditions, sight and facilities that all of them elements could make them attractive for tourists. In fact that the city is a place to live, work and spend leisure time. Therefore urban tourism is taking place in this functional urban area. Figure 1 shows the relationships between tourism and historic heritage in a tourist city.

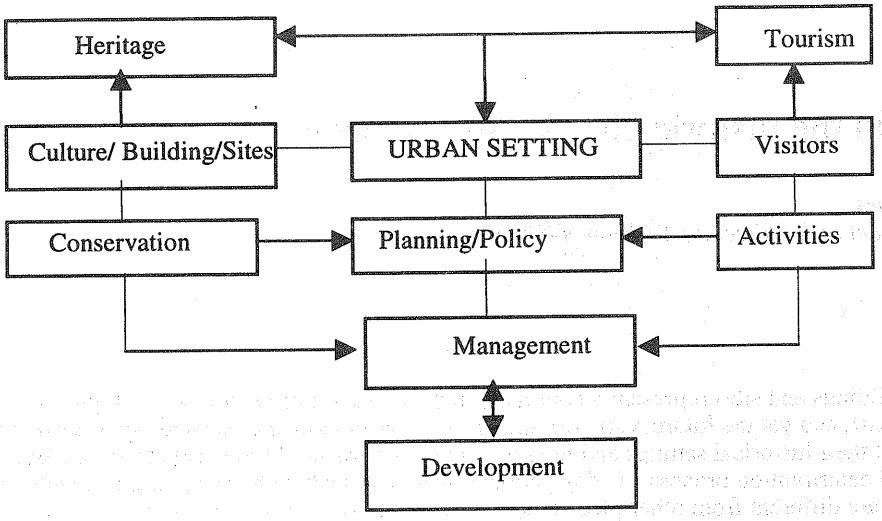

Figure 1. Relationship between the heritage and tourism in urban place.

Case: Trabzon

The place

Trabzon is located on the north-east cost of Black Sea region in Turkey. The history of the city dates back to 2000 BC. Historically the city has been a remarkable port and trading center of the region as well as for the other places. Today Trabzon still has an important role in the region in terms economic, social, politic and cultural sense.

Trabzon has unique architecture and cultural heritage from its rich and diverse cultural past. Roman, Byzantine, Pontos, Komnenoi and Ottoman Empire periods have added significant elements to architectural and cultural heritage of the city. Today, many of the existing buildings dates back to Byzantine, Greek Pontos and Ottoman era (Aysu, 1977).

The city has been experiencing rapid urban growth and high-rise concrete buildings that have been surrounded the historic buildings and places. This development causes serious problems such as traffic, insufficient infrastructure and environmental pollution on especially the oldest sections of the city which call Middle Fort (Orta Hisar), historic walls and houses.

Historic heritage definitely has communal value and the links between cultural objects and identity of the city that exists in the physical aspects of buildings, public spaces and urban morphology have been experienced by users in the past, present and future. Therefore urban heritage cannot be narrow down to individual buildings or monuments of historic interest. Trabzon also has a great natural setting which attracts tourists.

Historic heritage in Trabzon

There are many types of existing historic structures and sites in the urban centre of Trabzon, however, some of them are not in good conditions. Many of them are listed only on the national heritage list. These buildings are listed under churches, mosques, city walls, bridges, inns, Turkish bath, forts, fountains, tombs, monasteries and houses. Historic buildings and sites are scattered in the city. Only the historic districts and streets have several the historic structures and the typical urban morphology from its past.

Well known significant historic buildings are listed as following:

Churches; There are 8 important churches in city but some of them have been changed into their function to mosques during the Ottoman period. Today only St. Sophia (Ayasofya), and St. Anna (Küçük Ayvasıl) are museum and Santa Mary is used as an active church among the Christian residents in. St. Eugenios (Yeni Cuma mosque), Panaghia Chrysokephalos Church (Fatih Ortahisar Mosque), St. Andrew Church (Molla Nakip mosque), St. Philip Church (Kudrettin Mosque) and St. Elefterios Church (Hüsnü Göktuğ mosque). Mosques; Gülbahar Hatun mosque, İskenderpaşa mosque and Çarşı mosque. City walls; The old part of the city surrounded by the historic walls that remain from Byzantine, Greek Pontos and Ottoman era. Bridges; There three historic bridges which are Tabakhane, Zağnos and Değirmendere. Inns; Vakıfhan, Taşhan, Alacahan and Sabirhan. In the same area, there is old bazaar buildings calls Bedesten. Turkish bath; Fatih bath, Hacı Arif bath, Tophane bath, Eight columns (Sekiz Direkli) bath and Plaza (Meydan) bath. City walls; Walls are surrounded oldest section of the city and have upper, middle and lower parts. There is also Fortress in the city. Manestry: Kizlar Monastery. Houses; There are many historic houses (Karpuz, 1990).. The most famous houses are Atatürk Pavilion and Kostaki mansion which are museum today

Today major attraction among this buldings are Atatürk Pavilion, Kizlar monastery, St. Sophia Church, Fatih Ortahisar Mosque and Gülbahat Hatun Mosque. The other historic buildings and site are not knowing well because many of them have not preservation work on and as result of this they are attracting tourists.

In addition to individual structures, Trabzon has historic urban districts, quarter and streets that can be vital tourist attraction places: Orta Hisar historic district, Central Public square (Meydan), Kunduracılar Street and Kemeraltı historic district. Each of this sites has distinctive architecture characteristics, patterns and cultural value. However they are not in the condition to attract visitors because many buildings in this areas are in bad condition, heavily deteriorated and abandon places. They need to have a situble revitalization and preservation works on to become tourist attraction.

Tourism in Trabzon

The market potential of historic city is more than historic quality but it is also the location, size and accessibility of the place. Generally, urban tourists want o experience sense of place in the livable urban spaces. They choose the destination best fitting their recreational needs, given the budget and time constrain. Indeed developing a successful tourism industry in urban place requires an attempted reconstruction of city images and replace negative perceptions. The primary goal of marketing historic city is to construct a new image for investors, visitors and residents. Because urban tourists will give priority to the presence of monuments, museums and cultural manifestations in a beautiful natural settings.

Trabzon is considered a multifunctional and medium sized city in Turkey with the population of urban center is 177.904 from the census result of 1997. The city has diverse economic structure but tourist industry is one of the contributor to the local economy. According to data from local tourism office, 482.359 tourists came to city in 1998. 224.130 of this number was Turkish and 158.129 was international visitors. Total income from this was $50.761.200. This number has changed in 1999. 300.969 visitors was from Turkey and 124.547 visitors was international. Total income was $79.087.500. According to this data, the number of international visitors has declined and Turkish visitors has increased.

There are two vital points for developing successful urban tourism in Trabzon. These are a reasonable urban conservation project and successful tourism policy with involvement in both public and private organizations, eventhough their expectations are differents. Effective urban conservation requires rules, regulations, land-use policy and comprehensive conservation plan.

Second point is developing a tourism policy that incluedes investment, marketing, management and strategies in. Basic conditions to attract tourist is having appealing image, supplying a range of easy accessible and highly competitive tourist products and the effectiveness of tourism development efforts. Indeed developing of tourism industry is a regional, economical and political issue. In the long term development, management of the impacts are also very important subjects today because tourism has positive and negative impacts on the destination area in term of social, economical and environmental aspects.

Planning a tourism development policy requires to assets the market potential, defining the visitor profile and finding ways of targeting this group and exploring long-stay options in the city. However Trabzon has not developed a sustainable and strategic tourism policy yet. There are various problems need to solve in the city. Generally, the local public and the private organizations that involve in tourism are making only seasonal and short term plan to improve the tourist industry. There is no long-term planning and management project. Each organization is trying to get higher benefit from this industry without investing money on the historic buildings, infrastructures and other tourist facilities and services. As a result of this many historic buildings and sites of the city have been suffering severe distraction and deterioration. Further more, many buildings have free access or no access. In fact public and private organization should play a vital part of developing urban tourism in Trabzon.

On the other hand historic preservation and urban conservation have considerable relationship to tourism. Urban conservation can be motivation or pull factor for tourist because more tourist means more income and employment for the local residents. This income from tourism may help to protect historic structures, sites and help to improve the other needs of the city.

Today Trabzon is facing many urban problems that can irritate the visitors. Heavy traffic, parking and over crowded pedestrian roads. There is no traffic free dedicated pedestrian places for tourist except Kunduracılar street and Kemeraltı historic district. This places are always overcrowded by residents because major shopping areas in the city. On the other hand, only a few bus tours have been organized for the visitors by private organizations that involves in mass tourist operation around the city. Therefore tourists are not staying longer period of times in Trabzon because there are not many activities for visitors during their stay. This is one of the major problems.

Table 1 presents the major components of tourism and historic heritage in Trabzon. Both requires understanding the phenomenon, planning and development, promotion and management. If the city wants to become tourist center, city administrations should realize the value and potential of cultural heritage. Both governs office and the municipality need to have determine the scope of tourism policy based on the development plan of the city. Because ownership of many buildings and sites are still a big problems for conservation, preservation and utilizing for tourism in Trabzon. The goal should be a vision to create livable urban spaces for its visitors and residents. Especially it is important to realize the role of the historic districts, streets and quarters to developed urban tourism. Urban tourists want to wonder around and experience the historic and cultural environment as part of their travel. Tourism policy of the city is the lack of this vision.

Table 1 Key components for developing urban tourism in Trabzon.

Components	Historic Heritage	Tourism
Understanding	• Authenticity of the place • Natural charm • Sense of place and identity • Historic heritage and its pattern.	• Nature of tourism • Type of attraction to the place • Potential of tourism • Value of tourism • Economics benefit •
Planning and Development	• The scope of preservation and conservation • Local value of culture and heritage • Urban growth and change • Developing a creative image • Defining long-term goals • Creating liable urban places: districts, quarters and streets.	• Determining visitors profile • Defining target group • quality accommodation facilities • Exploring longer stay • Organizing range of activities • Assessment of the seasonal characteristics.
Promotion	• Vision of more desirable historic environment • Alternatives site seeing, walking, bus routes, events • Promoting image and identity as integral part of city.	• Focusing on advertisement • Reaching right target group with correct information • Preparing proper materials about events and places.
Management	• Sustain and maintain the distinct quality of the place • Creating safe environment • Providing living function for the historic buildings and districts • Controlling access and considering carrying capacity of the sites and place.	• Long-term benefits and sustainability of tourism activities • Developing and maintain high and diverse quality product • Maximizing the benefit and minimizing impacts • Managing carrying capacity of tourism.

Conclusion

Following questions have to find the answer in the frame plan and policy in Trabzon. "Who is heritage and to whom we should protect and promoted it". And how and what is the economic benefit and who is getting profit from the tourist industry in the city. In addition to this management development is important matter because if the impacts and carrying capacity of tourism on the spaces. This should be not a destructive process on both the tourism and the historic heritage. Indeed the key elements of developing urban tourism in Trabzon is setting defined objectives of urban conservation policy.

Following themes have to consist into the urban tourism planning:

- The image and identity of the city should analyzed based upon historic and cultural heritage.
- Emphasizing on strategic tourism planing and policy is that clearly relates the activities of visitor and their management.
- Giving a priority on the revitalization the historic core with the current renovation techniques to make them livable spaces.
- Improving and increasing the number and quality of tourist facilities, and improving the infrastructure of the city.
- Estimating the major tourist attraction places and buildings based on the opinion of the visitors, and the public and private organizations.
- Determining the profile and characteristics of the visitors, and developing urban activities according to their needs.

- Realizing that not only the historic buildings attract tourist but also natural settings such as mountains, high plateaus and etc., and encouragement and investment on the traditional arts and crafts.

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The significance of a place identity for tourist attraction, case study: Bellapais

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Abstract
Traditional areas valued because they are intrinsically beautiful and have scarcity values. They have picturesque qualities and individuality where that has been lost in new developments. These environments bring man back to what is original and essential with their unique identities. The village of Bellapais, one of the most beautiful spots in the province of Kyrenia, stands near the summit of the northern range of mountains. It is composed of two districts; the traditional core and the new development. The physical pattern of the traditional core possesses identical characteristics. The magnificent natural beauties, climatic conditions of the village and Bellapais Abbey which, is an outstanding impressive monument of Gothic archetype, located at the main square, enhance the identity of Bellapais. Therefore the village and the abbey is the major tourist attraction point of North Cyprus. Accordingly, in this study, the traditional core of Bellapais will be evaluated in order to emphasise the significance of a place identity for tourist attraction.

Introduction
Identity is one of the essential goals for the future of good environments. Moreover, in order to attract and hold people, a place should cultivate a strong, independent image for which people can develop strong identification and affection. Within the light of this evaluation, this research will assess the significance of a place identity for tourist attraction. Accordingly, Bellapais is selected as a case study and evaluated interims of environmental and social identities.

Bellapais is one of the most beautiful villages of Kyrenia. It is located on the northeast part of the town. Due to the preservation of its natural and man made environment characteristics; it is one of the tourist attraction points of the North Cyprus. The village of Bellapais is composed of two different parts: the traditional core and the new developments. The traditional core consists of historic fabric with local character and the new developments, are the products that can be everywhere. Therefore, in this study the traditional core is selected as the plot area.

In the centre of the village, Bellapais Abbey, which are the centrepiece and the main attraction is located. This twelfth-century monastery is a fine example of Gothic architecture of the Lusignan Period (1192-1489). The abbey comprises of a church, refectory, dormitory and storage rooms grouped around an inner courtyard. Moreover, the views from the village are superb, and from every point, the plains of Kyrenia and the blue Mediterranean beyond are perceived. Tiny routes and narrow streets cris-cross irregularly away from the main square next to the Abbey. Besides, many whitewashed buildings, few inexpensive cafes and bistros are scattered around. In this respect, the study will be structured as introduction, determination of the Bellapais identity and the significance of Bellapais identity for tourist attraction and finally conclusion.

Environmental and Social Identity of Bellapais
Many writers have pointed out various definitions for the identity concept. In the Webster's Ninth New Collegiate Dictionary (1983), identity is defined as "the distinguishing character or condition of a person or a thing". For the Longman Dictionary (1980), it is defined as "who or what a particular person or thing is". On the other hand Goldesten and Elliot (1992), define it as a " characteristic combining uniqueness, dissonance, and mystery". According to Schulz (1980), "identity means bring man back to what is original and essential".

Particular places should have a clear perceptual identity: recognisable, memorable, vivid, engaging of attention, and differentiated it from other location. This is the objective basis for perception. Besides people should feel that some of the environment belongs to them individually and collectively, some part for which they care and are responsible, whether they own it or not. Moreover, as is mentioned by Appleyard and Jacobs (1982), the environment should ensure people to express themselves to become involved, to decide what they want and act on it.

Within the light of this evaluation, in the following lines environmental and social identities of Bellapais will be identified in order to assess the significance of a place identity for tourists' attraction.

Environmental identity of Bellapais
Environmental identity of a place can be evaluated as the characteristics of natural and man made environment.

Characteristics of the natural environment
Natural factors are one of the determinants of the form, physical and functional characteristics of outdoor spaces and building masses. The characteristics of natural environment can be explained as topography and geographical formation, climate, vegetation and water.

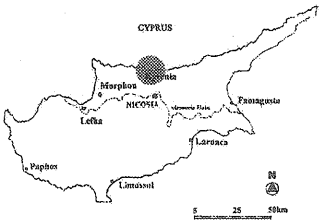

Figure 1:Location of Bellapais in North Cyprus

The village of Bellapais is one of the most beautiful spots in Kyrenia (Figure 1), stands near the summit of the northern range of copious mountains about three miles east of the town. The village is settled on the sloppy skirts of the mountain, which embraces one of the finest panoramas of the beautiful Mediterranean Sea (Figure 2).

Climate is an important consideration for identity formation. As stated by Lauriel (1975), it is the net result of several interacting variables including temperature, water vapour, wind, solar radiation and precipitation that determine environmental conditions and comfort of a place. The climate of Bellapais is basically 'Mediterranean': hot dry summers and mild winters during which almost all the annual rainfalls occur. Since the village is located on the coastal area, the temperature is modified by the influence of the sea, being cooler in summer and milder in winter. Besides, since it is located on the north skirts of the mountain, it ensures a natural cool atmosphere especially in hot summer days. Since there are nine months summer in Cyprus this natural atmosphere increases the village's value.

Vegetation is a major indigenous site potential for creating identity. Plants are the primary landscape materials that vary of texture, scale and color, shape, together with the seasonal changes. They are ideal materials for improving qualities of outdoor spaces. The Bellapais village is rich of vegetation. The skirts are overarching with the orange, lemon, olive and carob trees. Fronting the last rise to the village, the road begins to wind through a landscape dense with orange and lemon trees scenery and smell. Besides, there are many cypresses bent back against the sky as they took the wind; the broad flowerbeds were full of magnificent roses among the almond trees increases the idleness. Moreover, a great Tree of Idleness at the dominated square is not only a symbol of the village but also derives quietness and sense of green beatitude that fills the village (Figure 3).

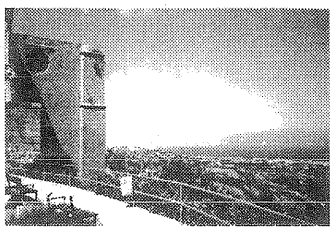

Figure 2: A nice scenery of the Mediterranean from the skirts of Bellapais

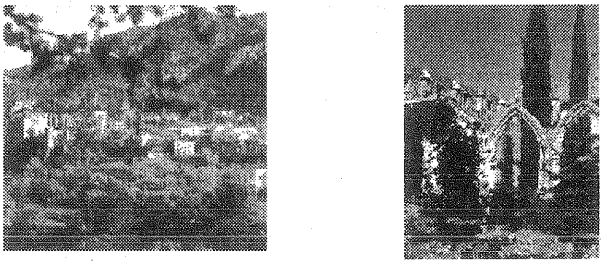

Figure 3: Scenes of the magnificent vegetation of Bellapais

The presence of water on a site affects a place identity for several reasons. It is an important base element in supporting of all life forms; developing sites potential, and can be indigenous site amenity. Springs of mountain supplies water not only the village but also to many miles of vegetation and neighbouring villages.

Characteristics of the man-made environment

Man-made environment is the surrounding that is touched by people. It is the mirror of a society culture, knowledge and technology. Moreover, it reflects the heritage of a society. Man-made environment is mainly composed of buildings, streets and squares. In the following lines Bellapais' man-made environment characteristics will be put forward.

Buildings are the predominant elements of the settlements. The main building types of Bellapais can be summarised as domestic buildings, religious buildings and public buildings (Figure 4).

Domestic buildings, which are houses, are built on terraces along the slopes of the mountain chain. They are 1-2 stories white washed box-liked buildings facing to the narrow streets. Entrances directly linked to the street with huge carved doors. Rectangular windows are screened by the fine timber shutters, which are decorated with flowers in pots. The units have a typical plan, with a rectangular hall in the middle and the rooms on sides. Small balcony, which is a projection of the hall on the first floor, provides a breathing space for the users. Almost all houses have a rear garden with a number of fruit trees in it (Figure 5).

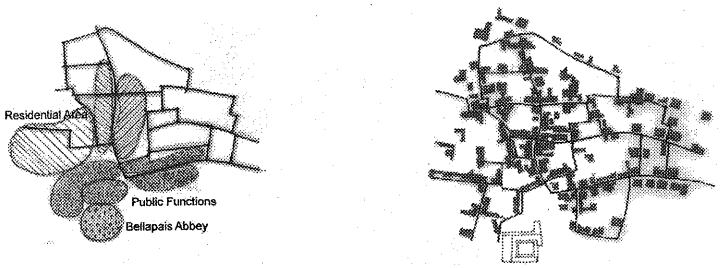

Figure 4: Schematic organisation of the functions in the village structure

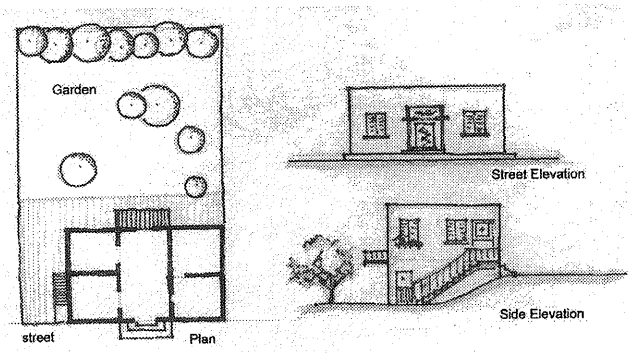

Figure 5: Schematic plan and elevations of the houses

Bellapais Abbey, which is the most important religious building, is a reference point for the village. As is mentioned by Dreghorn (1984), just before reaching the village, a fine view of the abbey can be obtained from the main road. The Abbey is an outstanding monument of Gothic Architecture, imposingly situated on a natural terrace from which there are magnificent views of mountain and sea. It well displays the use of the Gothic arch in achieving height; the best example is to be seen on the east wall of the Abbey. All visitors are greatly impressed by the beauty of the magnificent Gothic arches springing up from the luxuriant local green of the orange and lemon groves. As mentioned by Durrell (1959), Abbey is a heaven of rest of the paradise of peace (Figure 6).

Public buildings are the places, which are shared by all the people where all obey the same rule and have the same rights. Public buildings in Bellapais are retails, cafes, bistros etc., are mainly located around the main square and the main leading axe to the village. As in all other villages of Northern Cyprus, coffee shops are the main traditional attributes, which not only create a focal point but also affect the village identity. Generally public buildings are single storey structures with a semi open space in front of them, which is covered by a grapevine.

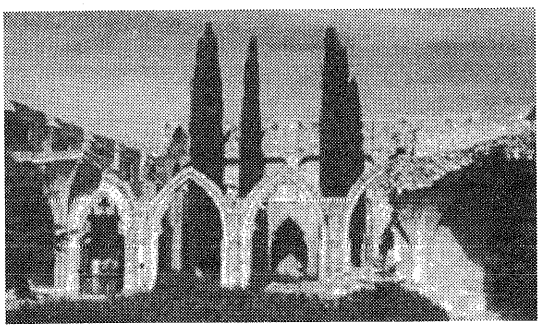

Figure 6:Bellapais Abbey

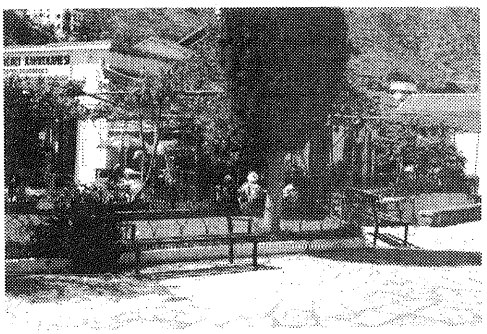

Figure 7: Coffee shops

Streets; are the most potent public places for social activities to occur, and the most effective elements in linking separate entities. Streets provide links between buildings on the street and in the village context. In Bellapais, the narrow and surprising streets distributed from the main square next to the abbey forming an irregular grid pattern in the village structure (see Figure 4). Although, the streets are very narrow, they facilitate the movement of people as

pedestrians and within vehicles. Human scaled streets are defined by the buildings facing the street and by the garden walls. The street space provide an outdoor volume for the users of the village (Fig.8).

Lynch (1985) defines square as an activity focus at the heart of some intensive areas. Typically, it is paved, enclosed by buildings and surrounded by streets, or in contact with them. Besides, it contain features mean to attract groups of people and to facilitate meeting. The main square that is the heart of Bellapais village is a dominated square with the magnificent Abbey. The main axe of the village primarily leads people to this square and then the residential district. This square creates memorable image on all visitors mind with its impressing scene.

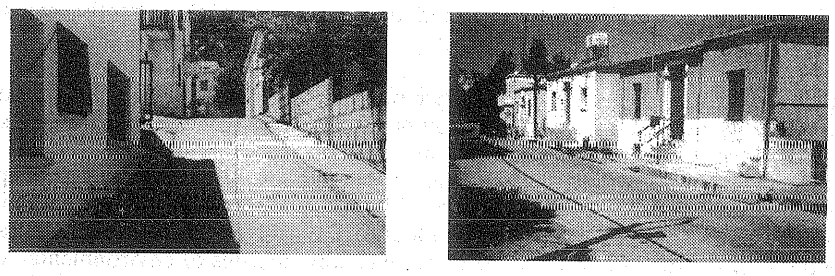

Figure 8:Street pattern

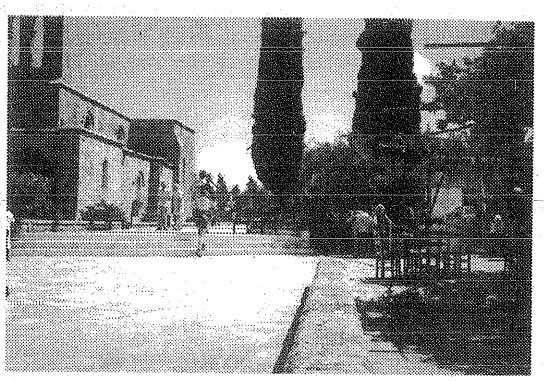

Figure 9:Dominated Square

Social Identity of Bellapais

Social Identity is the second component of a place identity. It is the relation of human beings in a physical environment due to the economic, social and political formation. The structural properties of a society are directly effective on a place identity. In the following lines, the villager family structure living in Bellapais, their information related with roots, economic position of the society, cultural characteristics and way of life will be focused.

Almost all families living in Bellapais are nucleus family, composed of father, mother and children. Besides, there are few generated families living in the village. Today, the people who are living there are Turkish Cypriot immigrants which came to Bellapais from southern part of the island after 1974 war. The great share of gain is directly related with tourism potential of the village. They earn their life from the management of coffee shops, restaurants, bistros and gift shops around the main dominated square. In addition to these, some villagers are working in the nearest town Kyrenia as officers.

It is observed that, the villagers still sustain their physical, functional, traditional, cultural characteristics and way of life. They are intensively use their gardens (front or rear) for sitting, socialising, receiving guest, growing vegetables and fruit trees, drying clothes, keeping pets, storage, car parking area etc. Moreover, street provided a useable outdoor space for the daily life, and used as a gathering space; for sitting, socialising, lace work and making handicrafts for their gift shops. Furthermore, coffee shops are the major traditional utilities that take attraction of the villagers and the tourists. During the whole day, especially the elder men of the village are using these places intensively and hosting the tourists who are visiting the village (see Figure 7).

Significance of Bellapais identity for tourist attraction

An important argument determining why people choose to visit to a particular place is the 'atmosphere', or 'street life' of the area or the cultural identity. Tourists are no longer content to visit a particular art gallery, monument or place of natural beauty alone. Now, they look for the local culture and identity of places, they want diversity, quaintness, stimulation, surprise, excitement, amusement and most of all, something different from home. (Alga.com, designing competitive places)

Bellapais is an attractive place for tourists because of its sustained environmental and social identities. Since there are nine months summer in Cyprus, almost all days are sunny, air is fresh and sky is clear. Besides, as the water is abundant, it is possible to see all tones of green in all seasons. Especially in spring the smells of orange and lemon trees affect the image of the place. Due to this characteristic it is not only give idleness to the villager but also to the tourists.

The traditional pattern of Bellapais exemplifies the human scale, individuality, care and richness. Buildings have special characteristics due to their location, spatial organisation and details. These properties of the buildings still sustain their original characteristics without any additions that may cause deterioration on their identity. Moreover, the streets which are defined by the building blocks and the garden walls give a sense of place to their user. The woman villagers traditionally use the street space as a gathering and socialising area. This habit not only increases vitality of the place and but also takes tourists attraction. Besides, due to the street morphology, variety of surprising views faces people. Additionally, the magnificent abbey, which is located on the north side of the dominated square, is the most effective feature in the village identity. It is one of the best examples that well display the use of Gothic arch in achieving the height. All visitors are greatly impressed by the beauty of the magnificent Gothic arches (see Figure 6). Therefore, since Bellapais preserve its local character and identity it is one of the attractive spots for tourists.

Conclusion

In a world of rapid change, visible and tangible evidence of the past valued for the sense of place. Since the identity is one of the essential goals for the future of good environments, the unique places like Bellapais should be preserved in order to transfer cultural heritage to the future generations.

As was defined in the introductory part, this study evaluates the significance of Bellapais identity for tourist attraction. The village of Bellapais is composed of two different parts: the traditional core and the new developments. While the traditional core consist of historic fabric with local character, the new developments are the products that can be everywhere. Therefore, this study focused on the traditional core interims of environmental and social identities. The environmental identity evaluated as the characteristics of the natural and the man-made environments of Bellapais and the social identity assess villagers' family structure, information related with roots, economic position of the society, cultural characteristics and the way of life.

Having recognised the significance of Bellapais' identity, this study expected to provide a framework for similar identical places. Since, preserving the local identity, provides various gains to a country: transfer cultural and traditional heritage to the future generations, increase economic gain of the country by tourist attraction and incorporate local identity with global identity.

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The role of historical and cultural environments on place-identity: a case study on Trabzon

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Abstract

Identity of a place is based on locality and culture. It refers to the history, memory and/or culture of the place.

In Trabzon, of which establishment goes back to old ages, there are not many monumental buildings survived to today. Generally, old historical monuments in the city are examined in two categories as Byzantine and Ottoman.

It is those 19th and 20th century houses in the city that provides urban and architectural identity. Despite the fact that Trabzon houses have the same topography and same climate, they differ in terms of culture, religion and living style. Generally, traditional Trabzon houses have gardens or courtyards.

Settlements reflect their identities to the environment they are constituted in. On the other hand , however, they are gradually losing their identities. Changes in living conditions, growth in population and gradual changes are changing the local characteristics. This situation leads to cultural erosion in such areas which areas are given importance with regard to historical and cultural aspects.

It is inevitable that changes to occur in socio-cultural structure reflects in architecture. However, changes in physical structure are resulted from the requirements. Attempts regarding the protection of the place-identity may be achieved only if these requirements are met. Physical structure should protect not only itself but also social structure. It should be aimed at harmonising old parts of the place for making them act as one in gradually developing urban integrity and at protecting this structure as a living entity.

In this context, The aim of the paper is emphasise the importance of historical and cultural environment's role in forming place-identity under the light of concepts like self-, social-, and place-identity, examine the subject in the scope of Trabzon and discuss how the places like Trabzon in the future will or should be.

1. Introduction

As we enter the 21st century, historical and cultural environments together with population growth, urbanisation are formed with effects like globalism, massiveness etc. on the other hand, and confronted with conflicts on keeping characteristics like identity-seeking, locality etc. on the other.

Historical and cultural areas reflect their identities to the environment they are constituted in. On the other hand, however, they are gradually losing their identities. Changes in living conditions, growth in population in these are changing the local characteristics. This situation leads to cultural erosion in such areas which areas are given importance with regard to historical and cultural aspects.

In countries like Turkey, swift changes due to urbanisation causes deprivation, destruction, gradual extinction of environments with historical and cultural values. Within this rapid process place-identity, self-, and social-identity are differentiating and going bad. Because place identity which is related to the assessment of the overall quality of life of a place. The key to understanding environmental quality and appropriateness lies in an understanding of human purpose, action and roles. On the other hand, Dynamic or static aspects, continuity and change, tradition and evolution are inseparable dimensions of the quality of the built form.

2. Self-social and place-identity

All the world is becoming urbanised. Especially historical and cultural environments are affected this situation. The only thing is identity that prevent places having historical and cultural values being similar to each other.

The concept of "identity" is directly related to "imageability", as it is the memory of a strong image that stays with people and makes them identify a certain environment, or identify with it. Identity caused by a special land use, is much stronger, as people often participate in the activities of that use and thus identify with the environment. An environment, therefore, has identity not only when it has the ability to make you remember its uniqueness and thus identify it, but also when it has the ability to make you identify with it through your participation in its uses. Environments or buildings with identity become sources of pride for their users, (Antoniades, 1992).

The essential purpose of architecture creates "place". In other words, identity in architecture relates to "place".

On the other hand the meaning of "place" is different meaning of "space".

There are alot of meaning of the concept of space and place. One definition of space is an open and abstract and place is defined as a part of space that is occupied by a person or a thing and is endowed with meaning and value. It is the interaction of people with this immediate environment which gives it characteristics distinct from those of the surrounding areas, (Erkut, 1997)

Various analogies have been drawn between the symbolic function of architecture and the formation of personal and social identities. Their accumulation has reached the point where the idea of architecture as point where the idea of architecture as identity, (Abel, 2000).

Place-identity is not independent from self-identity of its dwellers and social-identity of the mentioned dwellers in which they are reciprocally interacting.

The "self-identity" of the individual is structured by various more specific identities such as sex, social, ethnic background, occupation, religion and still others, whereas "place-identity" is defined as these dimensions of self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, believes, preferences, feelings, values, goals and behavioural tendencies and skills relevant to this environment, (Proshonsky, 1978).

"Social identity" is regarded as social product within the communication on relations between individuals and groups and symbols.

Human identification with a place, presupposes that places have 'character' that is attributes which distinguih one place from another and which lend to a place its unique presence or genius loci, (Abel, 2000).

Relph, (1978) argues that principal components of identity of place, are physical features, observable activities of people, and meanings that people bring to a location. Each of these components is figured by the opposition of same-different, person-place and inside-outside. His strongest claim about the significance of the identity of the intentional object and inter subjective focus of place concerns the "home". He argues that "home", whether a house, a village, a region, or a nation, is a central point of existence and individual identity from which you look out on the rest of the world, (Erkut, 1997).

On the other hand, historical and cultural environment has an important role forming the identity belonging to that environment and gives its actual character. So the essential purpose of architecture is defined accordingly: "The basic act of architecture is therefore to understand the 'vocation' of the place. In this way we protect the earth and become ourselves part of a comprehensive totality. What is advocated here is not some kind of enviromental determinism. We only recognize that man is an integral part of the environments, and that it can only lead to human alienation and environmental disruption if he forgets that. To belong to a place means to have an existential foothold, in a concrete everyday sense, (Kelly, 1963), (Abel, 2000).

3. A case study on Trabzon

Trabzon, located on the coast in the Southern Black Sea Region of Turkey, is a linear developing city settled in equivalent distance (approximately 12 kms) in east and west.

The city centre lies between the Black Sea to the north, and a rising series of ragged land terraces culminating in Boztepe, to the south. The streams Degirmendere, Tabakhane and Zagnos divide the city centre as they flow northward to the Black Sea. The city's oldest ruins were found on a high, rugged plateau shaped like a table and situated between the Zagnos (Table 1: photo 3) and the Tabakhane. This table shape may well explain why the city's first recorded name was an ancient. Greek word "trapezos", meaning table or trapezoid, (Anon, 1995).

3.1. The history of the city

Trabzon, because of its location, has been an important city and a trade centre for years. There is no concrete and clear information as to the establisment of the city of Trabzon. However, according to the latest research, the history of Trabzon dates back to 2000 B.C. , (Albayrak, 1989).

The city has experienced the following ages since its establishment, (Aysu, 1982).

1. Period from its establishment to its becoming an autonomous city (2000 B.C. –750 B.C.)
2. Period of Autonomous City (750 B.C.-50 A.D.)
3. Roman Period (50 A.D.-395 A.D.)
4. Byzantine Period (395 A.D.-1204 A.D.)
5. Komminus Period (1204 A.D.-1461 A.D.)
6. Turkish Period (1461 A.D.-now)
7. Ottoman Period (1461 A.D.-1923 A.D.)
8. Republic of Turkey (1923 A.D.-now)

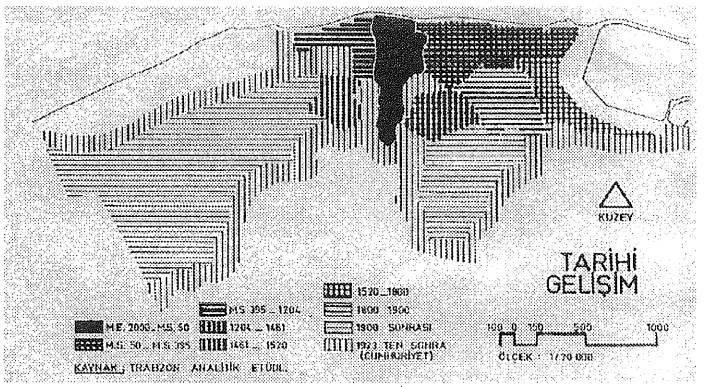


Figure 1: The Historical Period of The City, (Aysu, 1982).

3.2. The identity of the city

If a certain environment possesses a unique character then we say it has identity. An environment may be unique due to the use of certain uniue "forms" that are to be found in this environment and nowhere else, or it may be unique due to a certain activity or a certain sequence of activities that are performed in this environment and nowhere else. Special land uses often give identity to towns, (Antoniades, 1992).
Lynch, (1971) has divided the grouping of the city image into five elements: paths, edges, districts, nodes, landmarks. He put forward upon these researches have an active role for creating the city image, (Lynch, 1971). Identity of a place is based on locality and culture. It refers to the history, memory and culture of the place. Built and social environments are in a reciprocal interaction.
In addition to this its uniqueness relates to topologic, morphologic and typologic features.

In Trabzon, of which establishment goes back to old ages, there are not many monumental buildings survived to today. Generally, old historical monuments in the city are examined in two categories as Byzantine and Ottoman, (Albayrak, 1989). They constitute landmarks and nodes with squares like Kabak Square (Atapark), Ataturk Plaza (Table 6:photo 1) etc. City walls which is dated different period of time (Roman, Byzantine and Ottoman) may considered as edges also.

Byzantine monuments survived in Trabzon are churches, monasteries, city-walls, and aqueducts.

Table 1: Examples of Byzantine Monuments

1.Kizlar Monastery	2.Aqueduct	3.City Walls	4.Ayvasil Church
5.Ayasofya Museum	6.Yenicuma Mosque	7.Ortahisar Mosque	8.Zagnos Bridge

Ottoman monuments include mosques, tombs, inns, bathhouses, medresses, bazaars, fountains and houses.

Table 2: Examples of Ottoman Monuments

1.Gulbahar Complex	2.Vakif Inn	3.Bazaar(Bedesten)	4.Arsenal
5.Alaca Inn	6.Governorship	7.Carsi Mosque	8.Fountain

It is those 19th and 20th century houses in the city is common types that provides urban and architectural identity. These are districts, as Lynch (1971) stated, they also form those paths with other monuments. The rural houses which labelled "Eastern-Black Sea Style" around Trabzon is not included in this study. The other type of house is maisons. The most famous example of these types in Trabzon is museum building and the other is Ataturk Pavilion. Some examples including in "Eastern-Black Sea Style" and maison are seen in Table 4.

Table 3: Examples of Eastern-Black Sea Style & Maisons

1.Traditional house/Caglayan-Rize	2.Traditional house/Sürmene	3.Museum Building	4.Ataturk Pavilion

Despite the fact that Trabzon houses have the same topography and same climate, they differ in terms of culture, religion and living style. Generally, traditional Trabzon houses taking place in the city have gardens or courtyards. Gardens are generally towards the west. Most houses have plan type with "through-sofa".

Table 4: Plan types in traditional houses.

THE TYPE OF PLAN WITH THROUGH SOFA (HALL)	
THE TYPE OF PLAN WITH EXTERIOR SOFA (HALL)	

The characteristics of those houses in Ortahisar, Pazarkapi and Gulbahar Hatun regions of the city are of traditional Turkish houses. The oldest Trabzon houses have plan type with "exterior sofa". There are few examples of these houses remaining today. (Table5: photo 7)

It is seen characteristics of Greek architecture in those buildings at Kunduracılar Street, Uzunsokak Street and Ataturk Plaza.

In terms of style, traditional Trabzon houses are examined under two main groups: Turkish and Greek, (Krampen, Ozturk, Ozek , Saltik, 1978).

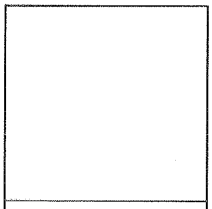
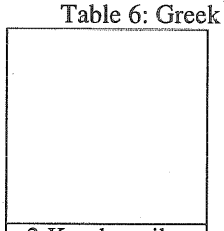
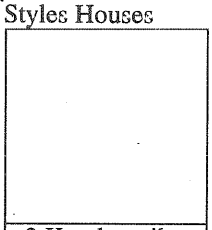
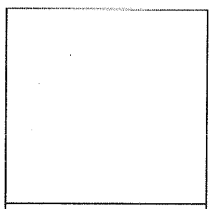
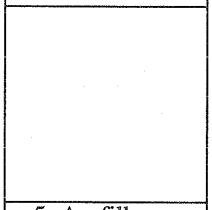
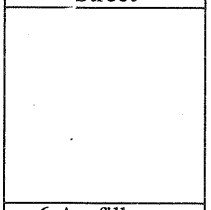
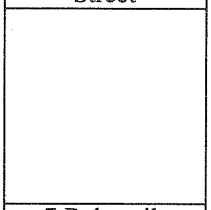
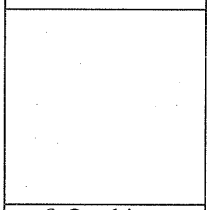
The houses of the "Turkish" style, often featuring a ground floor with few windows. On the first floor there are rooms for everyday use. In the facades of these buildings different types of a particular wooden skeleton construction are use.

Table 5: Turkish Style Houses

1.Ortahisar Street	2.Ortahisar Street	3. Ortahisar Street	4.Pazarkapi Street
5.Pazarkapi Street	6.Pazarkapi Street	7.Pazarkapi Street	8.Pazarkapi Street

Aside from "Turkish" style there are the buildings of the former Greek built before the turn of this century, more or less heavily ornate, using predominantly stone and distinguishable on the outside by the presence of archivolts with a key stone on the top of the windows and consols supporting the window sill.

Table 6: Greek Styles Houses

			
1.Ataturk Plaza	2.Kunduracilar Street	3.Kunduracilar Street	4.Ataturk Plaza
			
5. Arafilboyu Street	6.Arafilboyu Street	7.Bahcccik Street	8.Ortahisar Street

Thus, the distinctive features of thse "old" styles are:

-predominance of wooden structure,
-closure of groundfloor
-presence of skeleton structure
-predominance of stone structure
-presence of archivolts and consols.

On the other hand, the characteristic features of these "old houses" are is seen in Table 7.

Table 7: The Characteristics of Eastern-Black Sea Vernacular Housing Settlements, (Erturk, 1994)

MAIN FEATURES	.Semiotic Values .Diversity in Unity .Image is clear .Strong rules and orders .Remerkable differences in detail
SETTLEMENTS	.Scattered .Organic .Variable open spaces with surprises
PLAN ELEMENTS	.Multipurpose living room ("hayat" or "salon") .Sofa
PLAN ORGANIZATION/THE TYPES OF PLAN	.With "hayat" types .With "salon" types
HOUSE TYPE	.Common types Urban Houses Village Houses .Other types of houses Mansions (konak) .Two or three stories
AESTHETIC APPEARANCE	.Unique Character .Inspirational .Attractive
INTERIOR/EXTERIOR RELATIONSHIP	.Small and narrow windows .Overhangs .Upperlights
STRUCTURE/CONSTRUCTION AND MATERIALS	.Pragmatic way of using local materials .Timber skeleton .Traditional construction system

There is a rapid urbanisation and cultural exchange in Trabzon resulting the loose of place-identity. In order to preserve identity of the city some district are declared as "conservation area", in addition Kunduracilar Street is designated as conservation area as a whole.

4. Conclusion

It is inevitable that changes to occur in socio-cultural structure reflects in architecture. However, changes in physical structure are resulted from the requirements. Attempts regarding the protection of the place-identity may be achieved only if these requirements are met. Physical structure should protect not only itself but also social structure. It should be aimed at harmonising old urban parts for making them act as one in gradually developing urban areas integrity and at protecting this structure as a living entitiy.

Especially historical and cultural environments give an identity a place and identify it and its users. So these special environment should be protected.

Old cities are frequently marked by small deviant parcels, traffic blocking, structural and functional absolete, congestion of occupancy in all types of premises and ineffective services. But despite the insufficient resources the people living in these areas serve essential economic and social functions. Most of the places of historic interest are located in the old parts of the cities. They have a physical and social character that sets them aside from the rest of the city, (Erturk, 1994)

Identiti of a place which has been shaped by the accumulation of centruies, not only reflects a special characteristics of a place but also includes the characteristics of the period, and these characteristics carry universal specifications to today. However, only truth and direct link to the past and will be valid in the future is the response of a city to its dwellers in terms of their life style, necessities and traditions. Interpretation from history, transfering the culture directly or new interpretations such as abstract principles, rules, methods governing the spatial or structural organisation of a building or functional qualities and values possessing still on actual validity.

The aim in constructing a building in a place with historical and cultural importance whether it is built within the contextual, historical, ecological or regular approach or not is being aware of the distinctive features of the place and thus constructing the building in compatible with these features. Architecture in cultural coherence can be provided both through appearance and integrity of the culture, behavior and the environment.

In this context, one of the aims is to protect the existing environment, pass on the the next generations so as to provide cultural continuity. The other is, in the framework of cahnging needs and living conditions, to maintain the integrity of the city i.e. the "identity of the place" by finding new solutions meeting new needs within the old city structure.

On the other hand, to create a new architecture, it should be avoided from both reducing architecture to simply a frontage and being in an attitude rejecting the past.

"Design guides" which carry the aim of keeping historical and cultural environments organization under control should be rearranged in order to include the ideas that are abstract, context based and flexible.

On the other hand neither the current environments could be rehabilitated nor could the new needs be compatible with the current whole without a serious planning and controlling mechanism and without supplying the financial resources for the maintenance and improvement of the existing environment.

The environments which are currently existing or that will be newly established should meet the needs of the people living nearby. The certain of livable places be one of our objectives. To make a place livable will create the feeling of "belongingness". Belongingness and participation are effective tools in the certain of identity. The objective is not to create museum cities but to enable unique presence of a place to live in such a way that it meets today's needs.

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Assessment of customer needs and their transformation to design

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Abstract

Assessment of customer needs is an important task for the design process of a building project. Traditionally, customer briefings are carried out by designers throughout the design process. Defined needs of the customer should be addressed appropiately, but nature of the building construction process makes this difficult. These problems require a systemic approach to the process of assessments of needs and to transformation of those needs to design. In this article a methodology is developed to assess and transfer the needs of the customer. For doing this, first, traditional assessment models are disscussed. Then, Delphi process is introduced as a group communication tool. Later, Quality Function Deploymcnt mcthod is evaluated in the light of building design projects. Finally, an integrated approach is presented as an assessment and communication tool for customer needs. A case study is carried out to prove the model's usability. It is concluded that, information gathering and dissemination are playing important roles for the assessment of needs. Tangible and intangible benefits of increased communications at the very beginning of the design process can be observed on cost, time, and quality of the building project.

Introduction

Assessment of customer needs is an important task for the design process of a building project. Traditionally, customer briefings are carried out by designers throughout the design process. These briefings take the form of formal or informal meetings. Sometimes tools such as checklists and decision matrixes are used for the assessment of customer needs. However, the lack of a systematic approach for the assessment of customer needs results in waste of resources, unsatisfied customers and, sometimes in legal suits. Customer briefings also have other problems such as:

- Over simplification of the problems of the project,
- One dimentional questions and answers are sometimes inadaquate to address complex problems of building projects.
- Most of the time customer briefings are done by groupthinking, domination of the group by one of the stakeholders may bias the decisions.
- Briefings do not follow a systematic procedure, therefore lack of information about the project is built-in.
- Briefings are naturally customer (end-user) oriented, other stakeholders are not fully considered, which might result in heavy quality, time, and money lossess.

Along with these problems in the briefing phase, design phase is the most influential phase interms of overall quality and cost of the building project (Joiner, 1993) (figure 1). Therefore up-front definition phase of the building project is the most critical part of the whole process.

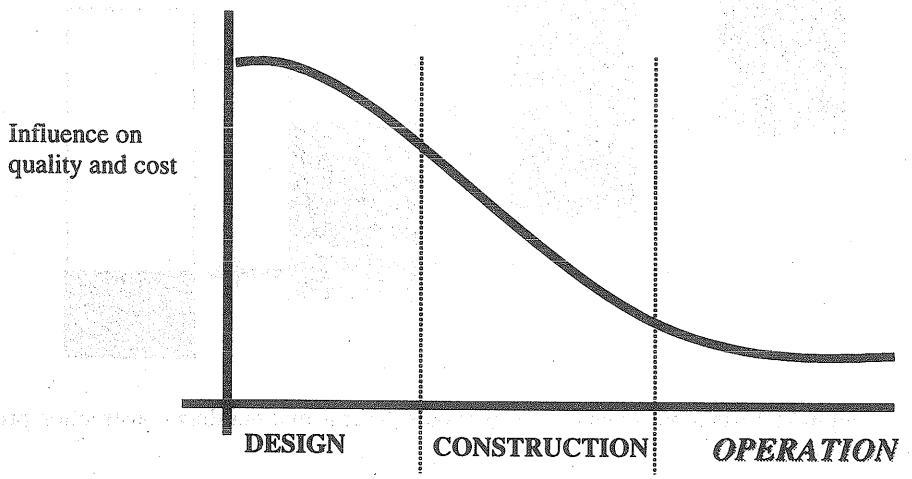

Figure 1: Influence of the phases of a building project on overall cost and quality

According to Joiner (1993) quality is defined by the customer, therefore a high quality design depends on the correctness of customer needs assessed by designer. Defined needs of the customer should be addressed appropriately, but nature of the building construction process makes this difficult. In building design process many professionals (architects, civil engineers, mechanical engineers, etc.) are working together, hence information sharing is sine qua non. Their teamwork is vital for the successful completion of the building project. Information sharing and decision making in team environment is critical. Customer driven competitive edge in the building construction industry can be obtained by a systematic approach to the briefing phase. For doing this, an information processing model is proposed for building projects.

Quality Function Deployment

Quality Function Development (QFD) and Delphi method are techniques in multicriteria decision-making, which is the case for building projects. In this article, first QFD will be investigated, then the use of Delphi process will be discussed, finally integration of these techniques will be proposed for building projects.

Quality Function Deployment: QFD is a major technique for translating customer requirements directly into a product's technical characteristics (Wang et al., 1998). QFD is a very useful management technique in multi-criteria decision making. As an approach to design, is a concept that Yoji Akao introduced in Japan in 1966 (Tan and Shen, 2000). It was first used in Mitsubishi's Kobe shipyard in 1972, possibly as a part of quality improvement efforts. According to Tan and Shen (2000) later in 1983 it was introduced into the USA, since then it has been used as a product development and quality improvement tool around the world. QFD helps companies identify real customer requirements, and translate these requirements into product/building features, engineering/architectural specifications, and finally, production/construction details. The product/building can then be manufactured to satisfy the customer (Figure 2). QFD is an integrative and interdependent process which links together customer needs, planning and production requirements, interests of other stakeholders during the design phase. Hence QFD is based on using interdisciplinary teams which is the case for a building project.

In general, the members of the teams study the customer(s) to determine the required characteristics of the product/building. These characteristics are classified into customer attributes and are listed in order of their relative importance to the customer. The ranked attributes, also called the 'WHATS', are the input to a second step in which the team members translate the attributes into technical specifications, or 'HOWS'. For example, 'a tape recorder that is easy to carry around' is a 'WHAT', and Sony's 'walkman' is a 'HOW'. Wang et al. (1998) claim that analytic hierarchy process (AHP) is a powerfull tool for problem-solving and decision making in a complex environment such QFD environment.

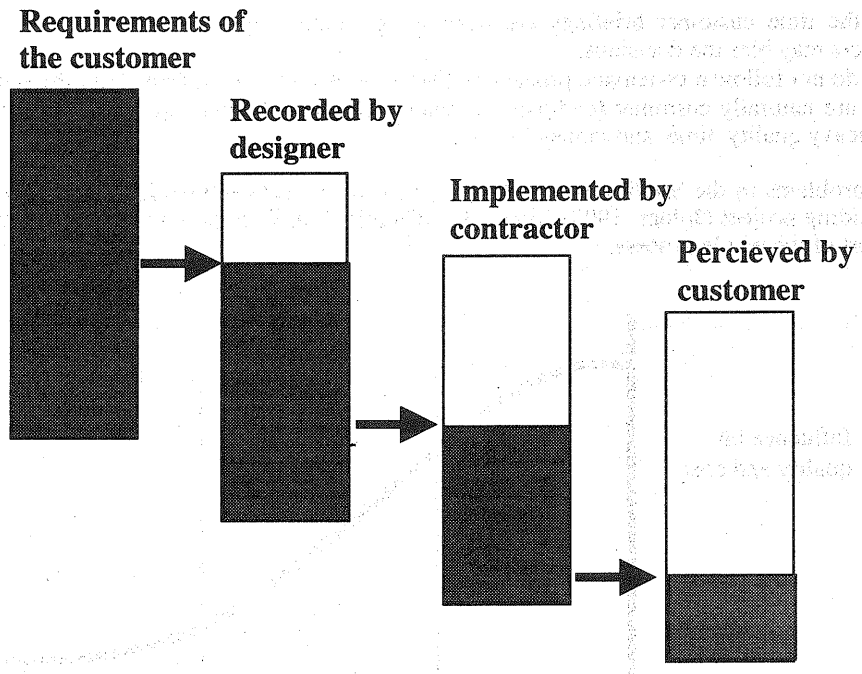

Figure2: Loss of information troughout the process of a building construction project.

Lockamy and Khurana (1995) state that QFD has two compenents, namely, quality and function. The 'quality deployment' part takes the requirements of the customer. The 'function deployment' part recognizes and addresses the

interdependencies of of different organizational functions. Experts are enabled by increased communications to reduce communication problems between design phase and functions. In this context, QFD is very usefull for facilitating increased communication between both functions and departments of an organization.

A matrix called the quality chart is used in the QFD process. House of quality (HOQ) is the most commonly used matrix in QFD methodology (Tan and Shen, 2000). HOQ helps the organization to understand customers' desires and tastes, and this takes place in interdissiplinary environment, hence increases the effectiveness of the teamwork from the very beginning of the project. Wang et al. (1998) list the steps to build the HOQ using the prioritization matrix method as follows:

1. List the customer requirements (WHATS)
2. List technical descriptors (HOWS)
3. Develop a relationship matrix between WHATS and HOWS
4. Develop an interrelationship matrix between HOWS
5. Develop prioritized customer requirements
6. Develop prioritized technical descriptors

Relationships between pairs make use of a 1-3-9 or 1-3-5 scale to denote weak, medium and strong relationships. Also AHP can be used representing the elements of any problem hierarchically. QFD enhances both the design process and, underlying system (organization). A summary of these benefits is listed below (Lockamy and Khurana, 1995):

- Fever and early design changes;
- Less time in development;
- Fewer start-up problems;
- Lower start-up costs;
- Fewer field problems;
- More satisfied customers;
- Identifies strengths and weaknesses of products;
- Encourages teamwork and participation;
- Encourages documentation.

Interdisciplinary environment of building design projects makes QFD usefull on the onehand, on the other hand, information gathering and decision making are staying as major problem areas for the application. At this point, Delphi method is introduced as information gathering and decision making tool, and it is proposed to integrate QFD and Delphi methods for better results in the design of building projects.

Information gathering for decision making: Delphi method

Expert participation is an important part for QFD process. Delphi method might be very helpful at this point as a communication tool. The objective of most Delphi applications is the reliable and creative exploration of ideas or the production of suitable information for decision-making (Günaydın, 1999). The Delphi Method is based on a structured process for collecting and distilling knowledge from a group of experts by means of a series of questionnaires interspersed with controlled opinion feedback (Adler and Ziglio, 1996). According to Helmer (1977) Delphi represents a useful communication device among a group of experts and thus facilitates the formation of a group judgment. Wissema (1982) underlines the importance of the Delphi Method as a monovariable exploration technique for technology forecasting. He further states that the Delphi method has been developed in order to make discussion between experts possible without permitting a certain social interactive behavior as happens during a normal group discussion and hampers opinion forming. Baldwin (1975) asserts that lacking full scientific knowledge, decision-makers have to rely on their own intuition or on expert opinion. The Delphi method has been widely used to generate forecasts in technology, education, and other fields (Cornish, 1977).

The technology forecasting studies, which eventually led to the development of the Delphi method, started in 1944. At that time General Arnold asked Theodor von Karman to prepare a forecast of future technological capabilities that might be of interest to the military (Cornish, 1977). Arnold got the Douglas Aircraft company to establish in 1946 a Project RAND (an acronym for Research and Development) to study the "broad subject of inter-continental warfare other then surface." In 1959 Helmer and fellow RAND researcher Rescher published a paper on "The Epistemology of the Inexact Sciences," which provide a philosophical base for forecasting (Fowles, 1978). The paper argued that in fields that have not yet developed to the point of having scientific laws, the testimony of experts is permissible. The problem is how to use this testimony and, specifically, how to combine the testimony of a number of experts into a single useful statement. The Delphi method recognizes human judgment as legitimate and useful inputs in generating forecasts. Single experts sometimes suffer biases; group meetings suffer from "follow the leader" tendencies and reluctance to abandon previously stated opinions (Gatewood and Gatewood, 1983, Fowles, 1978). In order to overcome these shortcomings the basic notion of the Delphi method, theoretical assumptions and methodological procedures developed in the 1950s and 1960s at the RAND Corporation. Forecasts about various aspect of the future are often derived through the collation of expert judgment. Dalkey and Helmer developed the method for the collection of judgment for such studies (Gordon and Hayward, 1968).

The Delphi method is an exercise in-group communication among a panel of geographically dispersed experts (Adler and Ziglio, 1996). The technique allows experts to deal systematically with a complex problem or task. The

essence of the technique is fairly straightforward. It comprises a series of questionnaires sent either by mail or via computerized systems, to a pre-selected group of experts. These questionnaires are designed to elicit and develop individual responses to the problems posed and to enable the experts to refine their views as the group's work progresses in accordance with the assigned task. The main point behind the Delphi method is to overcome the disadvantages of conventional committee action. According to Fowles (1978) anonymity, controlled feedback, and statistical response characterize Delphi. The group interaction in Delphi is anonymous, in the sense that comments, forecasts, and the like are not identified as to their originator but are presented to the group in such a way as to suppress any identification.

In the original Delphi process, the key elements were (1) structuring of information flow, (2) feedback to the participants, and (3) anonymity for the participants. Clearly, these characteristics may offer distinct advantages over the conventional face-to-face conference as a communication tool. The interactions among panel members are controlled by a panel director or monitor who filters out material not related to the purpose of the group (Martino, 1978). The usual problems of group dynamics are thus completely bypassed. Fowles (1978) describes the following ten steps for the Delphi method:

1. Formation of a team to undertake and monitor a Delphi on a given subject.
2. Selection of one or more panels to participate in the exercise. Customarily, the panelists are experts in the area to be investigated.
3. Development of the first round Delphi questionnaire
4. Testing the questionnaire for proper wording (e.g., ambiguities, vagueness)
5. Transmission of the first questionnaires to the panelists
6. Analysis of the first round responses
7. Preparation of the second round questionnaires (and possible testing)
8. Transmission of the second round questionnaires to the panelists
9. Analysis of the second round responses (Steps 7 to 9 are reiterated as long as desired or necessary to achieve stability in the results.)
10. Preparation of a report by the analysis team to present the conclusions of the exercise

Delphi is a very usefull tool for decision making that can also be implemented in QFD. Previous experiences with Delphi method showed that IT deployment is speeding the process, which also enables practical and wide use of the method. Since design of a building process is time sensetive an IT supported modified QFD method may increase effectiveness of the model.

Proposed methodology

Proposed methodology for building design projects includes four modules, namely, customer input, expert input, QFD, and design input modules (Figure 3). Customer input module utilizes Analytic hierarchy process (AHP) in order to structure multi-criteria building problem hierarchically. Expert input module uses Delphi process for decision-making. QFD module transfers customer requirements into design specifications. Design input module processes specifications as design inputs. Information flow throughout this model is done via ITs (such as, Intranet, Internet, Artificial Intelligence, etc.). This model facilitates necessary teamwork and communication for the design of a building project (Fig 3).

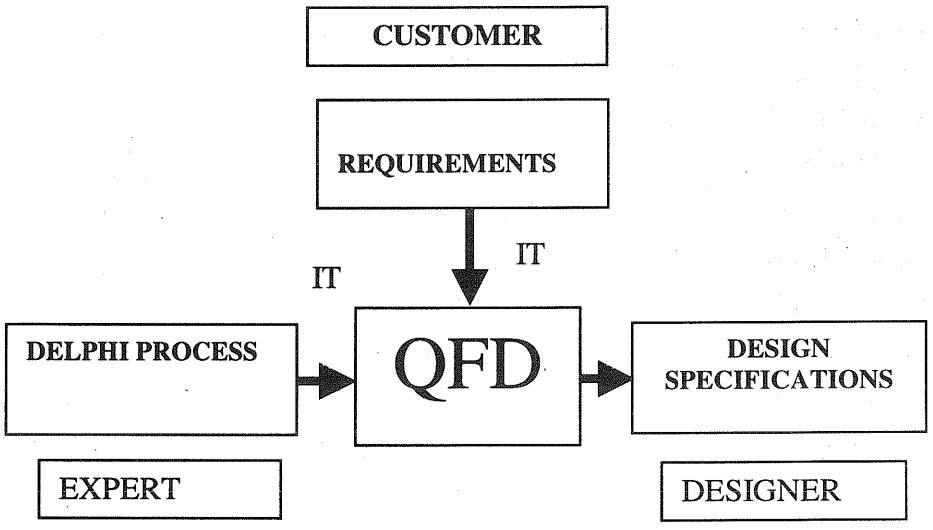

Figure 3: Proposed methodology for the use of QFD in building design projects.

QFD is a powerful tool that helps the design team focus on the design characteristics that influence the attributes viewed as most important by customer. The weights are assigned to serve this purpose directly. To illustrate the ideas behind

QFD, an example of a building project is given. The project team can identify the most important attributes for the customer. Suppose that the top-ranking three attributes were found to be quality, cost, and time (in a real case second level attributes can number 200-300). Next, the team considers four major compenets of the new building (this might number more than 20): the walls, the roof, the structure, and the floors. Table 1. illustrates the interdependencies between the attributes required by the customer and the design characteristics defined by experts (i.e., arcitects and civil engineers). In Table 1, only two levels of attributes and design characteristics are considered. Lower levels can be added if more detail is deemed necessary.

Assuming that the correlations used are H = 0.9, M = 0.5, and L = 0.3, the weight of, say, the structure metarial is

W_1=2*0.3+3*0.5+2*0.5+1*0.9+2*0.5+2*0.3+3*0.3+1*0.3+2*0.5+3*0.9=10.5

The data in this matrix is collected by means of Delphi process from the experts. The important point is customer needs should be grouped hierarchically in a relatively few primary needs (to establish a strategic position). The design team should focus on the most important design characteristics in order to satisfy customer needs. These needs can be put in order interms of their calculated weights. In general, by using QFD, the importance of customer needs establishes design priorities.

Conclusions

QFD provides a mechanism that integrates customers requirements with design specifications. A multi-functional, team-based approach utilizing QFD facilitators is required to led design teams through the QFD process.

It is concluded that, information gathering and dissemination are playing important roles for the assessment of needs. Assessment of needs also brings a strategic point of view for all stakeholders. Methodology draws a generic frame for assessment process that can be utilized by designers. Methodology can be used as a communication tool between customer and designer. Tangible and intangible benefits of increased communications at the very beginning of the design process can be observed on cost, time, and quality of the building project.
This experimental study shows that QFD has a potential for application in complex, interdissiplinary environments of building design projects. Further studies are needed to develop a detailed methodology.

Table 1: Correlation matrix for QFD

		Design Characteristics*							
Attributes	Weig ht	Structure		Walls		Roof		Floors	
		Material	Design	Material	Design	Material	Design	Material	Design
1. Quality									
1.1.Teamwork	2	L	L	L	L	L	L	L	L
1.2.Leadership	3	M	L	L	L	L	L	L	L
1.3.Planning	2	M	L	M	M	L	L	L	M
1.4.ISO 9000	1	H	L	H	H	L	L	H	M
2. Cost									
2.1.Construction	2	M	H	M	H	L	M	H	M
2.2.Meintenance	2	L	M	L	H	M	H	H	H
2.3.Operation	3	L	L	M	H	H	H	M	M
3. Time									
3.1.Planning	1	L	L	L	L	L	L	L	L
3.2.Construction	2	M	H	M	L	M	L	M	L
3.3.Operation	3	H	H	H	M	H	M	H	L

*H, high correlation; M, medium correlation; L, low correlation

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The importance of culture factor in user and designer interaction for today's house representation

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Abstract

As a result of rapid urbanization in the last 40-50 years, people in Turkey had been directed to live in houses that in most cases these houses established without socio-economic and physical characteristics of people and their natural and artificial environment being taken into account. Numerous excellences of Traditional Turkish houses in which Turkish people used to live till 70-80 years back from now had began not much to be demanded at the new represantations, single type housing plan applications had been rapidly spreaded without considering family and society structures.

Starting from these hypotesis; originalities of Traditional Turkish houses, structures of the family and society; meaning, importance, characteristics and variations of culturcs. Principal factor which creates a society from individual are being considered as a factors in this study, efecting formation and flourishing of residence.

The purpose of the paper is indicated as it is necessary to produce houses which are well adjusted to people, answers their expectetions and fits their way of living. İn the study, some basic factors which Turks and Turkish family attributed great importance have been stresed such as secresy, physical area, the limilt of sovereignity and neighbourhood.

Separetely, in results section, factors which has to be taken into account for doing user friendly house representation is defined as data about environment and users; together with the necessity of obtaining these data and using them in represaentation processs.

1. Introduction

To take refuge in is the first number of the human's need. İf we look at to the settlement area between primitive term and today, it can be seen easily that; settlement, house and place took the place because of the human's culture. Human and culture are a concept that always must be together.

The socio-cultural and socio-economic specialities of the societies, are close related with their cultural identity, urban and architectural environment.

As it known, house is an indicator of the society's social, economic and cultural identty. House is meaningfull for user's. House is a place for production, motion, relaxation, loneliness and conversation, etc.

2. Culture

2.1 Definition

Culture is a multimeaning word; ther are lost of definition which are includes different meanings, different views to the culture. One of them must be known by everybody. That is Tylor's definition (in 1871). "A person, who is a member of the society has some knowledge, art, tradition, skill, habits and all of this is a part of the culture".

İn Turkey, Bozkurt Güvenç has interested in culture. He made a scheme, which is called "The model of ball".

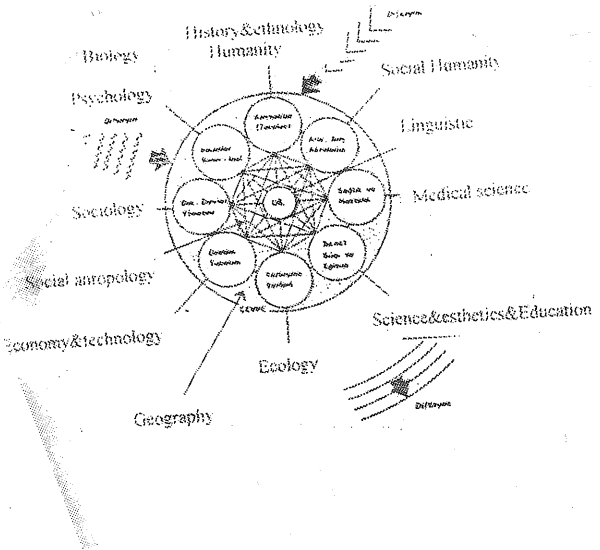

Figure 1. The model of ball(Güvenç, 1991)

In addition, there is a general definition about culture, we must say defnitely, This is : "All the things were created by the humans".

2.2. Specialities

- İt can learn,
- İt is social,
- İt s historical,
- İt is continual;
- İt is a symbol which symbolizes both all the ideals and social identity,
- İt becomes ripe, quietly,
- İt serves to needs,
- İt gives satisfaction, İt provides fullness,
- İt is a concept of abstract,
- İt is an accumulation,
- İt can change.

2.3. The factors which affects the cultural formation

Human lives in a society. Because of this, peoples and environment affect each other. There are two main factors about culyure and culture's compositions. These are ;

- Physical,
- Socio-psychological factors.

Physical factor are, climate and settltment area. Socio-psychlogical factors are, traditions, norms, religions and beliefs, ethnic origins, family structure, social relation, connection, communication, way of life, social structure, rules of behaviour, behaviour of privacy, personal area, border of soveeignty, structure of economy, language, education, law, technology. Privacy, personal area and border of sovereignity are appearances of the culture at the physical environment.

3. House's issues

It is a universal fact. But, it can change according to factors which put forward ıssues or needs differently,country by country. These changeables determine formation of the house, in the different parts or regions of the coutry. They have different effects of this formation.

Today, we feel house necessity in a big quantity, in Turkey. There are several causes of this problem. Some of them are;

- Increasing of the population,
- Needs of houses for migrating people,
- Urbanism, Build a new house, instead of old one,
- Because of disaster,
- Because of confiscation, necessity of new houses,
- İmprovement of the shanties.

4. The importance of the housing at the human life

Cities and houses have a long life process. They symbolize and show culture and cultural effect on tthe society. There are lots of place examples at the nature. Firstly, this places were used as a home,. The aim was avoid from all the environmental risks. Time to time, they made similar palces with natural examples. For this, they used whatever can be found from nature, for example, unripe, raw or a bit treatment materials. They produced new place for themselves, like natural place. It is clear that, the first human-made place is a "house". House isn't only a place that has four walls and a roof. It is a space which user can profit all facilities, urban substructure, individual and family privacy. Also, this space must be healthy, comfortable, cleany and nice atmosphere.

There are many classification which are about house formation. One of them is most important, which is made by Rapoport, in 1969. İn this classification there are two main part:

1. Human :
   - Nature, aims, social organization, life style, social and psychological needs, individual and group needs, economical source, behaviour to the nature, personality, style, fashion, behaviour, form.
   - Physical needs,
   - Scheme of function,
   - Technical possibility.
2. Nature :
   - Physical appearance, climate, position, material, structural rules, etc.
   - Visual.

The second classification is from Turkey(Aksu, 1987);

- Biological factors,
- Psychological factors,

- Cultural factors,
- Economical factors,
- Geographical factors,
- Technological factors.

House is like a dresses between interior place and outdoor place for its user/s. It keeps them all outdoor effects. "House" has a great value and speciality in all differnt societies. During the history till today, it changed according to the society and family situation. So that, house both reflects a certain culture and is a part of the socio-economic organization(Ertürk, etc, 1992; Özdemir, 1992; Özmen, 1995). So it is clear that, in the term of house designing, the main factor must be "family structure" and their "life style". Everybody must know that both user's need and wish are most important. Wish is a subjective concept. It includes unlimited longing. But, need is necessary. So, it defines the unavoidable characteristics. If the house doesn't addressxto the users, this will be a great problem and affect both users and society. This will cause lots of negative results for different aspects and also social disquiet(Taşkesenligil, 1996). So, form of the house determines daily life(Clarke and Ginsburg, 1979). Nowadays, while trying to solve the housing problems, it is necessary to attention to the cultural specialities. Because, the social position of the society can be understood by looking and examine their houses(Çetinor, 1975).

5. The relation between social structure and housing

Social structure is related with in the "human" , mainly and others are, family relation, demographyc characteristic, education, economy, technology. İt propped up cultural and political atmosphere. Also, it is a historical term product. The word is "social" includes society, structure of society and social stratification. Place must reflect social structure in correct way. Design of the space equal to the social arrengement. Basic difference at the architectural design is closed related with the society's structural difference(Herdel, 1993). Social structure can change in the historical process, but this needs ssome factors. For example, differences in the society or Government&society. Nature of culture, psychology of people, impact of the physical environment, role of the social power and profit, economical activity and population problem(Özmen, 1995). Traditional African house is a good example, for this subject(Rapoport, 1969). If type of family is poligamy, man hasn't a house belong himself. He goes to his wives's houses. This affects house design and settlement system, of course. Another example from Turkish house tradition. :n East Blacksea region, there is an apart dividing and this can use like a store. This place sometimes builds with house, and sometimes near but apart. İn sum up, place is a tool of the social expression.

6. The relation between culture and housing

If the persons live together for a long time, at the end there will be partnership and values between them. These values are politic, economic, historical, esthetic, ethics etc. This position reflects both to the daily life and art&architecture. If the reflection is to the place and its composition; the result will be architectural culture. So, it can be understood easily that culture and architecture affects each other.

Humans and societies affects their liviing area, as it is usual. This effection and being together with environment is an important factor both formation of the cultures and reflection of these cultures to the life. These causes that different type houses. It can be given as an example; when Algeria become independent, Algiers moved to the high level apartments which were built for French people. So they couldn't live in that houses as they found. They tried to change according to their needs and wishes.

House related with physical environment(by soil, water and weather), biological environment(by plant, animal and their products) and social environment(by user).

All the methods(which are used house designing scheme) and tools are technology. All these factors take place together for house designing and building. In addition to these, type of family, traditions, economy etc. Come together. As a result, every society will have their special houses, and there will be differences with other societies. For example, if we look at the settlements before thousand years, we can understand about how they lived.

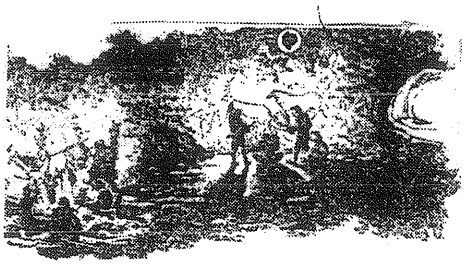

Figure 2. Primitive settlement(Soysal, 1996)

If a society has a different behaviour and ideal, they will need physical environment. The cause of the variation are; as it was said before; social, cultural, economical and physical factors(Rapoport, 1969, 1977).

Both scale of house and settlement, must be known the connection with culture. It can be seen in the Traditional Turkish houses, as a good example. They didn't designed and built by architects and engineers. But, it came into being by people's life style. They were, orderly respectful each other and civilized. Traditional houses didn't need being universal.

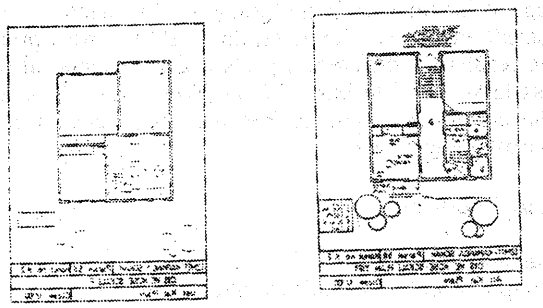

Figure 3. Traditional Houses from İzmit(Demirarslan, 2000)

We must be respectful to local material and traditions. We must take note of these practical experience.

Today, there are very similar housesall over the world, we must avoid from this solution. Being modern, universal and technological are not stamp out all the datums. These datums can use to produce productive houses, of course. So, nowadays, architects must research local design datums, existing examples and settlement characteristics.

7. Method

7.1. Technics of investigation

Up to now, necessity of the culture and to profit by this experience has been explained clearly. Now then, datums and knowledgement must be investigated and known, by designer-architects, because it is necessary for designing. This step of the study will be pre-study for designing. So, in the subject's extention; "yesterday&today" must examine and establish of the future, and must determine of existing and ideal. To do this, there are two main study groups.

1. Collect the datums
- Questionnaire, public survey,
- Meeting,
- Phone.

2. Visual investigation & pick the datums
- Physical evidence, photographs, slayts.
- Documents,
- Behaviour observation.

The third of these, physical evidence, documents and environmental behaviour observation are most important.

1. Physical evidence : Some marks can give opinion about using style to the designer-architect. Because, lots of marks don't lost, easily. Everybody can study in a system.
2. Documents : About the specific subject, whatever wrote or drew before, must collect and investigate, carefully. For example, book, paaper, newspaper, plan, photograph, statistics, record, report, memory, map, etc.
3. Environmental behaviour : Human's using style about environment and location can investigate with a systematic study.

7.2. The effective datums about house design process and scheme of the methods

The first step is beginnig to design process. İn this step, there is an other relation between user and designer.This includes alsorelation between employer, designer and producer.

During the design process, if the architect learns these knowledgs and designs his/her project by using these factors(Figure 4. Scheme), project will be designed for users and their needs and wishes.

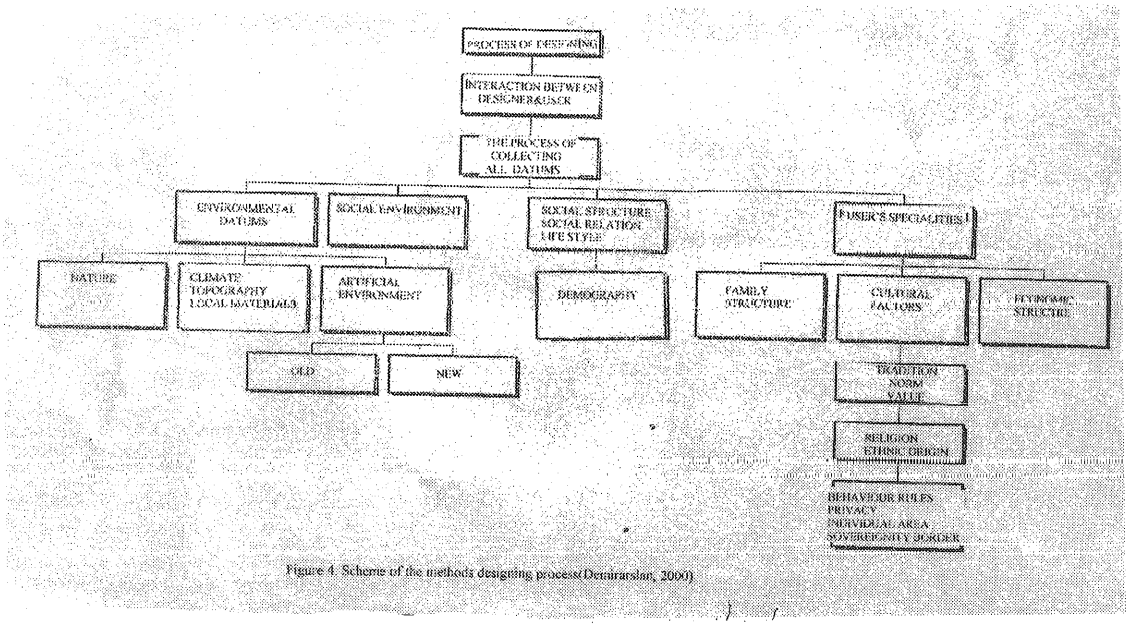

Figure 4. Scheme of the methods designing process(Demirarslan, 2000)

Figure 4. Scheme of the methods designing process(Demirarslan, 2000)

8. Result

In the design process, not only settlement speciliaties, but user's socio-cultural structure must take to note. Architects must take into account some important factors when design the houses. These are, climate, topography, natural and artificial environment, individual and society chahracteristics, the differnce of the cultural structure and user's characteristics. But, users must be known. Nevertheless, all the houses are built for unknown users. So, they will not cover user's needs and wishes, completely. Nowadays, there is a single type plan which is always applying. In general, plans are designing in the simlar scheme. While designing houses, culture is not taking note, unfortunatelly. So, at the living and using process, users can change some division of the house, as they want, need and wish. But, it is clear that these kind of changes can not enough. If designers/architects take into account cultural factors, which are taking part in scheme(figure4), can design and build more suitable houses for users.

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A study on game space preferences of children in house and near environment

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Abstract

Human is the main subject of the spatial organization in architecture. Limited spatial organization responses human relations in terms of physical, psychological and spiritual needs. Expectations from architectural space varry depending on development periods of human being (childhood, youth, middle-age, old-age periods).

A child's transition period from sensory-motor intelligence to concrete-mental operation is between 2-7 ages. Therefore, the effects of interior and exterior space organization over children's development period must be examined.

As it is known that mental development can be determined by some behavioral types. There is also parallelism between mental and physical development of children. For example Morgan (1982) states that a child starts using sense and perception with harmony in the first three months. Later the child continues to develop physical, neural and sensory-motor developments and develops speaking ability. This process mainly covers these: Sensory development, perceptional development, and cognitive development

A child's lifetime behavior is shaped mainly within home environment. Some questions must be answered toward better planning of home environments: What kind of interaction a child faces in a house? How do furniture, different house plan types, different spatial organizations and other physical factors effect a child's behavioral development?

From children's point of view, space is set for games and first interaction between a child and space is game. The game is a child's need. The role of game is important for children for adaptation to ethic rules in society at later ages. A child ties the real world and the imaginary world via games. Unpredictable events can become maeningful events within the games. According to Piaget (1967), game is harmony. The game teaches a child things which no other method would succeed. The game entertains the child as well.

In this paper, children's behavioral developments will be monitored over some example house plan types choosen from different income groups. This paper will seek answers for the questions raised above and will raise some other questions. Observation techniques will be used to monitor the children between 0 to 3 ages. The children monitored and recorded within home environments of different plan types. Therefore we could understand the childerns' perception of space

Behavioral development of children and game

A child always shows systematic and continuos development after birth. A child, who perceives the world through sensory organs develops environmental concept for basic needs. At the beginning, the child perceives environment around breast of his/her mother, then amount of the environment increases as needs increase. The environment for a child is a house, group of houses and near environment. Morgan states that a child starts using sense and perception with harmony after birth. Within first three-months of a child, sensory-motor development is observed as increase-decrease-increase depending on given attention factor to a child. A child develops his/her physical, neurological, sensory-motor, perceptional, cognitive, social and interactive abilities. (Morgan, 1982).

According to Piaget (1967), a child's development process may be considered at three stages:

- Sensory Development,
- Perceptional Development,
- Cognitive Development.

Sensory development: A new born baby has well working sensory organs,
but, completion of sensory development needs the organs to use their own function. Metabolic and touching senses (as heat, hunger etc.) are developed since birth.

Perceptional development: The perception process is described differently by different authors and researchers. For some researchers, perception ability exists at birth, for some others, some perception abilities can be gotten at later ages (Gibson, 1950). Perception, in reality, is gotten at birth as well as later ages; it is also sensible as well as mental process.

Cognitive development: According to Piaget and Inherder (1948), there are different stages of Cognitive development:

- **Sensible Motor Period** (0-2 years-old): Starts with the use of senses and continues with motor activities. Finally, sensible and motor activities are continued together and simple processes occur. Memory development is rare in this period (0-2 years)
- **Pre-Process Period** (2-7 years old): It is a period that there is no relationship between events and objects. Objects are perceived by their appearance. This period can be named as" syntactic relationship"
- **Concrete Process Period** (7-11 years old): Relationships between events and objects is apparent, concept of defense and is observed. But, abstract thinking system is not developed yet.
- **Formal Process Period** (11 years old – adult): Mental thinking period reaches to the level of adults. At this period, abstract issues can be tied with each other and generalization ability develops.

In first two periods of them, which sense and perception are effective events and objects are evaluated by their appearance. Last two periods, on the other side, thinking ability is earned, they are the periods that are knowledge based

more than sense. Re-creation ability in mind is not developed yet. At sensible-motor period. This process starts at pre-process period at age of 2, then develops at formal process period.

First space that babies perceive is cradle. The meaning of the cradle is home and confidence for them. Then they start, to perceive around; high, colorful, movable, bright object get their attention and then the objects represent something. (Burnette, 1974).

The concept of space starts at the age of 2, and reaches maturity at the age of 12. which is formal process period. At this period, there is not perceiving the space but re-creating of space at mind. As it is seen, sensory development long an slow process (Akarsu, 1984).

"Space" is identical with "game" for children. Because of this, game space is important. Space and time that children spare for game must be suitable for their demands. Children think that they are created for game. In children's physiological and psychological developments, there is need to evaluate the game space, furniture etc.

As it is known that there are variety of "house types" in Turkey. The Major reason for different house types is that rapid population growth, and rapid urbanization, and changes on socio-economical conditions of people and their life styles. Mass housing projects are generally offered for housing shortages. The mass-housing projects do not offer variety of house plan types, and they have less functional than traditional plan types. Therefore, children living in mass housing developments do not have enough space to play themselves. In addition, new technological improvements and new life styles changed furniture, especially the ones that children used to use them. Children play computer games, instead of traditional outdoor activities nowadays.

In this context, this paper puts the results of children (age group of 2-6 years) game activities, and spaces they prefer. Piaget (1967) describes children age group of 2-6 as "pre-process period".

The reason for choosing the age group of children is, a child start perceive a space at the age 2 and he/she uses the house for many activities. Children older than 6 years old are not included in the research. Because they start either pre-school, or elementary school at that age.

The amount of children playground area decreasing while urban areas increasing. Because of high property prices there is not much space left for such activities. Landscape organizations were more in traditional cities, dead-end streets were ideal play grounds for children . In Mass housing project in Turkey, there is not enough children playgrounds designed, additionally, the mass house plans do not have suitable rooms for children to play. There are many prohibitions on daily activities in mass houses (e.g. noise of children's plays).

Role of game is important for children to adopt the social and ethic rules. A child ties real world and imaginary world via games. Complicated and unknown events become more meaningful events within games . According to Piaget (1967) "games is harmony". According to Yavuzer (1987), the game is a method that teaches children things nobody would teach, and it is an act that teach while entertaining.

A child develops his/her senses while he/she plays, capabilities increase, and learns many subjects by this way, The children think that the game help them to dominate the world. Sex differences appear in children's game from time to time-girls and boys may have different games and different behaviors. For instance it is observed that girls play with baby dolls while boys play with cars and trucks.

In this study, it is tried to found where the game spaces are in or outside the home environment and what kind of games the children (age group between 2-6) prefer. As it is known, furniture, game tools and materials all changed because of new technology. Today computer games, compact discs, robots etc. are very common and affordable. The children play with high-tech toys instead of trucks and dolls made by cloth. Contemporary toys are self speaking baby dolls, robots, remote controlled cars, voice activated toys etc. The children start using computer at early ages. The purpose of this study is to find approaches and problems of pre-school children and to propose some interior and exterior game space organizations.

Application

A questionnaire consisting open and close ended questions were prepared and subjects were chosen from 3 different mass housing complexes in Trabzon, Turkey (one is a university housing complex at Karadeniz Technical University, the other two housing complexes of middle to upper middle income group - Soğuksu Sitesi, and Atakent).

Surveys and one-on-one interviews are done with parents or grandparents who take care of children and well observed. And questions were: Is interior and exterior game space suitable for children to play at where you play? Do children have separate room (his/her own room, or share with others)? What kind of games they prefer and where? Do they play computer games?

Total 45 families selected randomly for intervies (15 from each housing complex and only 42 of them accepted the interview).

Evaluation and discussion

Selected 3 mass housing sites are similar to each other in terms of house and near-environment quality and they have many positive characteristics compare to others in Trabzon. There were low and high-rise house building in selected sites. Therefore, it is tried to found that if there is any difference of game preferences of children in low or high-rise buildings.

Out of 42 families, there were 29 boys and 13 girls (Table 1). It is found that there are different habits using interior and exterior play spaces. Among the same age group of , boys prefers to play outdoors, while girls prefer to play inside the house. This point shows that Turkish society is still more protective toward girls than boys.

Table 1. Distribution of the subjects

Study Field	Sex		Age				
	Girls	Boys	2	3	4	5	6
KTÜ Housing	3	9	1	2	4	3	2
Atakent Housing	3	12	2	2	2	6	3
Soğuksu Housing	7	8	1	3	3	6	2
TOTAL	13	29	4	7	9	15	7

The survey and the interviews showed that 95 percent of girls have separate rooms (50 percent of them sharing the room with a sister/brother) , 80 percent of boys have separate rooms (40 percent of them sharing the room with a sister/brother). 75 percent of interviewers found house suitable for children to play with the exception of small houses (60-70 sq. meter) at Atakent Mass Housing. 80 percent of all subjects found outdoor play-grounds satisfactory. Because there are well designed playgrounds and landscapes in three mass houses.

The subject parents stated that it is dangerous if playground open to any kind of vehicular traffic. Children prefer to play outdoors in spite of inadequate play furniture. 80 percent of boys and 45 percent of girls prefer to play outdoors. Preferences of girls when playing indoors: 30 percent in living room, 60 percent in child bedroom, 10 percent in daily room or other. Preferences of boys when playing indoors: 60 percent in living room, 30 percent in child bedroom, 10 percent in daily room or other (Table 2).

A study results show that game type is important for preferences of separate rooms they prefer either kitchens or bedrooms. More than half of the children are not permitted to play in living rooms or in bedrooms. Many of them use their own room (93 percent), balconies (48 percent), corridors (39 percent), and living room (31 percent). (Grandjean, et. al. 1971).

In Turkey, smallest rooms are designated for children. However, the children spend most of their time in that room with their friends. Our survey showed that either there is not enough space left for children's rooms or existing space filled with useless furniture. Because of this reason the children prefer large spaces to play for instance in living room. Another reason for children not playing in their own room, they want to share their feelings with their parents. Especially, if both parents are working during the day time, the children want to spent time with them while playing.

Recently, toys and game types are more different than parents are used to, especially, computers and computer related games. If households have computers 20 percent of children prefer computer games. If available, the children play with electronic toys.

Table 2. Game space preferences of children in a house

Space for Game	**Girl**	**Boy**
Child Bedroom	60%	30%
Living Room	30%	60%
Kitchen	5%	
Daily Room	5%	10%
Corridor		
Balcony		
Other		

Results

Within this limited survey and interview study, indoor and outdoor space preferences of children (between 2-6 years old) for play, game types has been found. Great percentage of 42 interviewers prefer outdoor, and they stated that there is need for play grounds near home environment. The children use play grounds even the play ground open through vehicular traffic. Furthermore, children request and prefer some play units such as slide, swings.

Inside the house, children prefer to play in living rooms even if they have separate rooms. They want to share games with their parents. Because of this reason living rooms, daily rooms must not be forbidden zones for children. Those spaces may be available/suitable for children's games. Since the children use and prefer corridors and halls for playing, those spaces must be large enough.

Game help children for their mental developments, therefore enough space, furniture and attention must be spare for children to play. Especially, in mass housing project, there must be flexible plan types, and children's psychological needs must be taken into consideration. For healthy generations, there must be healthy environment.

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Flexibility versus variety

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Abstract

Due to rapid population growth and unanticipated rate of urbanization shelter has been one of the major problems facing many nations of the world today. In this context Turkish architecture has been trying to devise solutions to housing the masses under very odd social and economic circumstances.

Mass housings, slums and refurbished traditional houses are main solutions to shelter problem in Turkey. Among these, mass housing overshadows the other forms of housing, in scope.

Ad hoc changes in traditional houses and slums, which are made by the users according to their needs and life styles cause a gradual but constant change in the organization and layout of these houses and result in loss of quality. Similar applications are sometimes witnessed in many mass housing projects. The most important factor leading to this end is the designs, which lack provisions for both variety and flexibility.

This study aims at revealing the fact that the user-based differences have not become a directing force in the design of residential areas in Turkey. For this reason the research undertaken in this study investigates two residential cases which take different approaches to design. The first case (A) is based on a single plan repeated all over. The second case (B) consists of several alternatives such as flats, duplexes and triplexes, where; also the flats show differences in terms of plan layouts. The survey indicates that there is no significant difference between the two dwelling groups in terms of user interventions during use. From the results of the survey it is clear that even variety and variability is far from solving the problem of fit between the user and the physical environment. Thus, flexibility of designs and participatory process are proposed as more valuable means to achieve close fit between users lifestyles and the houses offered to them.

Overview of the housing development in Turkey

House, which is as old as humanity is the most fundamental piece of environment, which incorporates man and life thereof.

Studied historically it becomes very clear how life and house overlap. Climatic conditions, topography and endogenous materials are unalienable forces, which contribute to traditional house forms. Beyond these determining factors, it is an old consensus by now that culture, life styles, norms of behavior, social habits, traditions and customs influence house form and style. Consequently, when the existing traditional house forms are investigated, one is to observe the many beliefs and worldviews, which have existed throughout the history. If house had been conceived independently of the culture and society it would have been astounding to come across with differing house typologies between civilizations of similar climatic conditions, geographies and technologies.

Although houses exhibit a multitude of varieties in general, it is observed by many researchers that houses produced following the 1950s show utmost similarity all over the world. Haphazard design and construction processes to meet the bursting need in an age of rapid population growth and unplanned urbanization can probably explain the underlying cause of this situation, which is not particular to Turkey. Similar situations are to be observed in other countries where aspirations of industrialization and production technology have replaced the agriculturally based economy and became a driving force in urbanization, (Şenyapılı, 1981).

Masses that migrated from rural areas to industrial towns since 1950s on overlooked the livability and ownership issues of housing and produced dwellings known as "squatters". Now squattering continues all over Turkey.

The same indifference and nonchalance is observed in the products of the "housing co-operatives" which had been formed to produce bulk amounts of housing for the populace, or rather for the non-anticipated masses.

As a result, majority of the population in Turkey now is forced to live in highly monotonous residential areas, far away from innovation and creativity.

Monotony of dwellings result in the weakening of sense of individual and place identity. Traditional face to face relations (Küntay, 1991) slowly disappear by being confined to the door fronts in high rise apartment blocks. Contingent with the modernization processes the dissolution of the unity of traditional Turkish house and its environment was also inevitable.

Changes and transformations in the man-made environment can be explored in terms of form, space, function, concept, discourse and context, each of which is associated with paradigms such as society, culture, laws and economics, (Teymur, 1992).

Many researchers have studied concepts that have undergone changes in the context of relationships between house and culture. Rapoport departing from three definitions of culture has defined the cultural elements in influencing the house form as culture-substantive elements, (Rapoport, 1980) These are, household size, social and economic status of the family, worldview of the family, family structure and roles, life stage, life style and self-image of the family, as well as the previous house experiences of the family, (Gür, 2000).

Physical changes observed in the traditional houses contingent with the social changes disclose that changes in family structure and norms of kinship, impede with the inherent activity patterns of the traditional layouts and the contemporary concept of privacy is a factor of prime importance responsible for the physical changes in the traditional houses, (Kuloğlu, 1994). Cultural changes affect changes in family structure and patterns of activity exercised in houses thereof.

Under these conditions new housing designs ought to meet demands stemming from emerging life styles and patterns of behavior. Unfortunately, the new housing is far from responding such demands. In a research carried out in three different settlements in Ankara, it is clearly shown that houses undergo drastic changes by the user, in time, (Onur, Bayraktar, Sağlam, 1999). This study asserts that inhabitants of these houses could not exercise their social habits in these houses before alterations, and that probably these houses were in fact meant to eradicate the cultural and individual differences.

Dülgeroğlu has ventured in extrapolating the architectural repercussions of passage from extended family type to nucleus family in house design, (Dülgeroğlu, 1995). But, extended family type is also to be taken into account in many housing cases in Turkey, because, elders of the family live with their siblings in this country. Agricultural activity spaces are also to be provided in the surroundings of the new housing projects for people who continue their habits.

Different family sizes, different life styles and accompanying needs have been overlooked by developers. The premiums in meeting of differing and varying needs of customers could have been flexibility and variability. Creativity, flexibility and variability could have been the driving forces in the conception of new residential areas and houses in order to create livable environments with identity. Some successful housing designs strongly point to this possibility, (Figure 1, 2).

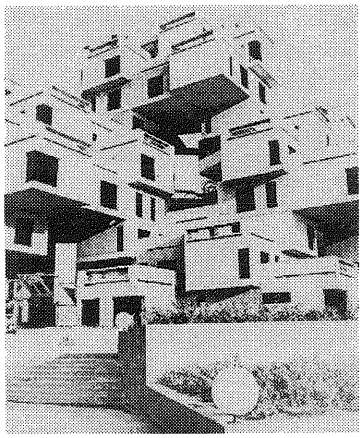


Figure 1: 'Habitat', Moshe Safdie, Israel.

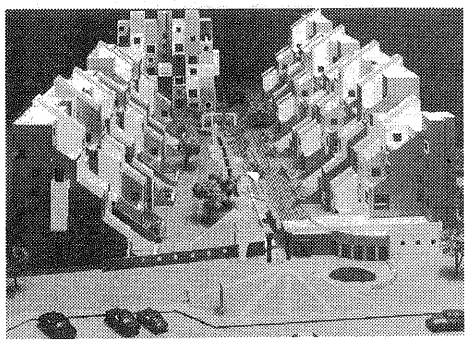


Figure 2 : 'Sürücüler' dwelling, Merih Karaaslan, Turkey.

Flexibility and variability

As mentioned above one of the criteria to be met in creating livable houses and housing environments is notably, flexibility. In order to liberate the cultural and individual preferences, the criterion of flexibility should be adhered to in housing design to make additions, subtractions and transformations possible. The most important strategy proposed for this purpose is that of Habraken's (Gür, 2000; Onur, Bayraktar and Sağlam, 1999). Habraken posits that the house is as personal as social and asserts that in housing design process, the relationships of individual and house dissolve into air when the individual is ignored or overlooked. As a solution to this situation he proposes flexible housing system design, (Habraken, 1972). His work consists of flexible and variable plan schemes open to changes and developments, which may occur in time. The proposals made for the Eastern Black Sea Region of Turkey are also based on the same premium (Gür, 1993). In case flexibility seems impossible, possibility of variations and mixed housing should be sought in house design, for various family compositions, different income groups and education levels, (Dülgeroğlu, 1995).

Goal and methods of the study and the case

The hypothesis of this study is that the flexibility and variety are concepts to be emphasized and implemented in house design so that the users could practice choice. Otherwise, the user is forced to adapt his house to his way of life independently of the designer. Therefore, this study dwells upon houses that accommodate possibilities for change and searches for modifications and alterations in actual use. The methods adopted in this research are survey, questionnaire and interviews. Two different cases have been chosen for investigation, one of them being Atakent dwelling (A) and the other being Yaşam dwelling (B). The reasons for choosing Atakent is that it offers a rich variety of layouts for various household sizes, and meets different needs. It is far beyond being monotonous. Yaşam dwellings, on the other hand, despite their stimulating environment and scenery are based on one single type of plan, (Figure 3, 4, 5, 6, 7). Therefore the two cases can safely be contrasted, and whether a significant difference occurs between the two settlements in terms of the interventions of users, can be clearly determined.

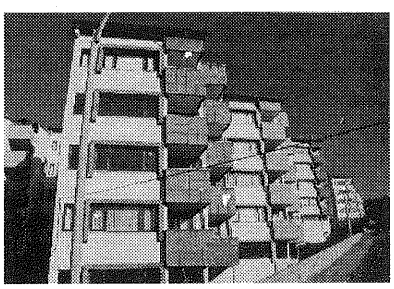


Figure 3: Photo from 'Yaşam' dwelling

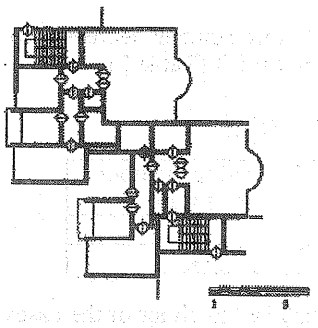


Figure 4: A plan layouts

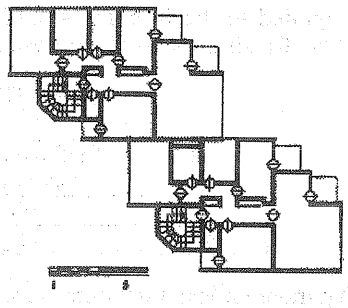
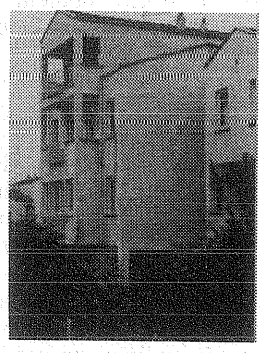


Figure 5: B plan layouts



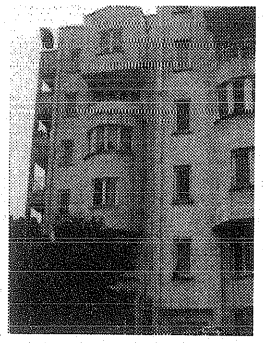


Figure 6: Photos from 'Atakent' dwelling

Findings of the field study

The two cases are surveyed with respect to the changes implemented by the users in time. A short questionnaire, with the original house plans attached is used during the interview of the households. User variables are listed below (Table 1).

As mentioned above dwelling group A consists of duplexes, triplexes and flats of various size and spatial organizations. Dwelling group B consists of house layouts, which are totally repetitive, except for the fact that the uppermost flats are used together with the attics.

Table 1: User variables

Case	n	Population	Household mean	Bought on preference	Owned	Rented
A	16	68	4.2	56.25	13	3
B	16	55	3.4	50.00	13	3

16 houses from each settlement, altogether 32 houses, have been surveyed in the study. The populations of the surveyed households in the dwelling groups A and B are 68 and 55 respectively. The mean household size is 4.2 for the first case and 3.4 for the second. Ownership rate is 13 out of 16 in both cases. In the first case %56.25 of the owners has stated that they bought their house on preference. This ratio is %50 in the second case.

When inspected in terms of the interventions made by the users during actual use this ratio is 3.25 in the former and 37.5 in the latter. Ownership equally allowed for changes in both cases-percent 38.4. But subletting discouraged changes in A and reduced the ratio to %20 in B (Table 2).

Table 2: User interventions

Case	number of (%) interventions	number of intervention in owned	number of intervention in rented
A	31.25	38.40	-
B	37.50	38.40	20

In those cases where changes were implemented the transformations fall into two categories;

1. Enclosing the balconies by transparent or opaque materials in order to add this space to the overall floor area of the house,
2. Removing the door and the framing wall in order to maintain easy flow of action in the house.

In Case A changes applied to the balcony is %100. In case B this number decreases to %71. The frequency of removal of the door and the framing wall is %6 in case A and %12 in case B (Table 3).

Table 3: Type of interventions

Case	Enclosing the balconies	Removing the door and wall
A	100	6
B	71	12

The survey shows that more radical alterations have not been observed in either of the cases. Radical spatial changes can be exemplified as putting toilets out of use so as to add their area to the overall floor area; unification of kitchen and living rooms; exchanging of kitchen and bath spaces. Such changes have been negligibly observed in the other houses, which did not fall into the sample.

Although the subjects state that they bought their houses on their own choices (%69.2 in case A, and %61.5 in case B), their reasons for choice were the magnitude of the floor area, nice environment and scenery rather than the suitability of the house to their needs. Therefore they made expensive alterations to suit their use, values and meaning.

Consequences and interpretations

The observations and statistical analyses indicate that alterations made by the users in their houses are irrelevant of the variety offered by the dwelling groups, (% 6 difference is no significant difference). Although a slight difference is observed between the ratio of being bought upon choice between the two cases, it is not significant either. Those implemented changes in the surveyed houses are not related to space organization and not radical thereof. But they are costly.

The major question here is, whether they are fully happy with their houses or not. Looking at the expensive alterations they have realized, no, they are not: Majority of these households has single child. Oddly, they have relatively small living rooms but three bedrooms. Therefore they prefer large living spaces instead of extra bedrooms.

On the other hand, what deters these populations to realize major changes in their houses is that any alteration in an inhabited house is very tiring and messy, for one thing. Every effort to change requires demolishing of something for building of another. This is costly and time consuming, as well. Because, any change requires approval of the neighbors and the municipality.

Moreover, the observation of minimal changes does not come to mean that no changes are to be made in the future. Usually changes are more tolerable as the house gets older.

Nevertheless, limited changes applied to houses in both cases are circumstantial rather than substantial. In order to permit substantial changes that would have accorded the house to the desired life style of the user, possibilities of variability does not seem to be a sufficient tool to archive full satisfaction on the part of the user.

One way to avoid these rather expensive alterations would have been user participation during design and implementation process and the other would have been flexibility.

Housing design in Turkey must be revised so as to accommodate substantial changes, if and when desired. Therefore flexible designs are of prime importance. The process of housing design must be reviewed so as to incorporate joint work of the user-to be and the designer. Participation and mechanisms to realize participation are mandatory. These together might constitute a more economical way to user satisfaction.

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Continuity of urban identity and visual impact assessment (via)

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Abstract

Fast growing urban environments, and improper urbanization are effecting the hictoric architectural environments. Proposed new streets (boulevards) in city plans are effecting negatively the historic and urban environments, for instance, demolishing of existing important buildings and facades, causing the lose of the district and urban identity. Therefore, environmental impacts of city plans must be put forward before application of the city plan (even before approval of the plan).

For this purpose, the city planners must inform public for the proposed plan by using the visual materials in order to put forward the gains and losses of the city as whole.

This study seeks answers to these questions: what kind of criterias, what kind of approaches and how environmental factors (historic environment, urban pattern) effect design, and planners should take those raised questions into consideration while planning. Some districts near 'Tanjant Boulevard' (a large boulevard passing through the historic Trabzon city) are chosen for case study.

In the paper, definitions of urban identity, environmental impact analysis, visual impact analysis (VIA) and information about Trabzon are given. Visual impact analysis tables are created for designers, decision makers and public usage in order to make proper decisions. The paper concludes and open discussion of gains and losses of the proposed Boulevard in the ancient Trabzon city. These are presented by "visual impact assessment" tables. Finally, the results of this study from preservation, practice, identity and visual impact analysis point of view; and some proposals are included for future researchers on the subject.

1.Introduction

Human beings create physical environment within the natural environment, depending on the needs. Because of various reasons (socio-cultural, economical, technological etc.) the physical environment always changes and develops). The physical environment, created by human beings (becomes) to an order) and the concept of "historical" forms within the physical environment.

Historical architectural environments, with many elements (social, economical, cultural technological, aesthetical, religion) reflect the various featues of the period they established.

Fast growing Urban environment, and improper urbanization effect negatively the historic architectural environments. The historic buildings have lost their importance and becoming secondary important within the new buildings.

One of the factors that effect historical environments is transportation networks proposed by city plans. Proposed new streets (or boulevards) passing through historical districts, cause demolishing of existing buildings and their facades and change the character of the district. Major changes of the historical districts also effect negatively the urban identity. Therefore, environmental impact analyses of proposed transportation networks must be discussed before projects are applied.

All proposed designs that change the face of the city, must be presented to the public with three-dimensional, photo-reality presentations. Therefore the gain and the loss of the city must be discussed by all interested bodies. This kind of analyses must be considered before application.

2. The effects of transportation pattern on urban identity

2.1. Identity – urban identity

Identity, of man is, combination of personality, quality/disquality and special features (TDK, 1983). Identity is a sign of personality. Identity of a space is distinguishing it from others (Yücesoy and Gökbulut, 1999). In this context, urban identity is to define a city with its elements suchas physical, socio-cultural, economical, technological, religious, historical, sensible, definitive, toucheable etc (Sagsoz and Zorlu,1996). With other word, the urban identity is defined by special features of a city, which are natural and artificial elements and socio-cultural features (Hacıhasanoğlu, 1996). The urban identity is a changeable concept and created after a long time period and it is collection of many things. The urban identity which conists of human and all kinds of environment, cannot be isolated from the history.

Society has "Different kind of collection such as cultural, technological, religious, memorial, historical etc and outcomes of this collection are buildings within natural environment and this helps urban identity to exist.

Cities have different kind of personalities and identies as every men have. Social changes and evolutions also effects urban identity (Sagsoz and Zorlu 1996).

The urban identity is created socially, and must be considered with lifestyles. Social relations that always change and develope, cause urban identity to be redescribed and to be reproduced. The urban identity depends on preservation of the past and continuation of todays culture.

Basic elements of a city are identity, cultural life (or fields), traditional historical pattern. The Urban identity is composed of different cultural layers throughout history. Because of this, identity created by by historical facts, can be preserved and continued, by the urban dwellers. Participation of the urban city dwellers on preservation help the urban identity to last long time (Görer, et. al., 1993). Urban character is defined by spaces and its elements of which most important ones are houses and their near environments.

Historical environments of the past which carry values of the past are being damaged rapidly (Sağsöz and Zorlu, 1996). Disappearance of historical environments in a city also causes, loose of urban identity and cultural character as well (Yaşlıca, 1993).

Urban pattern consists of buildings and their near environments, streets, public squares, courtyards etc. Krier states that urban patterns differ because of topography, life styles (different cultural values), density, different usage purpose; and additionally the urban pattern gives an identity to that place (Aydınlı, 1992).

Historical architectural buildings give "symbolic" features to cities. These features are important for cities to gain identity (Velioğlu, 1992; Hacıhasanoğlu, 1996). For example Istanbul's identity is defined with "classical mosques and minarets", Sydney Opera House represent not only Sydney but also Australia, London is known with its fog, Venice is well known with its canals.

If a city has well known identity, historical and cultural heritage are well preserved in majority of those cities. New buildings around historic building are designed carefully and respectfully. Problems which might effect local people's cultural identity are solved (Hacıhasanoğlu, 1996). Because, people's cultural identity reflects on natural and artificial environment. Streets, which are part of Urban identity, are designated not only for transportation but also space for social life. People get together on streets, different activities happen on streets. Social values can be felt through streets. For instance, in northern countries streets surrounded by stone facades symbolize "power", on the other side, Anatolian streets emphasize "respect to person" and "humble".

People and wehicles move along the streets. Perception of a city starts from the side of streets, and the most important elements that give character to the streets are buildings. Buildings around the streets, public squares help them to be shaped. While the streets provide accesibility to buildings, the buildings help streets to gain characters.. The Buildings create special views with their facade proportions, materials and roof shapes. Trees, plants and fountains may have symbolic values for streets. For instance there are streets subject to poems with their characters (streets with plane trees, boulevards with acacias, squares with fountain, pool etc.) (Kılınçaslan, 1995)

If we summarize the elements which give identity to an environment (Kubat, 1995)

- Interaction of buildings with street networks,
- Interaction of buildings in terms of size,
- Spatial interaction of buildings (building density, size and amount of buildings, empty spaces between buildings).

2. 2 Effects of transportation networks (proposed by city plans) on loosing urban identity.

Historic districts are generally in the middle of the cities, besause of rapid urban growth around them. New urban development and new life styles demand new functions, for instance new transportaion network. In order to open new streets, local municipality expropriate old historic parts of cities. On the other side, city planners (or city designer) prepare city plans without analysing enough the city's realities.

New city plans do not integrate and fit the old city pattern (Birlik, 1999). This damages the urban identity and to some extend destroys the entire old/historic pattern.

Proposed new streets are one of the most important elements for damaging the historic districts of cities. Opening of the new streets, (or enlarged streets) must be limited. Even, a few meters of enlargement of existing street in historic district, damage the entire facades and character of the streets. Furthermore, permissions for additional floors, change the character of steets as well.

The most destructive action, is the state highways passing through the city centers. Even though existence of the city plan, somehow the State Higyway Authority convince the city planning office in almost each city, to pass through a state highway within the city center.

For instance , a state highway (between İstanbul and Ankara) planned to pass through Göynük (a town with 5.000 pupil) a 19.5 meters wide highway was opened by demolishing more than 80 historic houses. Then the highway was not used at all (Bektaş, 1992).

The State Highway Authority caused several damages to Istanbul during 1957-1958 public works. New and enlarged streets changed the historic character of the city and caused looses of many historic landmarks (these streets are Vatan and Millet Streets within the historic citadel, and widening of Beyazıt-Aksaray Street) (Tapan, 1998).

As a result, opening new streets or widening existing streets within an existing city, damage the historic environment pattern and character of the district. It also causes both visual and physical deterioration.

3. Visual impact assessment

3.1 Urban aesthetics

The subject of aesthetics is about beauty and seeks its place within human mind and sense (Hasol,1990). Buildings have important roles for creation of urban spaces. When many buildigs brought together, there is more different effect and feelings than one building has. Buildings alone and buildings together with other buildings have different sense of space effect.

When historic cities researched during long period:

- Urban aesthetics depend upon cultural collection of society at large scale. It is under the influence of production type and technology.
- Natural environment is the most important factor during the creation of urban aesthetics. Cities that are in harmony with their surrounding environmental conditions natural conditions (such as climate, plantation, topography etc.) is considered quality city in terms of aesthetics.

There are positive and negative elements for urban environment. Buildings are also considered as positive elements. Relations between these elements and harmony defines the quality of urban aesthetics (Velioğlu, et. al., 1997). Both circulation systems and open areas are considered as negative elements: The circulation systems are streets (paths) and squares (nodes), open spaces, landscape (trees etc.), frontyards and courtyards.

Positive and negative elements relate to each other at third dimension (building heights). Above mentioned features creates the macroform and silhouette of a city. Beauty of whole, is more than the sum of beauty of parts (Velioğlu et.al., 1997).

3.2 Effects of visual impact assessments (via) on city planning

Streets, that give identity to a city, are important artificial elements. Proposed new streets and their visual impacts must be considered before city plans approved. At this point some questions need to be answered: How much can we control creating and re-defining the urban identity? Can the urban identity be the subject of the city planning?

There could be two appoaches at this point:

1. Identity is a formation and can not be controlled at all, or
2. An urban identity can be created (or formed) with livings physical conditions.

A realistic approach might be in between. If a city administration or authority decide that there is not urban identity, it must be interfered at that point by officials. The problem here is the kind of contribution.

Since sources of the city administrations are limited they must be very selective on the intervention subjects. The intervention must be well designed and programmed in order to get expected effect. The urban identity is shaped by not only physical environment but also human activities and life styles as well (Tekeli, 1990). From this point Visual Impact Assesment (VIA) puts together all the information related, to physical, social environment, and urban identity before intervention to existing environment. The purpose of VIA is to consider positive and negative sides of a proposed project. Depending on the result, project might be re-considered.

In this paper, one example of visual impact assessment study is presented for Tanjant Boulevard-a four lane street passing through the ancient city of Trabzon – (official name of the Boulevard is Yavuz Selim Boulevard). Therefore, the new transportation network of Trabzon proposed by city plans is considered for their positive and negative effects. Additionally, some criterias are suggested to city planners for future city plan. Trabzon city with more than a thousand years of history, has a unique historic pattern and identity Trabzon is more different with its landmarks, geography, ecology, socio-cultural structure, tradition, local accent etc than rest of Turkey. Unfordunately, both historic pattern and landscape of Trabzon have been demolished and this effected the Urban identity negatively in Trabzon (Sağsöz and Zorlu, 1996). Because of topography Trabzon, expands linear, and new streets have to be opened to relieve the load of coastal highway. These new streets cause districts to seperate from each other and damages the historic landmarks.

3.2.1 Preparing of inspection tables about urban identity and visual impact assesment (via)

The main purpose of preparing inspection tables is to determine and show values of a city before city plans, development plans prepared. The inspection table is divided into three parts and some subtitles:

1. Natural elements,
2. Artificial elements
3. Socio-cultural features

Subtitles of urban identity elements is listed in Table 1, as Lynch (1960) and Özerdim (1982) used similar methods.

3.2.2 Selection of study districts

As mentioned above, when Tanjant Boulevard is completed some historic districts of ancient Trabzon will be damaged. With other words, some districts will loose their "identity". This study is done for four districts: Meydan, Zeytinlik, Hacı Kasım and Tabakhane. Only two of them is presented here.

3.2.3 Urban identity of Trabzon and visual impact assessment of selected districts

In order to find urban identity elements/features, several pre-structured interviews are done with people who live in the city and know the the environment very well. Elements that found from interviews were put into tables for each historic districts (Table 2 and ~~Table~~ 3). If tables are put together, one can find urban identity elements for entire city of Trabzon. Drawings in Figure 1 and Figure 2 shows the comparisons of selected districts before and after Tanjant Boulevard constructed.

Table 1. Natural and artificial elements and their subtitles of inspection forms

Artificial Elements:

Streets
- Street quality
- Street type
- Covering material
- Plants
- Building facades

Buildings
- Bldg. type & quality
- Floor height
- Roof order
- Color
- Pattern
- Bldg. material
- Window order & proportion
- Effects compare to surrounding bldgs.

Public Squares
- Quality
- Form
- Symbol
- Bldg. type
- Usage

Monumental Bldgs.
- Quality
- Bldg. function
- Height
- Plants

City Districts
- Edges
- Street form
- Bldg. type
- Height
- Pattern

City Furniture
- Billboards
- Traffic signs
- Furniture

Natural Elements:

Plantation
- Trees
- Flowers

Topography
- Topographic edges
- Artificial edges
- Slope

Table 2. Analysis of identical elements of Tabakhane District (Mahalle)

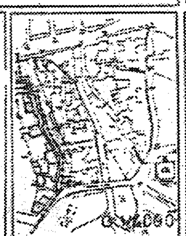
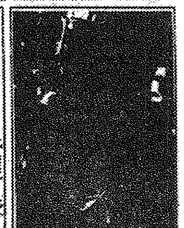
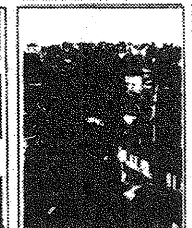
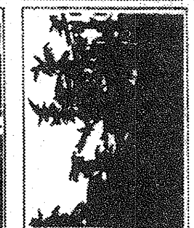
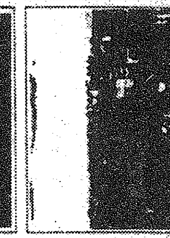
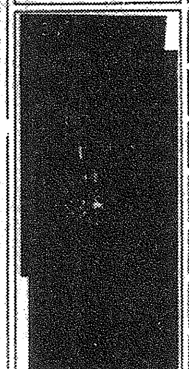
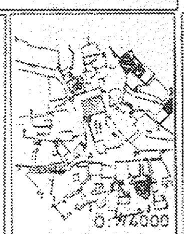
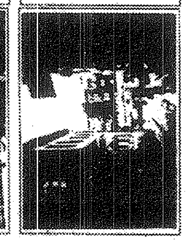
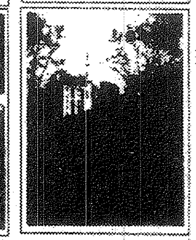
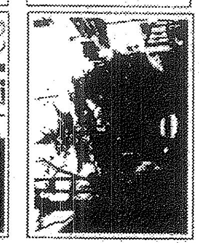
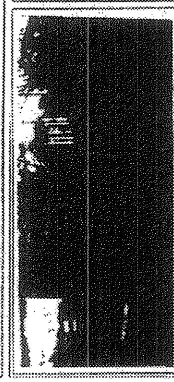
ANALYSIS OF IDENTICAL ELEMENTS OF TABAKHANE DISTRICT	ELEMENTS OF URBAN IDENTITY													
	ARTIFICIAL ELEMENTS										NATURAL ELEMENTS			
	STREETS		BUILDINGS		PUBL. SQUARES		MONUMENTAL BLD		CITY DISTRICTS		PLANTATIONS		TOPOGRAPHY	
TABAKHANE DISTRICT 														
	Identical Elements of Streets		Identical Elements of Buildings		Identical Elements of Public Squares		Identical Elements of Monumental Buildings		Identical Elements of City Districts		Identical Elements of Plantations		Effects of Topography on urban identity	
	Street Form	Dar	Floor Heights	2-3-4 katlı	Form	Kare	Artificial		Building Type	Ahşap sı taş, bahçe-sız	Trees	Çam Manolya	Topografic Limits	
	Street Type	Organik	Window Order/Ratio	Ritmik / 1/2	Symbol	Tabakhane Camii, eski Vilayet Kon.	Building Function	Eski Vilayet Konağı	Height	2-3-4 katlı		Portakal Mimoza	Slope	Eğimli ve vadiyle bölünmüş
	Covering Material	Taş	Color	Sarı, beyaz, uçuk yeşil, pembe	Bldg Type	2-3 katlı taş veya ahşap strüktür	Height	3 Kat	Street Type	Organik		Sarı muşmula	Artificial Limits	
	Plants	[illegible]	Pattern		Usage	Yoğun	Natural		Street Forms	Dar	Flowers	Mor salkım		
	Building Facades	Aynı karakterde	Building Material				Plants	Manolya, çam	Pattern	Geleneksel		Gül		
			Effect comp. to surround bldgs.	Yok										

Table 3. Analysis of identical elements of Zeytinlik District (Mahalle)

ANALYSIS OF IDENTICAL ELEMENTS OF ZEYTİNLİK DISTRICT	ELEMENTS OF URBAN IDENTITY													
	ARTIFICIAL ELEMENTS										NATURAL ELEMENTS			
	STREETS		BUILDINGS		PUBL. SQUARES		MONUMENTAL BLD		CITY DISTRICTS		PLANTATIONS		TOPOGRAPHY	
														
ZEYTİNLİK DISTRICT 	Identical Elements of Streets		Identical Elements of Buildings		Identical Elements of Public Squares		Identical Elements of Monumental Buildings		Identical Elements of City Districts		Identical Elements of Plantations		Effects of Topography on urban identity	
	Street Form	Geniş	Floor Heights	3 katlı	Form	Dikdörtgen	Artificial		Building Type	Taş, bahçeli	Trees	Çınar Çam	Topografic Limits	
	Street Type	Organik	Window Order/Ratio	Ritmik / 1/2	Symbol	Cudibey İ.O.	Building Function	Cudibey İ.O.	Height	2-3 katlı		Manolya	Slope	Eğimli
	Covering Material	Taş	Color	Yeşil, Sarı, pembe	Bldg Type	3 katlı, taş yapılar	Height	2 Kat	Street Type	Organik			Artificial Limits	
	Plants	Çınar, Çam Manolya,	Pattern		Usage	Yoğun	Natural		Street Forms	Geniş	Flowers	Gül Ortanca		
	Building Facades	Farklı karakterde	Building Material				Plants	Çınar	Pattern	Geleneksel				
			Effect comp. to surround bldgs.	Süve hariç Yok										

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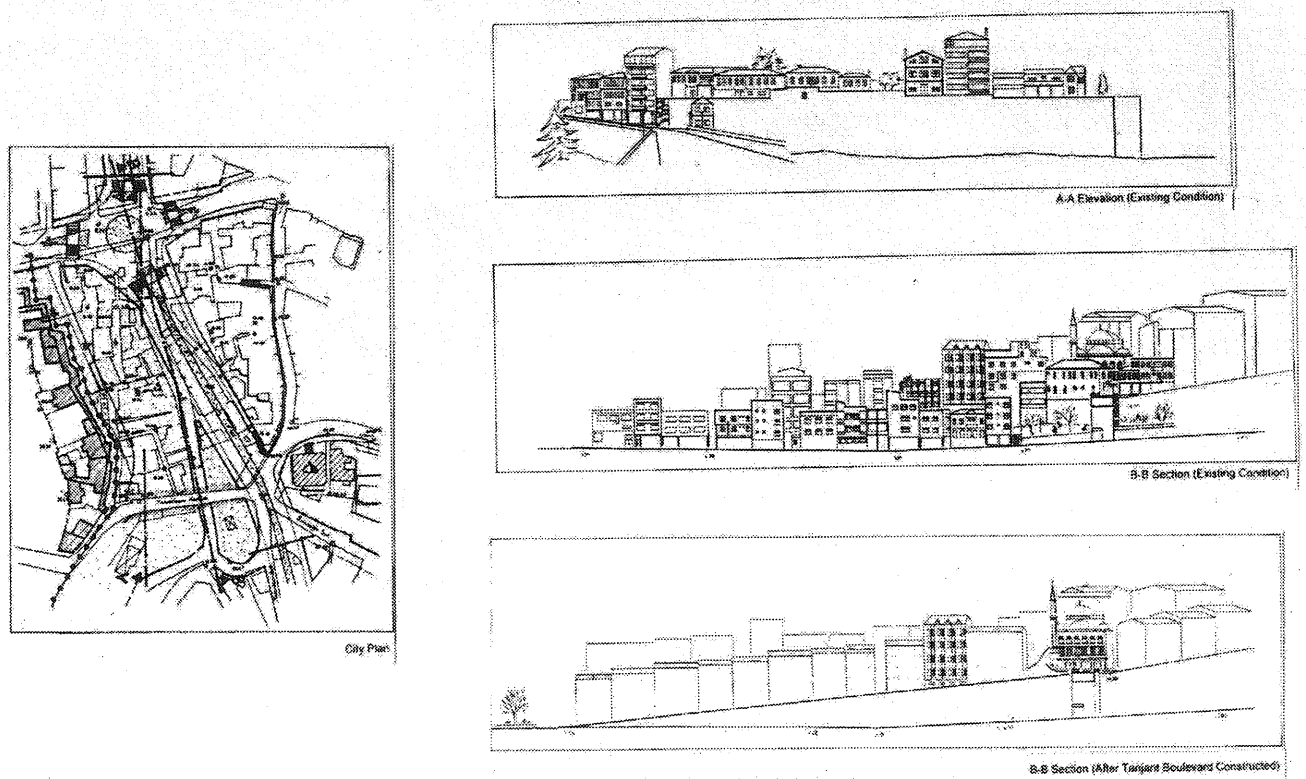
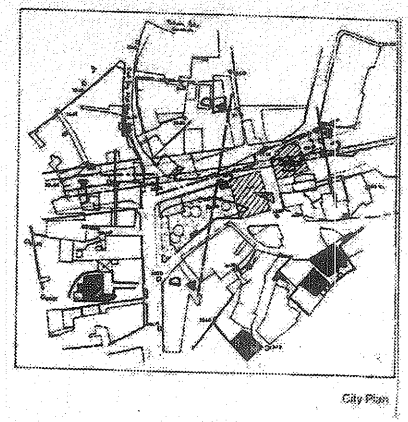
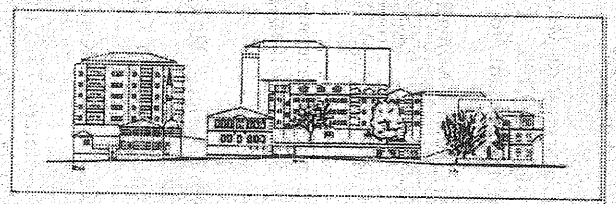


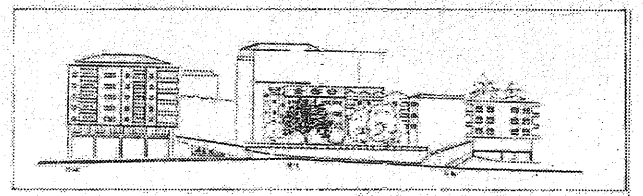
Figure1. A comparison of Tabakhane District (Mahalle) before and after Tanjant Boulevard constructed



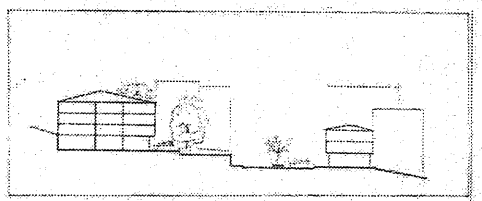
City Plan



C-C Section (Existing Condition)



C-C Section (After Tanjant Boulevard Constructed)



D-D Section (After Tanjant Boulevard Constructed)

Figure2. A comparison of Zeytinlik District (Mahalle) before and after Tanjant Boulevard constructed

4. Conclusions

Historic architectural pattern of Trabzon (especially east side of the city) will be demolished by large Tanjant Boulevard. As a result, before preparing city plans, city planners must study about elements that give identity to a city. Public has the right to know the changes that new city plan will cause. By preparing "visual impact assessment", all interested bodies will be informed, and gains and losses of the projects will be discussed. Therefore, possible mistakes may be stopped before too late.

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Do the Turkish planning regulations ensure the urban liveability ?

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Abstract

The urban land use planning is the major means of allocating public services justly within city, formation of healthy living environment, creation of spaces that enable social interactions, and gaining and/or strengthening the city identity by guiding city's appearance, all of which are the features of liveability.

The legal and institutional aspects of planning process can be problematic in some cases. In Turkey, apart from metropolitan cities, all cities use the same overall planning standards and limitations. Although the local authorities can make alterations on items in order to mould them with local needs and characteristics, thus improve further urban physical environment, this is hardly the case. Not only the preparation of plan but also day-to-day plan administration and development activity process can be decisive on the formation of urban environment.

This paper concerns basically with the examination of Turkish planning regulations and codes in relation to, firstly, how sufficient is the planning regulations to support liveability in settlements, and secondly, how the planning application process effects to building up liveable neighbourhood and settlement.

In the first part, the compatibility of the sets of planning regulations/norms, especially related to land use standards, healthiness of build environment and appearance are questioned basing on the secondary data and the previous research findings.

In the second part, plan application process and diversions from the initial plan are examined and are exemplified in detail on the case of Trabzon's land use plan.

The compatibility and/or distinct conflicts between local needs and statutory regulations/norms are displayed and further impoverishment of liveability of the sections of the settlements during the plan application process are exhibited. Some improvements are proposed in legal aspects of Turkish urban planning and development in order to ensure the better living environment.

1. Introduction

The quality of life in city has multiple dimensions. The concept of liveability covers to; improvement in the right of life, health, housing, education and participation in decision making for all sections of society; provision of the means to sustain the cultural diversity; involvement in sustainable urban development seriously. Also, to support the mutual understanding and social interactions within society, and the improvement of aesthetic quality of build environment are the essential features of liveable environment (Habitat Türkiye Ulusal Komitesi, 1996). Most of these features are related to urban planning directly or indirectly. Because, the urban land use planning is the major means of just distribution of public services within city, formation of healthy living environment, creation of spaces that enable social interactions, and gaining and/or strengthening the city identity by guiding city's appearance and appraising unique natural features of city area.

Especially in last two decades, increasing number of countries/cities have been concisely integrating various aspects of liveability in their planning and development strategies. In western countries, the quality of environment (air quality, visual and aesthetics values, value of flora and fauna, etc.), safety and adoption of participatory practices in planning appear to gaining more emphasis, than to less developed countries/cities. In the latter, the priority are given to the more basic needs of society, that range from affordable housing and the provision of social and physical infrastructure to direct and indirect employment

The safety, aesthetic quality and participation are the features gaining interest recently in developing countries/ cities, though the practices have been rare.

This paper concerns to the examination of Turkish planning laws, regulations and codes in relation to;

. how sufficient is the planning regulations and norms to support liveability within cities,

. how the planning application process effects to building up liveable neighbourhood and city.

2. Legal Aspects of Determinants of Settlement Development Structure

In Turkey, there are large number of laws and regulations that guide urban planning process. However, Development and Construction Law (PL)--named as Law 3194-- and related regulations [Regulation for the Principles of Preparing Development Planning and Change (RPPC), Typical Planning Regulation (TPR) and Parking Regulation (PR)] are the chief legal documents in this field.

According to the PL the settlements with population more than 10000 in the last census are obliged to having a master plan (MP). If the settlement population is less than 10000, the Municipal Council decides whether a MP is necessary or not. A conventional MP is a local legislative document prepared in accord mainly to the Planning Law, RPPC and the written agreement specify to plan preparation procedure. It is drawn on topographic and cadastral maps, covers to settlement's future lay out in detail. On the whole, it is reduced almost to zoning and transportation plan; the planning of roads, the functional areas, the plots/blocks and the building rights on them, distribution of social infrastructure.

In Turkey, property ownership in urban areas has economic, social and psychological meanings. It is an economic guarantee for the future since there is no widespread and effective pension system in the country. Also, in an inflationist economy, it is regarded as an inflation-proof investment in the medium and long run.

On the other hand, in the free market economy, as the market price of land is affected indisputably by the public interventions through planning, the development rights given by the plans have not been taxed powerfully. Therefore, the limitations of land development rights, hence the planning authorities are under pressure of builders and property owners who demand to increase their own private benefits. It is a quite common fact in Turkey that urban land owners/builders try to enlarge the development rights of their own plots legally or illegally. The legal alteration of plan decisions covers planning amendments that is under the responsibility of the Municipal Councils. The illegal alteration of plan decisions is a fait accompli -- the changes done without getting any permission. It ranges from the breaching of building set backs and height limitations to the violation of functional limitations on land uses[1]. In the history of Turkish Republic, the illegal developments are pardoned number of times by Laws[2]. One should keep in mind that, in Turkey, the build environment has been shaping not only by MPs but also by legally and fait accompli planning amendments.

3. Critical Evaluation of Regulations

3.1. Land Use Standards

The RPPC and PR set out space standards for social infrastructure (education, health, recreation, etc.), public buildings, commerce, urban utility, and parking. The paper will cover only the evaluation of primary (compulsory) education, recreation and off-street car parking standards.

. Primary Education

The schools in general and the schoolyards in particular are the major settings within which children create their "place identity" and search for "self-awareness" (Lindhom, 1995). Since, good schoolyards (in terms of adequacy in size and environ-ment) encourage children to invent more activities (ibid.) the school area standard is important for child development.

RPPC sets two type of standards for primary schools; "area per inhabitant" and "minimum size of school area". Accordingly, until 1999, the settlements should have minimum 3.8 m^2 school area per population, and also the size of each school area should not be less than 9200-13800 m^2. After 1999, these values increased to 4-4.5 m^2 (in relation to settlement size), and 8000-15000 m^2 respectively. Since the population size is the only criteria, the "amount of school area per student" varies considerably among settlements depending on the settlements' demographic structures (Table 1). Comparison between The Ministry of Education's (MoE) norm for the primary schools --15.8 m^2 /student -- and the planning standards, clearly shows that "the minimum size of school area" standard is insufficient for almost all demographic conditions, though "area per inhabitant" standard seems to satisfy land requirement of compulsory education.

Table 1. Share of 7-14 age group in settlement population, accordingly, the school area per student

Settle. size grp.	School age population ratio (%)			Size of school area per student (m^2)					
	Max.	Mean	Min.	Max. school age population ratio[1]		Mean school age population ratio[1]		Min. school age population ratio[1]	
				A[2]	B[3]	A[2]	B[3]	A[2]	B[3]
10000-300000	36.9	20.3	13.3	10.3 *(10.8)*	5.0-7.5 *(4.3-8.1)*	18.7 *(19.7)*	9.1 - 13.6 *(7.9 - 14.8)*	29.0 *(30.1)*	13.8 - 20.6 *(12.0 -22.6)*
300000 & over	23.7	18.5	10.9	16.0 *(19.0)*	7.8-11.7 *(6.8-12.7)*	20.5 *(24.3)*	9.9 - 14.2 *(8.6 - 16.2)*	34.9 *(41.3)*	16.9 - 25.3 *(14.7-27.5)*
All settlements				Min.of Education's norm: 15.8 m^2 school area per student					

1 The school area per student given in the first and second line are calculated according to standards that are in force before and after 1999 respectively.

2 Calculated basing on the standard "school area per inhabitant"

3 Calculated basing on the standard "minimum size of school area"

However, there is evidence that the MoE's norm is rather ill-defined. The MoE set the total amount of schoolyard as 8 m^2 per student (MEB,1998), which restricts the outdoor activity types and causes conflicts between students. Özyaba has studied the relationship between the actual and desired activity types in school breaks, and the satisfaction/discomfort of students, and found that at least 10 m^2 schoolyard space, which does not include to standard vegetation garden and ballgames area, is needed for each student (Özyaba, 1998).

. Open space standard

The green spaces are the essential amenities within urban settlements. Depending on the criteria used, it can be categorised in number of ways. Among them active-passive categorisation is the most suitable to our purposes. The "active green spaces" cover to recreational facilities devoted to various age groups (i.e. play facilities for children, sports provision for young and adults, and all types of parks for everyone). The "passive green spaces" include all green areas that are not used for recreational purposes.

RPPC's green space standard was 7 m^2/inhabitant for a long period. It increased to 10 m^2 at 1999's amendment. At least half of this green area should be allocated to active, recreational uses according to The Ministry of Construction and

Settlement's (MoCS) land use guide, which states how the overall space standard ought to be distributed among different recreation types in different hierarchical urban units (neighbourhood, district, etc.) (Table 2).

Table 2. MoCS's guide to distribution of the active green space standard by use

Green space	Neighbourhood (5000 pop.)	District (15000 pop.)	Grb. Districts (45000 pop.)
Play area	1.5 m^2 per population	-	-
Sports provisions (age 11-18)	-	1.0 m^2 per population	-
Stadium	-	-	1.0 m^2 per population
Parks	-	1.0 m^2 per population	0.5 m^2 per population

Source: Göçer, O., 1984, Şehirlerde Ticaret Alanları, İTÜ Matbaası, İstanbul.

The green standards are not well-tried standards since there is hardly any authoritative research investigating needs of society. However, a few local/regional research results can give clues on the adequacy of standards. The research, undertaken in selected settlements of the Black Sea Region, inquired into actual and desired leisure activities of urban households, found that 2.5-3.3 m^2 sport area per inhabitant is needed at district level[3] (Aydemir & all, 1993). Gedikli's (1998) household base study on district parks, hold in Trabzon, indicated that 4-8 m^2 area per inhabitant ought to be allocated for only passive recreational uses (it does not include to sports and playing fields). The finding of another study, which investigating the relationship between land use standards of various countries and their socio-economic conditions made some inferences for Turkey, was 6.5-7.0 m^2 active green space inhabitant for 10-20 thousand population (MoCS, 1988). The outcomes of these studies suggest that the recreational space requirement cannot be less than 7.0-8.0 m^2/inhabitant. The total 3.5 m^2 "active green space" per inhabitant standard, as seen in table 2, clearly falls much behind the demand.

Assuming that the green space deficiency can be compensated partly by the public and semi-public open spaces (streets, courts, etc.) that are the popular playing milieu for children. Such assumption can be justified only if the streets and other open spaces supply, at least, healthy and safe play environment for children. As it will be seen below, it is the rare cases for Turkish cities and towns.

. Parking standards

Until 1991 the Parking Regulation (PR) was applied only in settlements population more than 100.000. This size decrease to 50.000 and 10.000 by the amendments of 1991 and 1999 respectively. The regulations set minimum requirements expressed as one off-street car parking space per some unit of measure (e.g. dwelling unit, gross floor area, or number of seats, etc.), which vary according to size of settlements and the characters of building units. The PRs also control the location of parking.

The developer should provide the required amount of parking either on the plot or in a common parking area. If the common parking is the choice, the developer have to pay a fee per parking space, which is set yearly by the local authority as a participation pay to construction cost of common parking. In this case, the local authority undertakes the responsibility of provision of parking that should be build in areas designated for parking in the MP.

Parallel to increase in car ownership, the off-street parking standards have been improved greatly over time (Table 3). Seemingly, the present overall standards are sufficient. For instance, in Trabzon, the average size of housing unit is 138 m^2, and as the car ownership ratio is about 33 %, the standard for housing fits to existing situation. However PR has not recognised that car ownership varies with income, age, location, etc. Therefore, in practice, the required parking standards become excessive in some urban areas, can be insufficient in others. In such areas, the parking problem become unavoidable, since the developers mostly evade from providing extra parking lots other than the standard. On the other hand, the PR has not been applied tightly. The common practice is that the developer transfers his/her obligation of parking provision onto local authorities by paying the participation fee. But, the local authorities hardly fulfill to their task, especially in residential areas. For instance, according to the amount of fee payed to Trabzon Municipality, in the last three years, about 300 parking lot ougth to be provided by the Municipality within various quarters of the city. No parking area has been supplied during this period.

Table 3. The parking regulation standards for two major land use types

Regulation *	Number of housing unit per parking by housing size (double unit number is related to urban size category)				Unite office & shop area (gross) per parking		
1983	- 80 m^2 *8-7 units*	80-120 m^2 *6 units*	120-150 m^2 *5-4 units*	150 + m^2 *4-3 units*	200m^2 *1 unit*	150m^2 *1 unit*	-
1993	-	- 100 m^2 *4-2 units*	101-150m^2 *3-2 units*	150 + m^2 *1 units*	50 m^2 *1 unit*	40 m^2 *1 unit*	30 m^2 *1 unit*

* Regulation/1983 and Circular/1993 were in force in two and three settlement size categories respectively. The former was 100-300 thousand and more then 300 thousand population, and the latter was 10-50 thousand, 50-200 thousand and more then 200 thousand population. As the settlement's size category increases the number of housing unit or unit office/shop area per parking space decreases.

3.2. Healthy build environment

The major aim of Planning Laws has always been, as stated, to ensure the development of settlements and building activities in the way suitable to health, technology, plan and environmental conditions. One of the preconditions of healthy build environment is the existence of good solar access and natural ventilation within build up areas. The Typical Planning Regulation (TPR) tends to control to solar access; part 18 and 28 set limitations to length of front, side and back yards, and part 29 includes the determination of building height in relation to road width (Table 4).

Apart from the metropolitan cities, in all settlements the TPR is in use, though the local authorities can make alterations in its items and also can add more items to ensure the accordance of regulation to the settlement's own characteristics (i.e. physical condition, identity, social and economic structures, etc.). Alternative to this, the MPs can include detailed plan notes cover to the statements on development conditions unique to the settlement. However, the studies indicate that the both practices have been very rare in Turkish planning history (Suher, Çetiner, 1972; Duyguluer, 1989).

Table 4. The TPR's solar access control conditions

Part 18: length of front and side yards	Part 28: backyard conditions	Part 29: building heights in relation to road width	
Front yard: min.5 m Side yards: min. 3 m up to 4 story. Over 4 story extra 0.5 m should be added for each story (In Amendment 1999 the accommodated basement floors are included to floor number).	As a rule, backyard should be 1/2 of the building height. But, if the plot depth is not enough that building depth is less than 10 m, the backyard can be decrease. In this case backyard cannot be less than 2 m.	Num.of story Max. 2 stories " 3 " " 4 " " 5 " " 6 " Max. 7 stories Min. 8 "	Road width >7 m <7 m >9.5 m >12.0 m >14.5 m >17.0 m >19.5 m

Apparently, the TPR fosters to the deprivation of build environment within settlements, since, the settlements can take place within the range of categories, but use the same limitations. Turkey lays between the 42°-35° of northern latitude, covers five different climatic zones, and have varying topographic structures. For instance, the shadow cast by an object changes greatly in relation to latitude of measurement point, sun chart, degree of site inclination and land orientation (Table 5). If the proportions of regulatory distance between buildings to building heights (Table 6) are compared with shadow ratios given in table 5, it is seen clearly that the limitations of
TPR do not meet the requirements of solar access at least in the northern part of country and the sloping areas oriented to other than south direction. Hence, where the settlements ought to develop on unsuitably inclined and oriented land, due either to natural limitations or development forces, the build environment will have poor solar access, particularly in the seasons when it is needed and regarded the most pleasant.

Table 5. The variations in the "ratio of shadow length to building height" in Turkey *

Hour	Flat site	Northerly sloping site				Easterly sloping site				Westerly sloping site			
		%10	%20	%30	%40	%10	%20	%30	%40	%10	%20	%30	%40
42° Northern altitude - 21st of December													
10	2.4	3.3	5.0	8.5	∞	2.3	2.2	2.1	2.0	3.4	4.7	7.4	∞
12	2.2	2.6	3.5	5.6	∞	2.1	2.2	2.4	2.7	2.1	2.2	2.4	2.7
14	2.4	3.3	5.0	8.5	∞	3.4	4.7	7.4	∞	2.3	2.2	2.1	2.0
42° Northern altitude - 21st of February													
10	1.5	1.9	2.3	3.0	4.2	1.5	1.4	1.3	1.2	1.8	2.2	2.5	3.7
12	1.2	1.6	2.0	2.4	3.2	1.3	1.3	1.2	1.2	1.3	1.3	1.2	1.2
14	1.5	1.9	2.3	3.0	4.2	1.8	2.2	2.5	3.7	1.5	1.4	1.3	1.2
35° Northern altitude - 21st of December5													
10	1.9	2.5	3.2	4.6	8.2	1.9	1.8	1.7	1.6	1.9	1.8	2.0	2.9
12	1.5	2.0	2.5	3.4	5.2	1.6	1.6	1.7	1.9	1.6	1.6	1.7	1.9
14	1.9	2.5	3.2	4.6	8.2	2.4	3.0	4.0	6.5	1.9	1.8	1.7	1.6
35° Northern altitude - 21st of February													
10	1.2	1.3	1.5	1.8	2.7	1.2	1.2	1.1	1.1	1.4	1.7	1.7	1.6
12	1.0	1.2	1.4	1.7	2.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14	1.2	1.3	1.5	1.8	2.7	1.4	1.7	2.0	2.9	1.2	1.2	1.1	1.1

* The shadow lengths are measured in the laboratory by using heliodon. If the shadow length of test object is too long to be measured "the ratio of shadow length to building height" is expressed as"∞".

Table 6. The proportion of distance between buildings to building height in relation to TPR[1]

Building side	Regulatory net distance between buildings [2] / building height [3]
At the back	1.0
At the side	It depends on number of floor; 0.6-0.3-0.3 (for 2-4-6 story buildings respectively)
At the front	with front yard ; 2.2-1.3-1.2 (for max. 2-4-6 story buildings respectively) without front yard; 1.1-0.8-0.8 (for max. 2-4-6 story buildings respectively)

[1] The table values are derived from table 4.

[2] The detached and semidetached buildings have the right of having overhang of which depth is max. 1.0 m. at the side and 1.5 m. at the front. The net distance between buildings is calculated by subtracting the overhang depths from gross distance.

[3] In most Turkish cities the buildings are medium rise with average about 4 stories.

Especially in residential areas, the solar access condition is the symptom of other physical and social comforting/discomforting factors, i.e. high density, ill natural ventilation, neighbour base noise and perception of closeness (Aydemir, 1990). To minimise the perception of closeness, which is one of the major reasons to dissatisfaction from living condition, the distance between buildings should be over 1.5 of building height. Also, the strain on neighbourly contacts tends to increase when the building density exceeds to 230 dwelling/ha (ibid.). The density and open space came out important in many studies. For instance, the study, covered 25 districts of Istanbul, found that housing density, amount of green space and accessibility to green area are among the factors highly correlated with neighbourhood satisfaction (Atalık & et al.,1990). Loo (1984) found the close correlation between neighbourhood density indicators and neighbourhood crowding perception. He states the majority of residents discomforted and even desired to move out from neighbourhood (density is over 272 persons/ac) due to crowding.

3.3. Visual aesthetics

There is a growing awareness that the quality of physical setting is an important element of quality of life of a place. Also, the visual appearance generates the identity become an important characteristic of liveability. As Carmona (1998) sited "the planning authorities will be more able to influence the quality of build environment if they concentrate on defining and controlling those urban design qualities which give character and quality to the public realm and which determine the most equitable use of public space". In many western countries, "aesthetic-based regulations--design review standards", "sign controls", "view protection regulations", "tree protection measures" (Duerksen, 1992; Stams& Miller, 1993) have been in force. Though, a new emphasis is on the urban design -- cover to design of buildings, the way they are grouped together, the spaces between them, and trees, seats and paving -- rather than mere architectural design (Madanipur, 1996; Carmona, 1998).

In Turkey, the MPs do not provide a base to technical details of aesthetic control of the space formation. The MP, TPR and RPPC mainly determine the building conditions on the plots roughly. The site attributes cover to minimum length of front, side and rear yards, % of lot coverage, floor area ratio, conditions of setting more than one building on a plot, off-street parking provision and road type, and the building attributes define the limitations on width, length and height of buildings, conditions of open and covered overhangs, roofing and the conditions of setting ground level (on, over or below the curb level) on the plot. Although these type of attributes are similar to those set in "aesthetic-based regulations" of the western countries, in Turkey, the intention behind most of the limitations are mainly health and safety, rather than aesthetics. Therefore, as the building activities are undertaken individually, plot by plot within the specified limits of building conditions by petti-constructors, the ultimate come-out space organisation and the character, all the often, are rather commonplace, and street frontages are prototype and dull. These type of applications were not only destroyed the traditional urban aesthetic values, but also have prevented the creation of "places" that are the most evident element of social and physical urban environment (Günay, 1997).

4. Assesment of plan application process

Even if the space standards are well defined, the urban environment can be regarded as having low liveability. Because, the planning standards alone do not mean much unless the provisions are well-distributed within urban setting, as well as the effective day-to-day administration of planning and development activity processes, which are even more important. In Turkey, the public investments are habitually delayed, leading to the supply of provisions lag behind the growing demand. Also, besides the fait accompli plan alterations, the legal plan amendments, which have been a very common practice within all settlements all over the Turkey (Çetiner, 1965; Aydemir & et al.,1983; İnan, 1996), can lead to loss of space set initially in MPs. In reality, these facts can cause striking distortions from the planned provisions. For instance, in Trabzon;

. the existing school area and schoolyard area per student are much below the norm and standards. The average of city is 9.3 m^2, and about 4 m^2 respectively. Consequently, regarding to the carrying capacity of schools areas[4], the large patches of urban areas remain to be served poorly by the existing schools (Figure 1). On the other hand, the planned accessibility to primary schools has deprived during the plan application process. The plan amendments done by Municipal Council between 1985-2000 led to about 5000 m^2 decrease in school area within major existing build up districts (24 mahalles), while in peripheries the school area is increased considerably (about 24500 m^2) (Şen, 2000).

. between 1970-82, the residential and infrustructural uses swallowed 2.34 ha. green area. Although 5.60 ha. land allocated to green within urban fringes (Aydemir & all, 1983) distribution of provisions distorted substantially. The loss become even more severe in the recent decade, not only within major build up districts, within fringe districts as well (Figure

2). Between 1985-2000 the net total green space loss was 27 ha. This means that amount of green space per inhabitant dropped to 2.1 m^2 leaving each citizens impoverish further about 1.2 m^2 (Şen, Aydemir, 2001).

. between 1985-2000, the plan amendments lead to 94.7 ha residential floor space increase in the existing build up areas (in 24 quarters) (Şen, 2000). This means the need of approximately 2300 additional off-street parking lots. In the same period and in the same quarters, besides fait accompli[5], the legal loss in the designated parking area alone was 1.9 ha. (about 755 parking lot). The above conditions inevitably give rise to serious parking shortages at least in some districts. In practice, not only the streets but also the sidewalks and the pedestrian roads are frequently occupied by motor vehicles (cars, trucks, etc.) that create discomfort and safety problem to pedestrian of all age and gender, and the eyesorely visual appearances (although the MPs designate pedestrian roads especially within residential areas, wherever the topography allows, all the roads are used by vehicles). Such situation, that is very common for Turkish cities, draws a rather contradictory picture to liveability conditions. There has been ample literature and practices emphasising the role of pedestrian streets and spaces in making liveable environment; in residential and urban core layouts, the priority is given to the pedestrian comfort and convenience, to reduced traffic speeds, and to support social life on the street and so on.

. the proportion of distance between buildings to building heights has been worsen overtime in almost all settlements due to increase on plot ratios and floor space indexes either by plan alterations, plan revisions or fait accompli (Evyapan, 1981; Ökten, 1991; Enlil, 1994). Hence, in reality, the solar access conditions became much deprived than those created by TPR's limitations. The poor solar access not only has a negative effect on the liveability of housing conditions, but also deteriorates the quality of open spaces between buildings, which are handy outdoor activity spaces for all inhabitants.

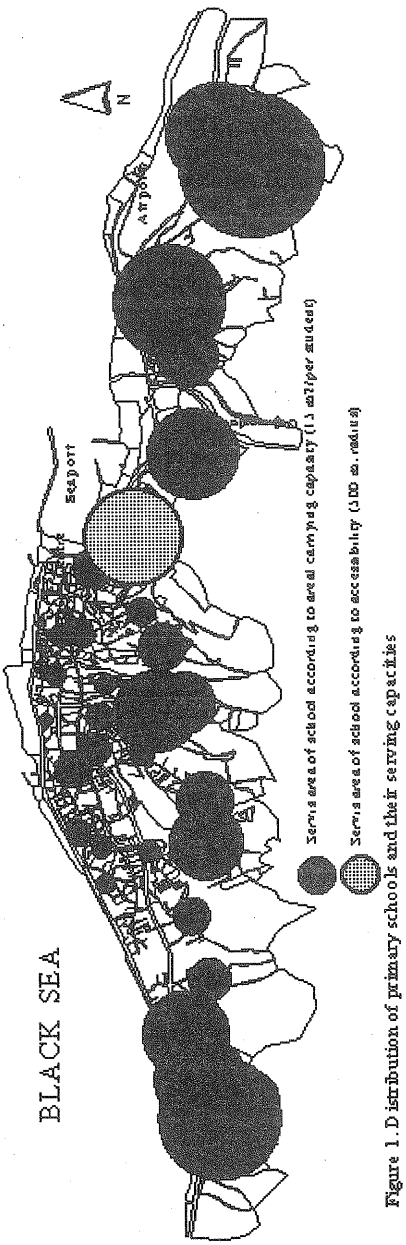

Figure 1. Distribution of primary schools and their serving capacities

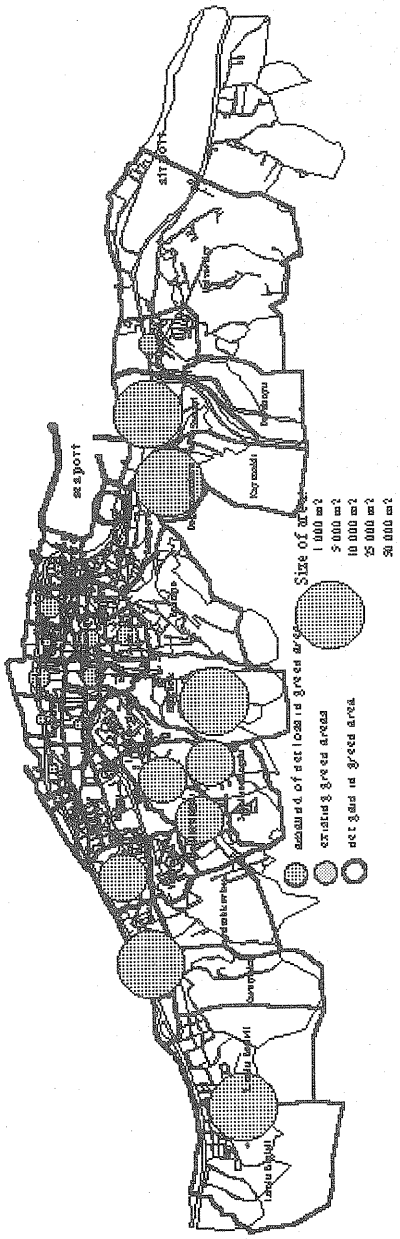

Figure 2. Change in availability of green areas between 1989-2000

5. Conclusion

On the whole, the attitude of builders and land owners, who intent to reduce land accusation cost and/or aim to increase their own profits, towards land use regulations and planning controls, combined with the populism of local/state politicians, which make them feeble to regulate urban physical development, lead to formation of unorganised and densely build up settlement areas. How liveable is the resulting problematic physical environment needs to be questioned. In recent years, there has been serious discussions and an administrative/ authoritative intention for the adoption /preparation of more sophisticated planning legislation than the current. The new legislation ought to include urban building measures given below in order to facilitate better living environment.

. The concept of performance standard, especially for solar access, should be introduced instead of the TPR's distance limitations. The performance requirements should be worded quite precisely and be reinforced by strong and clear guidance for practice.

. The present regulations do not contain any density limits. The regulation must set the maximum urban space density for residential areas over which provision of services/ amenities become difficult and closeness become intolerable.

. Some restrictions must be brought in the plan amendment conditions. Plot by plot amendments that can lead to unpredictable and serious diversions from the initial plan in the course of time, must be banned strongly.

. The concept of crime towards city must be introduced to legislation. The urban build actors (local authorities, public servants, property owners, etc.) should be responsible more restrictedly than today from their actions that conflict to public benefit. Also, some effective legal tools ougth to be introduced in order to prevent/minimise the speculative use of urban land.

. The current planning approach is in between the traditional and comprehensive approaches. The public participation is almost non-exist. The frame of more sophisticated planning approach and consultative techniques should be drawn.

. Making city wide traffic management plan, where ever possible, roads and streets can be reorganised to protect safety of pedestrian and playing children. The inclusion of front gardens, where ever exist, to such arrangement can facilitate more spacious disposals to residents of streets. The people must be included to all stages; planning, design and application processes.

. Planning process ougth to be vision driven from the perspective of physical and visual, environmental, social, and economic aspects mutually. Once the vision is developed (what we wish the settlement we live in ougth to became) its physical-visual dimension must be build in the settlement plan that may not be called 'master plan' no longer. Such planning need to be supported by desing policy (c.i. related to skyline, character, space organisation, appearence, etc.) set priory to planning, and legitimised by the plan.

In short, the planning institution as a whole ought to be reconstructed in order to foster liveability of settlements. Such reconstruction must include new legal and institutional measures related to public participation at various scale, design policies, and urban land speculation, in other words, planning approach. However these alterations should not be made for pretendedly, should be adopted wholeheartedly.

Notes

1. In Trabzon, after the Law of Pardon/83 came in force, the pardoning applications made to municipal authority was sum up 28 % of total building stock the city (Öksüz,1988).
2. The first "Law of Pardon" came into force in 1948. Since than 11 Laws have became operative *at* various coverage. The last one was in 1983.
3. The Ministry of Youth and Sports's guide for type of sport facilities needed by settlement size are less than the research finding. According to the guide, for 10-20 thousand populations (equalling to a district) one small stadium with 4000 seats for spectators, a sport hall, and six fields for basketball and volleyball need to be provided. In the Black Sea region, for the same population size the demand was 12 mini field for football and 14 fields for other ball games (including tennis).
4. The "carrying capacity" of school is regarded as the number of students that can be accommodated properly within the actual are of a given school in relation to a suitable norm or standard.
5. The ratio of the trespassing of buildings to common parking areas was 6.5 % of all the total pardoning application. Considering to the trespassing to roads/streets, sum up 23.4 % of total pardoning (Öksüz, 1988), lead to narrowing of roads making on-street parking inconvenient at some places.

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How development plan alterations can guarantee the liveability in cities: the case of Trabzon

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Abstract
Creation of Liveable Environment implies, on the one hand, to ecologically sensitive and sustainable planning and on the other hand prevention of undesirable changes and organisations in the physical and social environments. In this content, conversion of land that is not suitable to urban use (i.e. agricultural lands and geologically inconvenient areas to be conserved etc.) mainly in to residential and commercial uses by means of plan alterations lead to impoverishment of urban living quality.

In fact, one of the several aims of planning is to create liveable environments for the residents of cities/urban areas. In this sense, liveable environments ranges from public spaces namely squares, streets, cul-de sacs, play grounds, parks and greens. On the other hand, liveable environments have social and cultural merits which give the cities their identity. Such as events, gathering and selling, social and cultural provisions.

The major means of providing liveable environments are the development plans which have to guide carefully land use and zoning in cities. However, time to time, the need for alteration in development plans radically or gradually may arise. That should be controlled by regulations.

In this paper, applications for plan alterations on the Trabzon Development Plan have been investigated highlighting resultant changes in land use and density.

1.Introduction

Urban development is a continuos process between the physical environment and social progress of society. In this process the major concerns of planners and local authorities have been to pursuit of liveable environments.

Better planned and organised physical spaces, consequently, may open opportunities to the people for living, working, marketing, gathering and enjoyment in environments in the cities some of which may have long traditions, identities and selfness which people appreciate, practise and consume them (Grasson, Godfy, Goody, 2000).

Each era has pursued liveability as a goal and expressed that in different ways. The pre-modern, modern and post-modern eras have not been clearly identical in their respect to the liveability of the environments in the eyes of public. In the pre- modern era, liveability has referred to the environmental conditions, mainly on public health, ill-conditions of physical environments as such sanitation, rehabilitation, prevention from deseases mainly in the slums of the rapidly industrialising and developing western cities and city beatification (Broadbent, 1990)

The modern era has vitnessed the care for urban planning. Howard, Corbusier, Geddes and their followers set for the rules of planned environments which paid scant attention to the public wills/desires which are very essential for the liveability of the tows, cities and inner areas of them.

It is the post-modern planning approach which has been caring for the liveability of the human environments. Well established physical environment in terms of planning and design concerns are likely to be consumed in everyday life of people. Retailing, shopping, walking, wondering, playing, entertaining, sitting in or out of a cafe, rendezvousing with friends, at squares, streets or niches in inner-areas which make the cities liveable. On those places and activities recognised and experienced they became common properties of the cities and the public. People got acquainted with the city, mainly the centre and close vicinity of it (Grasson ,Godfy, Goody,2000; Harrison,1998 ;Montgomery,1998; Zukin,1998).

Any planning intervention to the public spaces (squares, streets, gathering and meeting places) disturbing the second/ or three dimensional relations of the space, may damage links between people and the environment/places.

Creation of liveable environments, in the above sense, implies, on the one hand, to ecologically sensitive and sustainable planning and on the other hand prevention of undesirable changes and organisations in the physical and social environments.

Liveability of the total urban environment is the prime goal of local authorities and the planners. Rational management of urban land resources should aim at to protect as much as possible, natural and man made environment from the misuse of private and public sectors, unless it is unavoidable, that may not be forcing the carrying capacities of natural and man made ecological environments (Breheny, 1992).

"Nothing ever stays the same for long, so it is good to revisit community planning documents" (aspengov, 2000). The idea behind the above statement was the starting point of "Continuous Planning" (Branch,1981), which highlights the need for monitoring of the planning implementation, applications and dynamic processes in economy, in populations, in public demand in the course of time. For some reason or the other, reviving or revisiting the plan documents may become inevitable (ibid) such as providing better transport, easy movement, promoting environmental sustainability, environmentally sustainable development, reinforcing design quality etc. The dynamics of society may call attention to promote density and sustainable mix of land uses, create affordable housing environments, improve

safety for pedestrians, provide land needed for active and passive recreational uses, maintain and create places and opportunities for social interaction and life style diversity. The local government and public commitment may/can change in time and thus necessitates plan alterations on a wider scale rather than piecemeal rearrangements on the local plans/local areas. "No portion of the general plan should be amended without reviewing the entire document" (ibid), "ordinarily, piecemeal amendments on to the general plan/ *local or structure plan*, should not be made unless related conditions have changed since the last adoption of the comprehensive general plan/*structure or local plan*, or circumstances unforeseen at the time of adoption of the comprehensive general plan became known. Changes in a general plan usually mean amended goals or objectives in the development policies of the city"(ci.larkpur.ca.us).

Most of the matters mentioned above have been stated in 2000 Aspen Area Community Plan Update which is appropriate for many local/strategic plan alterations.

The justifications for plan amendments and alterations are similar, in principle, in different countries. "Alterations to plans are more likely to be appropriate where a partial rolling forward of the plan is needed, or where forecasts and assumptions have changed, or where additional policies are needed to deal with previously unforeseen issues (PPG12, detr.gov.uk, 1992), that necessitate adjustments. Modifications may prevent applications for amendments which should only be made when there are compelling reason for a change (ci.larkspur.us), like the following cases; "Even the most careful plans are subject to unforeseen circumstances that necessitated adjustments. Modifications may prevent plan failure, which will threaten the continuation of the enterprise, reduce productivity, put the employees' job at risk, and deprive creditors of their anticipated distributions" (ab.world.org).

In case of more than one alterations are needed at different times "the alteration takes into account the changes in the first alteration to the structure plan in respect of policies for housing, industry, offices, shopping and transport,... in the alteration, these policies have been updated to conform with the end date of approved in the first alterations. However, the detailed proposals for individual sites remain largely the same in the previously approved local plan" (hants.gov.uk).

As it is seen from above statements, plan alteration is not a piecemeal rearrangement in any area or over any property's development rights. It is rather comprehensive and cover larger areas/districts on the development plans.

In the Turkish case, plan amendments/alterations are somewhat different from those mentioned above. Most of the alterations are made to satisfy the individual and community appeals, to rectify technical faults, to increase revenues for the local authorities, etc (Duyguluer, 1982; Suher,1971; Çetiner, 1965, Şen, 2000)

2.Plan alteration procedures and practices in Trabzon

Ecologically sound and sustainable planning approaches are needed in course of planning and development of urban areas which should take into account of the liveability of the planned urban environments. The major means of providing liveable environments are development plans which have to guide carefully land use in cities.

In fact, one of the several aims of planning is to create liveable environments for the residents and the outsiders of cities. In this sense, liveable environment ranges from public spaces namely squares, streets, play grounds parks and greens. On the other hand, liveable environments have social and cultural merits which give to cities their identity, such as events, gathering and selling, social and cultural provisions (Grasson; Godfry; Goody, 2000) that have to be cared sensitively during the development process.

As if taking into account of the above point of view, the French planner Lambert prepared the development plan for Trabzon in 1938, which paid attention to the environmental factors for the benefit of urban people, The Lambert plan covered the period of 1938-1970, then amended completely in 1970. Some years after the approval of the 1970 plan, applications for plan alterations, mainly on parcel or property bases, started and never ended up to the present time.

The Turkish planning law and the regulations set the rules for plan alterations, "without violating/disturbing the structure plan principles, plan alterations can be done to bring local changes in the size and use of land, its location, density or transport system" (Bayındırlık ve İskan Bakanlığı, 1986)

The prerequisites for plan alterations are;

- urgent need for alteration
- ministerial approval
- any alteration which may cause rise in building height, land division rules, plot rations and functional land uses must strictly follow the stated rules and should be controlled.

The main emphasis of the law, are in general, urgent need for alteration and compelling reasons for a change.

3.Practices of plan alterations

A comprehensive analysis of plan alteration applications for the period of 1970-1983, and the resultant distributions of those and the likely reasons behind that processes or interplay between property owners, contractors and public highlighted (Aydemir, *et al*, 1983).

After fifteen years from the above investigation, the plan alteration processes have been revisited/updated for the period of 1989-2000 by reviving and analysing the documents of 1625 applications in the same manner as the previous one (Şen, 2000).

4.The findings

- The most of the approved plan alterations accumulated on the western fringes of the city (38,3p.c.), followed by the southern sections (29,1p.c.), which are the most preferable sites for housing in the city (Trabzon).
- Plan alterations are high at the western part of the city.
- At the city centre and its close vicinity the approved plan alterations amounts to 16,7p.c. and at the east of the city to 10,0p.c.
- Plan alterations are relatively low at the slum area of Zafer Mahallesi and at district of Ortahisar where is conservation site and the listed buildings are dense.

The southern part of the city designated as low density residential development areas, in the 1970 structure plan, than the densities are increased by reducing plot sizes from 3000 m^2 to 2000 m^2 which raised the land values and

popularity of the area among the contractors and house buyers. This kind of alterations could be done unless "the capacity of existing infrastructure, including public transport, utilities and social infrastructure (such as schools and hospitals) to absorb further development" (PPG3, 1992; Bayındırlık ve İskan Bakanlığı, 1986)
By the opening of border between Soviet Union and the Turkey, the Sarp Custom entry, small scale trade started which called trunk-trade, Trabzon become the centre of Euro-Asian trade which accumulated behind Trabzon port surrounded by small cheap hotels and guest houses. This area is called Çömlekçi, which is close to the city centre serves as market area for hinterland populations of Trabzon (mainly for rural people) reserved for also Euro-Asia valise-trade. Vitality of trade increased the need for small hotels, shops, restaurants, etc. So, the land use patterns have changed and compelled to plan alterations in this part of city. İn Çömlekçi and the city centre, plan alterations made for functional use of premises, alignment of building (built-to-line) and building heights.

Plan alterations approved by the local authority at the southern parts and fringes of the city are related mainly functional changes such as conversion of land from urban greens to housing.

1989 Structure Plan revision (amendment) included 1700 ha. rural land to urban use, the total area of Trabzon Structure Plan increased to 4000 ha.(which equals to 149 planning sheets), on the planning sheets base, plan alterations have been done on 94 out of 149 planning sheets. Distributions of resultant plan alterations are shown in Figure 1, and at the district level in Figure 2.

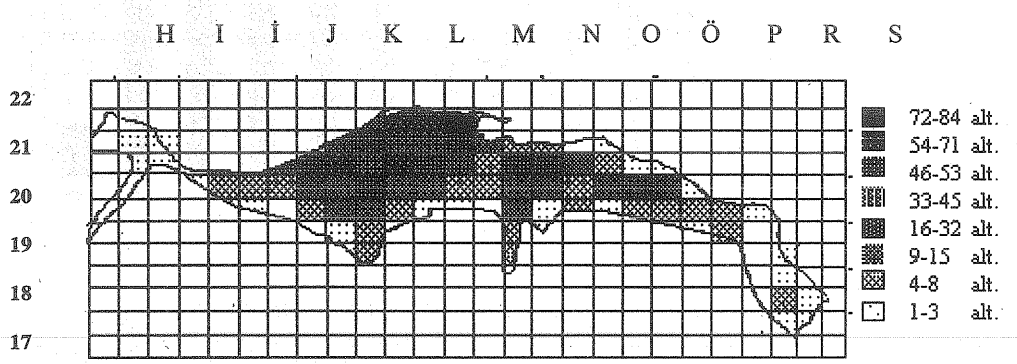

Figure 1.Distributions of plan alterations by planning sheet (coordinates)

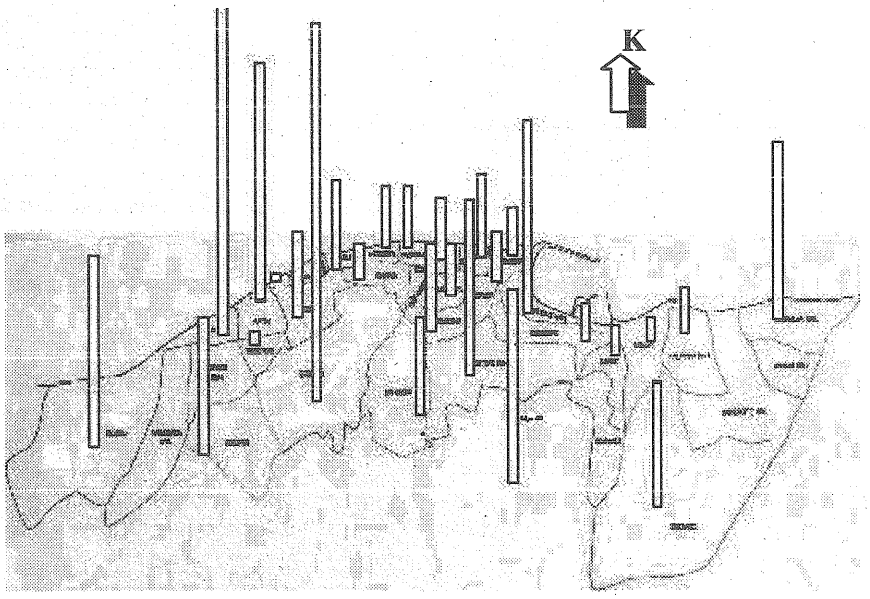

Figure 2. Distribution of plan alterations by districts in Trabzon (1989-2000)

1 cm = 30 alteartions

Distribution of plan alterations over time

It is observed that during local and general elections in the past, both the numbers of applications and the numbers of approvals were over the averages (104 applications annually). On the whole, during 1989,1994 local elections and 1995,1998 general elections (Figure 3). Plan alteration application and the approvals increased rapidly. 49,5p.c. of the total plan alterations are related to land use changes, 19,1p.c. building orders; conversion from detach and semidetached housing to row housing in the already build up areas which lead to higher densities than the development plan statements by decreasing the setbacks, side and back yards of the houses, caused to increase on plot ratios. Also, 15,1p.c.of alterations are related with building heights. The out coming circumstances are less day light, less air flow, more shadows from the neighbouring buildings (Figure 4). Spatial distributions of some of plan alterations by type and by districts are shown in Figure 5.

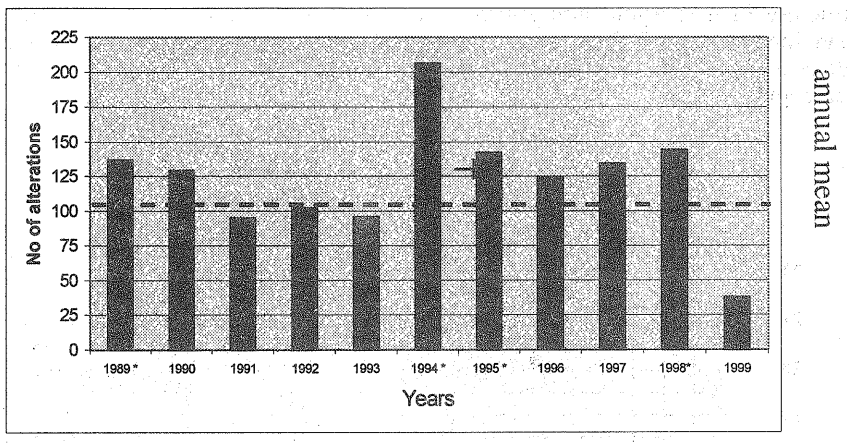

Figure 3. Distribution of plan alterations overtime

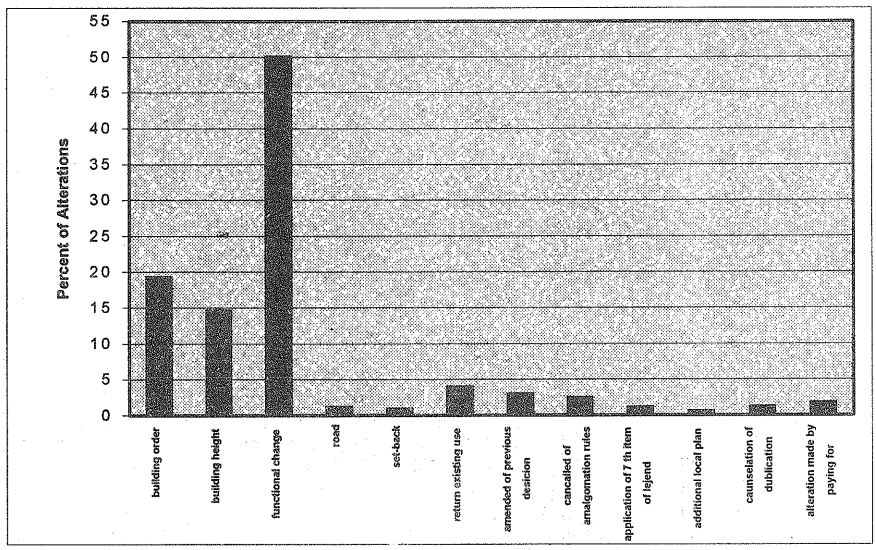

Figure 4. Distributions of plan alterations by types

Increase in building heights in the period of 1989-2000 resulted in 181545 m^2 total floor space increase in residential use, which almost equals to 1815 flats/8312 additional population, and 23774 m^2 increase in commercial land use which means about 580 shopping units. "Proposals for change of use to housing should only be allowed where there is clear evidence that adequate local provision of open space and playing fields would remain. Other types of open spaces should also be protected against pressures for development." (PPG3, 1992; Bayındırlık ve İskan Bakanlığı, 1986)

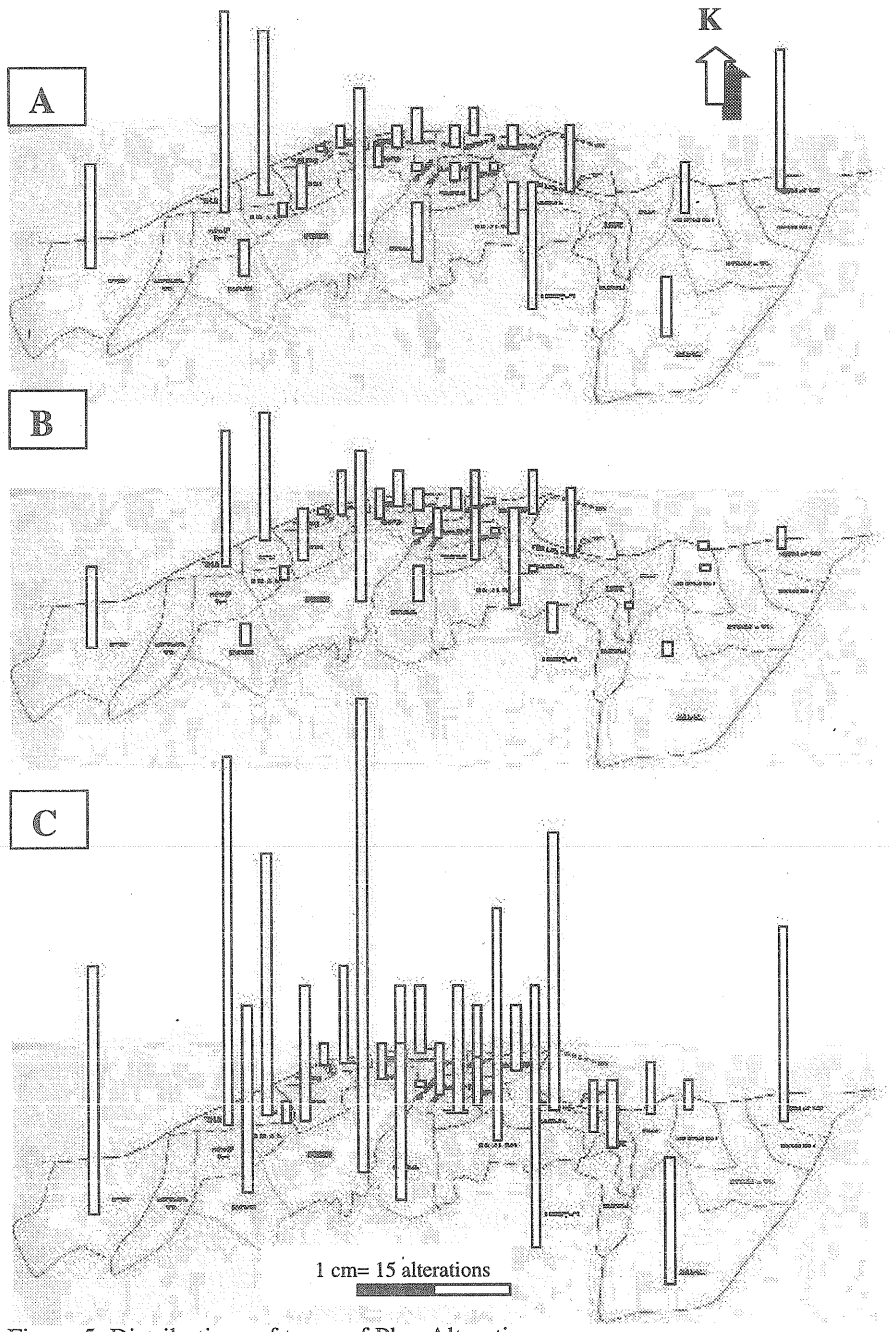

Figure 5. Distributions of types of Plan Alterations
A : building order B: building hight C: functional use changes

Conversion of land to be afforested (6185 m^2) and urban greens (parks and play areas; 4511 m^2) to residential use realised in Çukurçayır district, which both totalled to 110 unit of flats. In the Euro-Asian valise-trade market area (Çömlekçi) 3166 m^2 residential land converted to retailing use equivalent of 153 shop units. Table 1 shows the amount of land converted from urban green areas to different uses which totals to 270645 m^2. The land use changes realised by plan alterations between 1989-2000 yielded 23,4p.c. increase in residential floor space, 10,2p.c. increase in road surface area (from green), and so on.

The conversions of land area from greens, roads, plot areas (gardens) all other uses to housing is exercised frequently. The amount of residential area gained by conversions are considerable (Table 2), and conversions of greens to residential, roads and commercial uses are seen important. The conversion of urban greens consistent with the following statement is noticeable " ..... does not expect green field sites to be released for development until the following options have been considered for providing additional housing: raising density of development in and around existing centres and other areas with good public transport accessibility and urban capacity studies" should be made (PPG3, 1992).

The planning regulation requires the supply of social infrastructure if any alterations needed from school fields, play grounds, parks in the vicinity of the amended areas (Bayındırlık ve İskan Bakanlığı, 1986), unfortunately social infrastructures have not been supplied in the districts in which plan alterations have been made. For instance, between 1989-2000, plan alterations yielded 6795 units of house which equals 31121 additional population. Such increment in

population cause to increase in demand for technical and social infrastructure wherever the changes made in the city structure. However, the existing land designated for infrastructural uses are already below the regulatory standards. Additional infrastructures needed for the above population bring extra burden on the city and city management that suffering from inadequate supply of water, sewage, transport and traffic, car parking, parks and children play grounds, etc. Table3,4 shows the needed additional land for infrastructures.

Table 1. Assigment of land use changes

Conversion from urban green to	Land	Assigment to urban green
Housing	127906 m^2	
Road	76242 m^2	
Commerce	25742 m^2	
Education	11493 m^2	
Health	4630 m^2	
Car parking	5709 m^2	
Religeous use	2889 m^2	
Conversion from afforested areas to		
Housing	28714 m^2	
Road	8163 m^2	
Religeous use	3585 m^2	
	11608 m^2	service
Total net loses	270645 m^2	

Table 2. Assigment of land use changes

Assigment to Housing areas from	Land	Assigment from Housing areas to
Green field sites	127906 m^2	
Road	54280 m^2	
Afforest	28714 m^2	
Housing plot	24683 m^2	
Education	12452 m^2	
Car parking	2683 m^2	
Social amenits	2614 m^2	
Technical services	2196 m^2	
Touristic areas	1587 m^2	
Sport field areas	1300 m^2	
Vacant land	184 m^2	
	21975m^2	Commerce
	8597 m^2	Religious use
Total net gains	228027 m^2	

Table 3. Additional demand for land needed for social and technical infrastructures

Technical and social infrastructure		Standards(*)	Additional land requirement
Roads		2.0-2.5 m^2/p.	326770 m^2
Car parking		1698	33960 m^2
Education	Nursery school	0.7 m^2/p.	21784 m^2
	Primary school	2.0 m^2/p.	62242 m^2
	Secondary school	1.8 m^2/p.	56017 m^2
	High school	2.0 m^2/p.	62242 m^2
Social and cultural		0.3 m^2/p.	9336 m^2
Administrative build areas		2.2 m^2/p.	68466 m^2
Health facilities		1.0 m^2/p.	31121 m^2
Green field sides		7.0 m^2/p.	217847 m^2

(*) Standards are changed in 1999.
(**) Primary and secondary schools are united as basic/compulsory education.

The infrastructures are the determinants of viability and liveability of cities which have to meet the need of the people of the cities. An increase in provision of infrastructures can guarantee the liveability; at least in physical environmental satisfactions (Harrison, 1998; Rogerson, 1999).

Table 4. Land needed for infrastructures caused by increased population through plan alterations

Functions	Plan alterations	Additional land requirement	Required land by standarts
Urban green	-270645 m^2	217847 m^2	488492 m^2
Road	25380 m^2	301390 m^2	276010 m^2
Car parking	-11910 m^2	33960 m^2	45870 m^2
Education	25349 m^2	116656 m^2	91307 m^2
Health	13491 m^2	31121 m^2	17630 m^2
Social	-5212 m^2	9336 m^2	14548 m^2

5.Conclusions

If not paid attention to the balance between different uses, the plan alterations cause pressure and heavy burden mainly on the urban greens together with social amenities, roads and parking areas.

In Trabzon, the existing 3.3 m2 green area per population standard is lower than the nationally set legislative standard, 7 m2 per population. (increased to 10 m2 per population in 1999), and the distributions of green over the planned areas of the cities should satisfy demand of population otherwise the city loose its liveability to some extend.

Another important consequence is the increase in housing area which is more than the demand for it causing pressures on the carrying capacities of infrastructures such as sewage, water supply, roads, etc. Plan alterations for solving small scale conflicts for the benefit of landowners also increase the population densities and plot ratios which put at risk of sunlight, air current in the areas where plan alterations are made.

Plan alterations for functional land use changes in the commercial areas-city centres (CBD) easily disturb the establish linkages and equilibrium, may result in loss of viability and liveability of the centre in the physical, social and emotional senses.

The procedures and processes of plan alterations are loosely defined, controlled by the planning regulations, compared with, for instance, British planning laws, codes and regulations (PPGs) are more strict and precise and follows rather lengthy process.

In summary, the plan alterations have been made with piece meal approach tiring to solve conflicts occurring during plan implementation. Considerable amount of land has been converted from all functional land uses to each other but conversion of land to residential uses is more practised and totalled to 22.8 ha. of land by increasing population densities and land use ratios and bringing much burden on the city's technical and social infrastructure.

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An autocritism of a premature (modern) architecture medium or the shanty "environmental design" praxis

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Introduction

Globalization in its own right, continues to distort the main discourse on how our new lives suld be; even in strive of producing a globalized opposition platform which seemingly sounds good for all. This in general, turns out to be foldingly perversive, tending to seek solutions for well established, centuries' old practices of countries in the thresholds of modernistic deterioration defined-to-be with its mass production, working classess, wild technology, (uneven and unquestionable) exploitation of resources, cultural homogenity, moral decline etc. Additionally, as is well known, having further phenomena and consequences on other parts of the world as cultural erosion, poverty, starvation, shelter problems etc.

Not to sound ideological or doctrinated, but the view in general is such. The rate of change has become so high in given parts of the world that we end up with scenes as aborigines wearing NY Mets caps, and even being fans of them, not having left much of their interpretation in the name of humanly standards, but being captured by high-tech TVs as latest news materials, whatever the occasion be. The problem should equally be taken intranationally as well as internationally. Therefore, what about the ones in between?.

Puristic environmental discourses when such circumstances are taken into consideration, turn obsolete for masses in need of realistic solutions on concrete problems, for some who are even unaware of, and for most even illicitly opposing of.

Such a case is the medium of environmental practice in post-war Turkey, especially developing after sixties.

Not one person is independent from the morality of forming our environment to its best, but actors taking part in the phenomenon did really deny legality in this country for a better environmental life. Not to mention about laws when citing legality because they were at times successfully twisted to legalize simply what was going on instead of serving a common reasoning. Consequently, it turned out to be an all-lose situation in the name of society. Because, we all lost ethics, aesthetics, vitality, reliance, synergy... and our *oikos* in the name of built environment...And a president came forth boasting about in an inauguration ceremony of a car factory erected in fertile lands that *"it is better than cultivating potatoes"*. He simply disregarded that when potatoes do not exist, we do not also.... Just as recommended by another one as *"Nothing would happen by penetrating the Constitution once"*... Another joyful comment of his was: *"...My officers know how to manage their lives..."*, in an attempt to excuse inexplicable earnings of underpaid public servants.

These are important milestones in describing country's state especially in seventies through nineties.

Under given context, a bizarre medium consisted of state institutions, developers, owners, commissioners, politicians, municipalities, mafia, contractors of all sorts, bankers gathered to become operative as if playing a distorted Shakespeare play:*"A Midsummer Night's Mare"*.

What did environmental designers as architects and others, their institutions as Chambers do in the meantime ?. Were they able to keep their chastitity and purity; in other words, were they able to withstand ?. The answer, alas, is discouraging. To continue with; does the same entity, if all, have plans for today, and for their roles on our common future? Do we have the control, or at least a share of it in designing our heritage for the generations to come ?. If answers are doubdful, which are, then we are in real trouble.

The Outcome: Arhitecture and Architectural Practice As Experienced

Today, not one person is content about the physical environment created by the social process; for process itself proved to be perfectly ill – oriented, which we now understand was purposefully and systematically steered by beneficiary groups stated above; contrary to our initial opinions on the people involved (eg politicians, bureaucrats, technocrats, investors, namely actors of the process) as being ignorant and indifferent to the issues. To say in short, they were not. The picture was clear and totally different, which could not be figured out looking from the ethic and idealistic point of view; just like the famous illusive old woman / young woman picture, which unveils depending upon one's

conceivem To further the metaphor, it more resembles a carpet bearing hardly any meaning from one side, but having a perfect look from the other. Acts and regulations on building, squatters, state contracts, were – and are – all manipulated to accomodate the daring. According to a research led in varous quarters of İstanbul, in one way or another 82 % of the surveyed buildings did not fit the bye-laws and regulations of the time they were built [1].

Furthermore, cities' physical appearances, or cityscapes are other interesting instruments to extract and follow the favours, advantages provided to the priviliged, mostly politically, if properly read. A high-riser or similar oddities may be located here and there, or even at rural outskirts, without any concern to the cities' historical, social, urbanistic, or functional qualities. In most cases, the building bye-laws are violated. İn others, mentalities are violated deliberately by changing the plans in contractor – developer swarmed city councils, regardless of their parties. It is well known fact that in Osmaniye, Adana the fault line passing through the city was carried away on plans from a luscious piece of land by city council decision [2]. It is also a well known phenomenon that after land mafia took over organizing squatting in suburban areas, growth rate of squatters ceased in comparison to earlier years of its propagation [3].

Under the circumstances stated above, architects (and engineers)

1. Were rejected and stripped by the government (employer) from their role of keeping rights and ethics against contractors (providers) as auhors and consultants,
2. Apart from real-sector clients and government which was kept staggering, had to serve either cloudy enterprises and relations of *nouveau-riche* [4], or the investments to bleach entirety gained through them. This was possible by establishing links with insiders in municipalities. This explains the being of architectural oddities described above with no recognized designs or art, no apparent artists, and even no apparent clients, everything being impersonated. This approach takes advantage of a former historical-cultural background of attitude towards artists [5]. And architects do not get disturbed of such a situation which otherwise, would not even dream of being commissioned for such a project.
3. Lost the public acceptance as artists-vocationals gained so far; but in reality never succeeded to have policies to achieve a higher position. Today, about two - thirds of the built environment have no authors as architects [6].

Were the architects only group to be responsible ?. No. In other words, everybody played their part in it. But to tell the truth, there were some contributions to this situation by general as,

1. The lack of a broader look on excellence of teaching; of architecture or architectural education in particular; still being a missing part of the general process. Excellence of teaching is and accreditation is only sought and applied in a way only to some architectural schools, e.g. foundation schools and schools in Northern Cyprus, and not to state shools [7]. The simple reasoning behind that is standard deviation is too high among state schools, a majority of them being opened under political pressures.

2. The lack of acceptance and accreditation of architects in the country, which means that anybody as an architectural school graduate may get registered to the architects chamber, open up an architectural office at their free will without further compliances, and start signing as great feats as they require. This caused loss of ethics in the name of supporting younger generations' competitiveness. Because it gave way to [8]
    a. Architects selling their signatures and rights to unauthorized hands,
    b. Cheap 'signature offices', gradually getting organized with the insiders in governing authorities as stated above, and lead to low profile, architecturally *unauthorized* formations holding control of incomparably greater pieces of the cake,
    c. Block the way to higher profile companies, corporate architecture and therefore competitiveness on higher levels because of lack of adequate aggregation and hierarchy in architectural work force.

    Unfortunately, the idea of supporting younger generations' competitiveness in this meaning is still favoured in the architects' chamber because of lame humanitarian thoughts, and more likely, sheer vote potentials.

3. A common understanding between the architects themselves, either as individuals or in the form of an organized entity. We are not talking solely about the chamber though, we should like it or not, it is the main figure in regulating an architect's life. Very many things happened in the course of time especially since the seventies, but putting forward the legacy is more important:
    a. Politicizing in and around vocational affairs. Disintegration due to real politics. Reciprocal discrimination between the members.
    b. Putting social problems in front of architecture. At times, this even lead to disregarding architecture and practical problems of being architects.
    c. Syndicalism. Totalitarian approaches to solutions. Forgetting differences.
    d. Lack of communication with others (with governmental institutions, rest of the society, members etc). Alienation.

The Present Day Situation: Decrees nos 595 and 601

Last but not the least, the shanty structure described up to now is revealed to all once more by a catastrophe, the series of earthquakes starting by August 17 th, 1999. Enormous losses encountered nationwide caused the government to release two decrees, Nos 595 and 601 respectively; first one attempting to change building production mode in the country; second one attempting to reorganize the achivements of architects and engineers, especially on training young graduates' practical skills; unfortunately not in wholistic manners, but as partial approaches [9][10].

Decree No 595 takes the power and authority on building control from municipalities to private engineering offices established by 'authorized' [11] (as equivalent of being 'chartered or 'registered',) engineers and architects on behalf of Ministry of Public Works and Housing covering 27 cities in highest degree of earthquake zones. This is highly confusing; because bringing different practices and creating zones may even lead politicians to change city borders and manipulate geological maps under given ethic conditions as exemplified above [12]. On the other hand designers and especially architects are excluded from the building process which is hard to understand on who will steer and handle, furthermore keep faith to aspects like royalty rights and authoring during constructions. Alas, Ministry of Public Works and Housing is used to such practices.

Decree no 601 defines training of architects and engineers and the'authorization' process itself which could be described as equivalent to 'chartering' or 'registering' in the UK or USA, but in fact falling far from it. Strange enough, 'authorization' is not oriented to cover and institutionalize the design aspect, and leaves it open.

Designing The Future

Given the praxis itself, what should be done is not an unknown. The paper itself addresses what to do by criticizing the developments. There are things to be done as citizens, politicians, actors of the social process first of all on ethical basis. One day, people has to wake up by deciding to obey the rules put forth by themselves, start working sincerely and try to understand each other. It is obvious that we are living a social AIDS. And getting rid of the syndromes after all acquired deficiencies is not an easy task. Need for a change program is obvious. First steps could be something like these:

1. Architects has to start developing an understanding on themselves. First they have to be conscious about themselves, their identity, what they are doing, their functions, their quality of services. Leave complaining about the community being incomprehensive towards their mission, and start explainng themselves. Redefine everything from the scratch.
2. .See the perspectives, reorganize architectural training as life long education. Devise ways to teaching excellence.
3. Accreditate architects, encourage aggregation in the favour of a stronger structuring and competitiveness.
4. Work for a more decent legal framework. Be constructive and devise communication ways with governmental institutions and the public to achieve solutions.

Then it may be possible to debate on a more viable system for a livable environment as architects.

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Participation in planning and livable environment

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Abstract

This study aims at understanding the behaviour and perceptions of the individuals for participation in planning regarding to their individual and social properties, and at evaluating the differences between the individuals who think of living in a livable environment and those who do not.

The area of study was chosen as Trabzon. By a questionnaire, the individual, spatial, physical, social peculiarities of the individuals were evaluated.

It was found that education, level of income, membership to associations had an impact on the behaviour related to participation in planning.

The individuals who accepted their environment and city livable were those who were living there for a long time, and those who were living there for they loved their city. And these individuals had a much more positive attitude for participating in planning.

We conclude that an increase in the level of education and income may lead to an increase in participation in planning. We also conclude that livable environment and participation in planning may affect each other in a positive manner leading to better environments.

Introduction

The concept of public participation within planning had a rapid change in the second half of the twentieth century (Rydin, 1999). Today, it is clear that land use planning and community design decisions need the participation of the residents (Francis, 1991; Cohen, 1997). The examples of participation within planning are often met in developed countries for decades, and have been legally supported (Rydin, 1999). The sponsors of the proposed projects and the public inform and understand each other to approve the project (Cohen, 1997). But the word participation not only consists of the public but also the authorities and the community agencies (Rydin, 1999; Liverpool City-Living Streets Project, 1999). This participation leads to the identification of the social and cultural needs of the community, improvement in communication within community and between community and agencies and this participation improves the urban environment to a more livable one in which the community lives everyday (Liverpool City-Living Streets Project, 1999). In our region where participation within planning has to be improved, we designed a study aiming at understanding the behaviour and perceptions of the individuals for the participation within planning regarding to their individual and social properties. And also we tried to evaluate the differences between the individuals, who think of living in a livable environment and those who do not.

Method

This study was conducted on Trabzon. Random sampling method was used in order to find out the sample families (n=300). These families were accessed via the high school students of the subject families. A questionnaire, questioning the individual, spatial, physical, social peculiarities and the tendency in participation in planning, was applied. The questionnaire consisted of 44 questions collecting data for 54 independent variables. As individual peculiarities, the age, sex, education, profession and level of income were asked. As spatial peculiarities, property was asked and the stay period in the current region and the current city were noted. Also physical and social properties of the lived environment and the perceptions of the subjects were noted, social relations within the microenvironment, the reason to live in that specific area and in Trabzon and membership to associations were recorded. The perceptions of the subjects about their role as participants were also questioned and their desires about participation in planning were noted. The properties of the individuals, found to think that they were living in a livable environment, were compared to the properties of the others.

Data were processed using a personal computer by means of SPSS (v.8.0 for Windows) software. To evaluate the data, tables were formed concerning two variables and chi-square test was used for statistical analysis.

Findings

No significant differences were found for some individual properties such as sex and age in the tendency in participation in planning. Property ownership and physical and social properties of the lived environment were not found to alter the tendency in participation in planning.

It was found that education and the variables explaining participation in planning had significant relations. The subjects who had completed a high school (or subsequently a university) were found to be more predisposed to participation in planning as to be active in the management of the urban environment or to desire to collaborate (X^2=22.64, sig.=0.004). The subjects from a lower education level such as primary school were reluctant in the topic.

The level of income and participation in planning were found to have some association. The individuals from a very low-income level were found to be very reluctant to be in a probable consultation meeting (X^2=22.78, sig.=0.049). In

other words, approximately 80 % of the subjects from a very low-income level never wanted to be in a meeting to discuss for the urban environment. But the individuals from higher income levels wanted to be in such meetings regularly to discuss for their city.

Membership to one or more associations was found to have a positive correlation with the tendency in participation in planning. Members of associations were more prone to collaborate in the management of the city (X^2=13.68, sig.=0.001).

Members of some profession groups such as merchants were also found to be apt in participation in planning.

The individuals who were living in their neighbourhood for a long time and who were interested in their neighbours and who were living in the current city for they loved their city were the individuals that accept their environment and city livable. And also these individuals were found to be participatory in behaviour. Those who were living in the same neighbourhood for a long time wanted to participate in planning and voluntarily work for the city (X^2=13.23, sig.=0.063). Figure 1 shows the increase of this desire by the period lived there.

Being interested in neighbours and participation in planning and desire to voluntarily work for the city had significant correlation (X^2=11.79, sig.=0.008). Figure 2 shows how the individuals had an attitude in voluntarily working for the city, if they hasten to help their neighbours.

When the reason for the stay in Trabzon was investigated, those who expressed that they loved the city were the ones that accepted their environment livable and that wanted to be in meetings continually to discuss for their city (X^2=32.35, sig.=0.001). Figure 3 shows that lovers of the city were liable to be in the meetings.

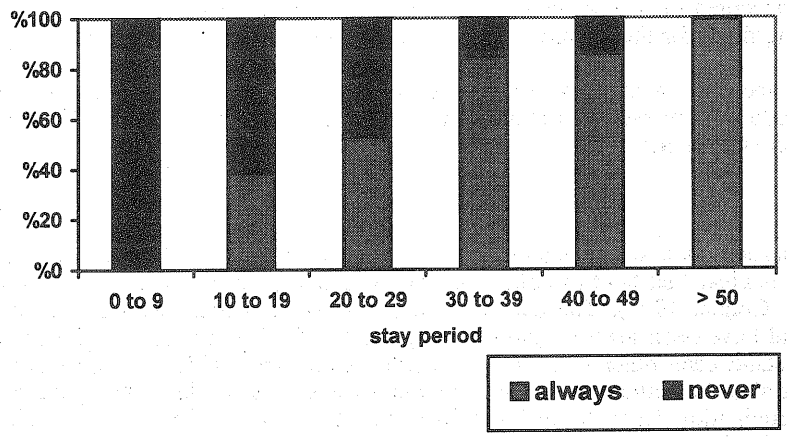

Figure 1: The desire to participate in planning and voluntarily work for the city to the period lived

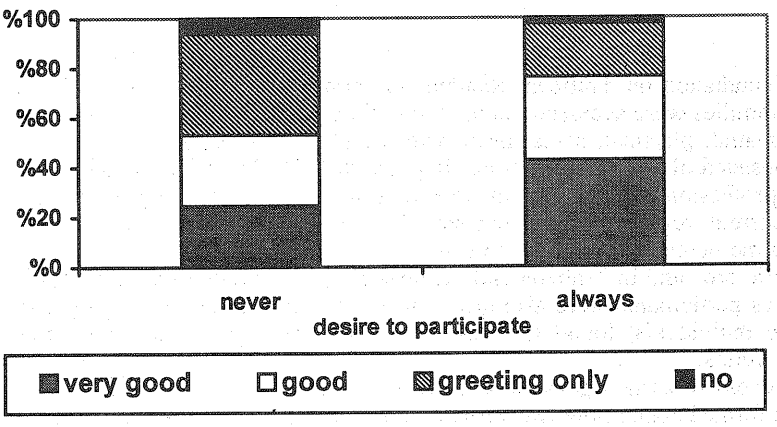

Figure 2: The effect of neighbourhood relations to the desire to participate in planning and voluntarily work for the city
(very good: individuals with strong neighbourhood relations,
good: individuals knowing each other in the same neighbourhood,
greeting only: individuals with few relations with the neighbours,
no: individuals living apart from their neighbours)

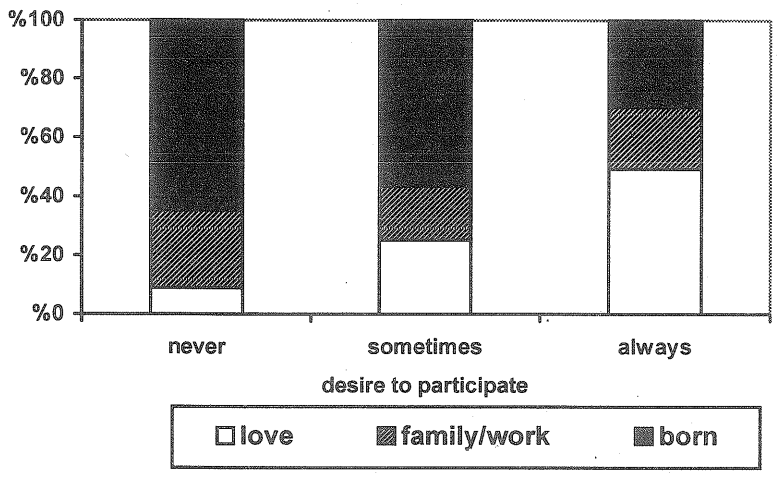

Figure 3: The reason for the stay in Trabzon to the desire to participate in planning and voluntarily work for the city

(love: those who expressed their love to the city as the reason
family/work: those who lived in Trabzon related to their jobs
born: those who expressed they did not want to leave the city of birth)

Discussion

John Shute, in the sixteenth century stated: "A city ought to be like the human body and for this reason it should be full of all that gives life to man.". Beside this similarity, it must be kept in mind that central to the study of urban design is man, his values, aspirations and power or ability to achieve them (Moughtin, 1999-a). And it is neccessary where people can freely express views about the problems in their neighbourhood, suggest ideas for its development and become involved in the management of their environment (Moughtin, 1999-b). The word participation as defined in Skeffington report is the act of sharing in the formulation of policies and proposals (Dennis, 1972 a).

Public participation has been a consistent preoccupation of the planning system in the UK (Rydin, 1999), and is similar in both the USA and the UK beyond some differences (Callies, 1999). Participation in planning helps in removing suspicions (Dennis, 1972-b). Misinformation and misunderstanding can be avoided. Participation will help people establish an ongoing attachment to their environment, modify their environment to fit the changing activities and needs. Participation allows people to involve themselves directly in the creation and maintenance of neighbourhoods and urban centers. Participation in planning can have an important impact on a person's development and improve his or her competence in other aspects. On the other hand, participation contributes to a sense of local control and responsibility (Francis, 1991).

Public participation in the process of design and implementation is a key factor in the definition of sustainable development (Moughtin, 1999-c), and is a method to use the community to create places, which promotes livability, in other words, to improve the livability by exploring, consulting and working with people that live there. The success of livable environments rests on the active engagement and responsibility of all participants which mean all residents and the authorities (Liverpool City-Living Streets Project, 1999).

Our findings showed that for an individual to be more participatory correlated with the education and income level of the individual. Membership to associations was found as an other factor, suggesting the democratic form as a key to participation. The authorities dealing with the fact should observe these points to improve the participation of the public. On the other hand, it was found that people who thought that they were living in a livable environment presented a much more participatory behaviour. It was known that participation may lead to livable environments but our findings showed that livable environments lead to participation in planning may also be true.

As Moughtin stated, to facilitate the active participation of communities with the planning and development of the environment requires a whole range of approaches and a full menu of techniques. These approaches are likely to vary with type of political and administrative system, the spatial unit being designed, the current mode of planning and the stage in the design process. Citizen participation is maximized when there is a democratic form of government with high participatory levels in many fields of administration, where much of the decision making is decentralized and where the form of planning is incremental in style. Even in such an ideal situation the greatest levels of participation could be expected to occur at the small scale of the group of families in the street, or the small community occupying a small neighbourhood (Moughtin, 1999-a). We conclude that livable environments and participation in planning may facilitate each other, and in a region where participation in planning has to be improved, the authorities have to show active engagement and have to lead active engagement of the citizens to improve participation of the public within planning and they have to consider that creating more livable environments may help people establish a more participatory behaviour. And it must be expressed that the idea about new probable institutions to consider challanges to planning decisions has to be reevaluated.

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An ecological analysis of traditional mud houses in Cyprus

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Abstract

Cypriot vernacular reveals herself in the earth structures of the island which are mostly found in the rural areas of the country, in the form of community housing. These houses used to be designed making best use of local and natural materials - stone, earth, straw and timber- topography and climate. These local materials were biodegradable and could be reused after finishing their life-cycle.

Houses were built by local builders where community always showed a participation in the process. The internal layout of houses were defined by the nature of materials used. A typical housing unit consisted of rectangular rooms organised around an internal courtyard. Bedrooms and living rooms were designed in east-west direction to avoid the mid day sun and catch prevailing
winds.

The research will be supported by a case study chosen from one of the rural settlements of the island. The selected house will be analysed by the help of photographs, site visits and interviews. Inside and outside air temperatures will be recorded for a period of time to obtain comfort readings. These data will be supported by interviews and observations from occupants.

The conclusion we hope to arrive is such that mud housing provided comfortable environments to live in and respected nature by helping out the maintenance of natural ecosystems on earth.
KEYWORDS: Design with climate, design for health, design for reuse, design for low environmental impact, community participation.

1.0 INTRODUCTION

Sustainability is a term that has gained much reputation recently in the world of architectural disciplines. In broad terms, this word means; 'meeting the needs of the present without compromising the ability of the future generations. As architects and users we all have a shared responsibility in using these resources. This is best achieved by understanding ecology, how ecology of systems work and interact with each other, the impact of ecology on architecture and vice versa.

Ecological design which is a sustainable philosophy is concerned with the interaction of ecology and architecture. It is about 'energy and material management where the earth's energy and material resources are put together by the designer into a form, then demolished at the end of its life either recycled within the built environment or assimilated into the natural environment. This attitude to energy and material resources is best expressed in the buildings of vernacular architecture. Therefore, in search of key principles, one should concentrate on vernacular examples in history of architecture where buildings were always designed and constructed in harmony with nature.

The second chapter of the research enlightens the reader about background information and purpose. Chapter three explains design and methodology of the research. The fourth chapter is the case study where site, house and lifestyle of the occupier are observed and analyzed in detail. This is supported by interviews, climatic data, drawings and photographs collected over a period of time. The final chapter is the conclusion where key findings are discussed.

2.0 BACKGROUND AND PURPOSE

In this new field, whether it is called ecological, sustainable or green architecture, it is traditional to look at vernacular examples in architecture to obtain key principles for modern applications. Following these principles, the research aims to strengthen this connection between ecological and vernacular architecture, this is why a vernacular case is taken as the subject of the research study.

2.1 IMPORTANCE OF ECOLOGICAL DESIGN

Ecological or green design in other words gained importance in 1980s when public awareness of environmental problems reached its peak point. 'This public awareness combined with the statements made by politicians, who increasingly had to be heard making the right noises,
especially after the Green Party in U.K won the elections to the European Parliament in 1989, opened a discussion base for green architecture. In the last decade, sustainable developments offering ecological design solutions at both urban and building scale gained acceleration.

2.2 WHAT IS ECOLOGICAL DESIGN?

'Ecological design is the concept of ecosystem itself consisting of biotic and abiotic elements acting as a whole. It requires an understanding of the environment, particularly the site we build on. Therefore, 'it is important to approach the design process from a holistic point of view, evaluating consequences of; if we build, where we build,

what we build and how we build. Although there are no strict rules to follow, we may say that there are some basic principles which can be considered as guidelines which requires an understanding of;
1-the resilience of the natural environment and its limits
2-biodiversity
3-the interaction between ecological systems and their maintenance
4-the designed system's physical life cycle
5-the idea of holism in design

2.3 SIGNIFICANCE OF A CYPRIOT VERNACULAR CASE

Cyprus is a hot Mediterranean island with long hot dry summers and short cold winters. It has two distinct mountain ranges, Kyrenia and Trodos, with a flat plateau in between called the Mesouria plain. The climate and geography of the island gave birth to Cypriot vernacular as earth or mud of which one is analysed here in detail.

Although earth or mud houses exist in other countries, the importance of a Cypriot case lies in the fact that as Cypriot residents, they were at a reaching distance for us but secondly and most importantly there aren't much research on the subject. The vitality of these reasons are such that they reflect a sustainable thinking. Therefore, purpose of the study is to look at an ecological settlement and analyse it in terms of energy and material resources.

3.0 METHODOLOGY

The methodology for the research is;
1- Establishing contacts, either by the help of interviews or recorded documents for the search of sustainable communities in rural and urban areas throughout North Cyprus.
2- Finding locations of such settlements by site visits
3- Evaluating these locations
4- Selecting a building for the case study which demonstrates most of the ecological principles explained above
5- Taking measurements on site for scaled drawings
6- Interviewing occupiers
7- Recording daily temperatures for a period of time for comfort readings
8- Assessing findings to draw a conclusion

4.0 CASE STUDY

The case study is chosen from one of the rural settlements of the Mesouria plain. This is a small village of 250 inhabitants called Kalavaç.
Compared to most other settlements, this is a place which still retains its character where there are not much new additions. It is located on the southern slopes of Kyrenia mountains overlooking the Mesouria plain. (fig.1) It is situated 32 km north-east of Nicosia and is at reaching distance to cities of Famagusta and Kyrenia by car.

Inhabitants mainly earn their living from stock-breeding. Due to having little water and sloping sites the area is not suitable for agriculture. There is an abundance of olive trees.

The site has good solar access due to its location on the southern slopes which also provides shelter from northern prevailing winds.(fig. 2) On the east of the site there is a two- storey housing block. The west side is open to western winds, only partially sheltered by attached housing blocks. The house has a good view of the south, the village and the Mesaouria plain.

4.1 OCCUPIERS AND THEIR LIFESTYLE

The house is owned by a 75 year old lady, Ayse teyze, (fig.3) who first moved into the house around 50 years ago. The house itself is estimated to be 70-75 years old. Initially it was occupied by her, her husband and their five children, but today she lives there on her own.

She leads an ecological life, washing her clothes by hand, cooking her own bread, weaving cotton and making baskets. She has a stable for raising sheep, goats and chicken. She relies on the income she receives by selling these products. For an extra profit, she collects olives from her grove and sells them to friends and neighbours.

Fig.1 A view of the village showing the house

Fig. 2 North elevation of the house
Fig. 3 Ayse teyze, the occupier

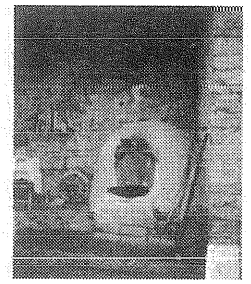
She is a very active woman spending most of her time working indoors. She uses the porch area during the day throughout the year. In winter she uses the living space to work and sleep.

4.2 INTERNAL LAYOUT OF THE RESIDENCE

Being located in a mountainous area, the house is designed to make best use of the topography. This allows the house to have different entrances for varying purposes such as an entrance for people and another one for animals.

The house is approx. 100 m^2 where only half of it is used for accommodation needs of the occupiers. (fig.3) As the owner earn her living from stock breeding much of this area is used as stables and storage areas for straw and grain. These rooms face south and are partially earth sheltered at north. The kitchen is located next to the store and porch and has only a small opening for ventilation purposes. The living room is on the ground floor designed to receive little of the mid-day sun in summer. Unlike semi-closed stable which has no windows,

kitchen and storage areas have multiple openings to provide well ventilated space for comfort of the occupiers. It is used both as a sleeping and working area by the occupier both in summer and winter. The upper floor originally designed as a bedroom is now only used for the guests. The flat roof tops are used as sleeping and resting places in very hot days of the summer.(fig.5) The hall and internal courtyard are two places where most of daily activities take place.(fig.6)



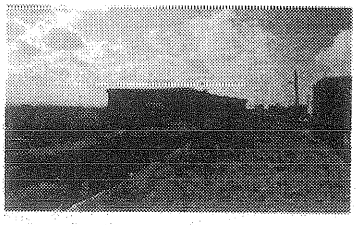


Fig. 5 Roof tops used in summer
Fig. 6 The earth stove

4.2 MATERIALS AND CONSTRUCTION

Earth, straw, timber, stone and gypsum are the materials used in the construction of this house. Earth, the most plentiful resource of the region, is used as the main raw material to produce earth-bricks for the load bearing walls of the house. These bricks are produced from a mixture of earth, gravel,clay, water and straw and binded with grass or hairs of livestock to increase their durablility. This mixture is then used in a number of ways as bricks, mortar and plaster. Timber is also used widely in this building for the roof beams, doors, windows, lintels, stairs and balcony. Roof joists are from juniper trees and they are covered with oleander branches and reeds. The other constructional material is stone which is very common for that area. It is used in the foundations, walls and floor areas. The way it is laid and cut shows that it is easier to work with than most other stones found in Cyprus. Gypsum which is obtained locally is used as a raw material to produce plaster for renderings of internal and external surfaces of the house. Plaster being a durable finishing material helps to keep walls dry increasing the life-cycle of earth walls.

Although the house survived wonderfully without much maintenance, the floor of internal garden and the roof of upper floor had to be redone. The stable wall had to be reinforced structurally to prevent its collapse. External wall coatings need to be replaced as they fell apart. The wooden shutters have recently been changed. Accacia branches on the roof of the verendah turned black due to burning hearth underneath. (Fig. 6)

5.0 ECOLOGICAL ASSESSMENT

The house was analysed in terms of its approach to energy and material management.

5.1 ENERGY USE

In order to minimise energy demand, location, siting, orientation, internal layout and thermal standards of building fabric are essential points to be considered. Therefore, the initial concern is to look at energy saving features.

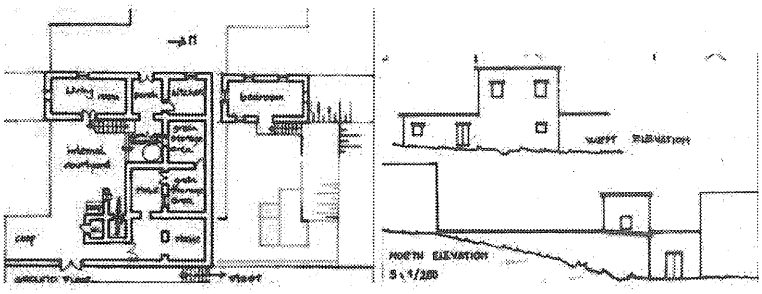


Fig.4 Plan and elevations

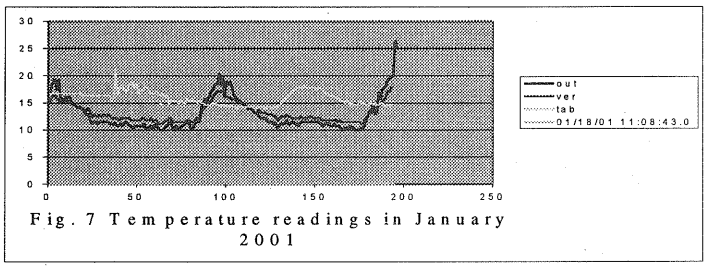


Fig. 7 Temperature readings in January 2001

5.1.1 ENERGY SAVING FEATURES

1- Compact forms were used in the design of the house reducing wall perimeter area exposed to external forces. These forms also provide maximum sharing of walls, floors and roof reducing the amount of material to be used, thus incresing thermal comfort of the spaces.
2- Orientation of the house was organised in such a way to maximize exposure to sun where required and minimize exposure to prevailing winds. For example, mid-summer sun is avoided from two storey living unit by exposing less of its wall perimeter to sun.
3- A zoned system was used in planning to initiate use of different spaces throughout the year.
4- Living room and bedroom walls are high with multiple openings for cross ventilation whereas stable is lower in height.
5- Roof space can be used for multi-purposes. i.e. sleeping and resting and drying seeds and grain.
6- 50-60 mm earth and stone construction provides thermal capacity for storing heat and this improves the comfort levels.

In order to get data for thermal comfort, the house was monitored for a period of two days starting from 18/01/2001 at 11:00 a.m and finishing on 20/01/2001 same time. (fig.7) External and internal air temperatures of stable and semi-open verandah were recorded.

The semi-open space faces south and rest of its perimeter is enveloped by the house. The readings of this space ran parallel to that of outdoor temperature recordings but showed less fluctuations. This shows that in warm temperatures this space is cooler whereas in cooler temperatures it remains warmer than outside.

The other chosen space, the stable, was occupied by 10-20 animals when temperature readings were taken. Throughout the recording period, they were not taken out of the stable. This space is a stone extension p: :nclosed by a courtyard from the south side. Depending on the le raised during the day but droped below outdoor temperature during the night (23:00p.m-12:00a.m) when there was no activity.

Figure 6: Plans and elevations

7- No extra heating is used indoors, only rarely, due to the level activity performed by the occupier.
8- The house provides space to work at home.

5.2 MATERIAL MANAGEMENT

This can be viewed in terms of:

5.2.1 RAW MATERIAL PRODUCTION

In raw material production, land needs, energy consumption, transport costs, renewable or non-renewable sources of supply, waste produced, community disturbance and pollution are factors to be considered.

This house is made of earth, straw, stone, timber and gypsum where;

1-Earth is found on the site . No energy is spent for its production and transportation and it can be considered a renewable material.

2-Timber is obtained locally but is a scarce source of the island. Timber used in the building comes from softwood trees found locally.

3-Stone is used from local sources. Altough the energy required to produce it is generated in geological times and it is available locally, there is still an energy requirement for quarrying and working the stone. Quarrying activities have environmental impacts and result in health risks. Stone is a green material in this case because it is used locally. It is highly durable and can be recycled. It has high thermal capacity and creates employment for skilled craftspeople.

4-Straw is a waste material and is recycled to become a brick.

5-Plaster is produced from gypsum which is found locally. It involves energy intensive manufacturing processes, extraction and transportation of its raw material has environmental impacts.

6-The end product mud-bricks are prepared and dried on site with community participation. Human and solar energy is required for its production.

6.0 CONCLUSION

In discussing the concept of ecology in architecture, it is a wise decision to glance back to the vernacular architecture for some clues.

Ecological architecture is the art of creating living and healing environments which do not harm the Earth and its occupiers and this means vernacular. 'Anything living is known not by what it appears to be but what it does and responses it gives to the environment'.[6] *In that respect, earth buildings with the way they*

1-Use their land
2-Touch the earth
3-Breathe in and out
4-Educate their occupiers
5-Decompose back to nature or gain life in another building with one of their components
6-Enrich souls
remind one of a living creature.

However, in ecological architecture both users and designers should have a shared responsibility in creating such environments because architecture is for all of us.

As far as the case study is concerned, it may be deducted that this mud-brick house is designed with respect to climate and nature, We may say that the micro-climate and availability of local materials are the main factors defining the form of the house. Maximum accommodation was obtained using minimum area. Energy is used at its minimum and waste is recycled as much as possible. Considering the construction process of the house, the embodied energy, grey and induced energy was kept at a minimum. The operating energy is low due to passive solar design features and occupiers lifestyle.

The house and its occupier can be considered ecologically benign with the respect they show for their environment.

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House and its surrounding within the context of livable environments

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Abstract
Ever since the ancient times supreme goal of the building work has been to provide people with shelter. At the beginning human beings constructed shelters in order to protect themselves against natural phenomenon. Throughout history, housing has undergone a process of change. The main reasons for these changes were wars, migrations, population increase and industry-based occupational draw of industrial cities. Also changes in family structure had a tremendous effect on the physical and functional structures of houses. Detached traditional house have been replaced by apartment blocks. Moreover, rapid development of cities and the population flow from rural to urban areas led to the shortage of urban land and high-rise apartment blocks became inevitably necessary . As a result of this, there has been an incredible increase in the number of apartments and the housing needs of people have been solved in this way. The dominance of apartment blocks overloaded the existing cities. This situation aggravated by the lack of state subsidy for necessary infrastructure gave way to both socially and physically sick settlements.

The focus of this paper will be on the houses where people live and meet their needs of shelter and how they deal with the apartment blocks particularly as they are the dominant constructions. The physical problems which appear during use of the apartment blocks will also be dealt with in this paper and the functional problems stemming from different needs of users will be specified.

In addition to the complaints of the inhabitants of the apartments, the physical aspects of these buildings will be also be treated in detail by taking into consideration the identity communicated by the elevations. The mass and void of the exterior elevations and their style, rhythm and balance will be studied.

Also the physical changes, resulting from different functional needs and particularly their reflections at the exteriors which reflect with respect to balance and unity will be examined and possible solutions will be suggested.

Introduction

Since the ancient times the building construction came into use in order to meet one of the most basic necessities of human beings, the need of shelter. At the beginning houses merely functioned as a shelter. Later on the urge to organize it created the term "function" and consequently this very concern has brought about another term "aesthetic concerns" (Ustaömeroğlu, 1998). From the times when people created shelters for themselves to our day the process of housing has changed radically. Meeting the need of shelter has been transformed into an art of creating shelters and architectural designs have progressed by using elements such as function, aesthetic and technology together. (Ustaömeroğlu, 1998)

The building construction, which consisted of single floor structures initially, has changed a lot, meanwhile. Also, the physical forms of the houses have undergone changes parallel with cultural intercourse and trades. It has been shaped by wars, migrations, rapid population growth and changes in social life and family structure as well. Large traditional houses which accommodated extended families once have been reduced to small flats due to the concept of nucleus family.

Later, the rapid growth of cities, the population blast and migrations from rural to urban areas caused the production of multi-story buildings, which are called apartments.

Apartments which meet the needs of shelter of many people in Turkey presently, are the dominant building structures (Balamir, 1994). The tendency to such structures is not due to the true preferences of the users but because of the of monitory power of the users and the lack of urban land, which has adequate infrastructure.

One of the major reasons underlying the rapid progress of cities is that the new roads have been constructed and new lands have been opened to construction. Thus, the lands which were once shanty towns or agricultural lands have been transformed into new residential areas. The owners of the agricultural lands are now also the owners of these new apartment buildings. Thus, now people from various socio-cultural status are obliged to use common areas and live in the same apartment buildings. The owners of the lands had to adapt themselves to this new living spaces.

In this paper, the social aspects of adaptation has been deliberately ignored and only the physical changes implemented in the apartments, which the users made due to their unmet functional needs and their reflections will be discussed.

Goal

The aim of this study is to evaluate aesthetic characteristics of the apartment buildings and to pinpoint the changes made within the apartments by the owners themselves and thus to focus on the extent of the influence of this practice on the elevations of the apartment buildings and finally to urban silhouette. The goal of this endeavor is to suggest ways to cope with this situation.

In pursuit of this goal, apartments which have undergone transformations will be selected; the changes made will be studied; and how these changes are felt at the exteriors will be demonstrated so as to elaborate on their Gestalt effects.

Case study

Tanjant area, which extends from the west to the east of Trabzon has been determined as the site of research. The construction of Tanjant road begun in 1985 in order to solve the traffic problem in Trabzon; and the west part of it has been completed and the construction is still continuing towards east. New apartment buildings have been built in the western part of tanjant and they are
scattered on an area of 2 Km long along both sides of the Tanjant Road, front elevations facing the road. All those apartments, whose elevations have been transformed are included in the research.

Method

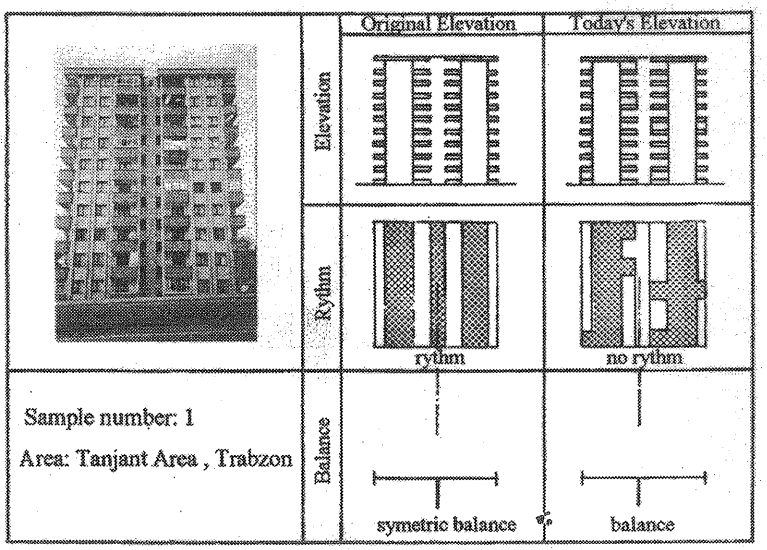
The method, used in this study are survey and observation. The survey, which was conducted face-to-face by the users, included the depiction of the number of people living in the houses, the changes made in the interiors of these houses; the reasons of these changes. The aesthetic consequences of these modifications and changes were determined by means of observations focused at the exteriors..

Evaluation

The study progressed in two steps: In the first step, all the apartment buildings whose elevations had changed physically were photographed. Later, in order to compare the original elevations of the buildings with their new forms, the extent of the changes in the aesthetic qualities of the elevations were charted. By creating tables, the original and the new forms of the elevations have been compared in terms of rhythm and balance, particularly and discussed in terms of aesthetic principles. Although all the new buildings which had undergone changes have been photographed and all the changes in rhythm and balance of have been depicted, only the ten of them, randomly chosen, have been discussed by means of tables in matrix form due to the pressure of time for this congress. The rows of the matrix, created for each sample building have been organized in such a way that the building elevation forms the first row, the rhythm forms the second and the balance forms the third row. Duly, the columns of the matrix have been organized in such a way that the original state of the investigated building forms the first column and the new appearance forms the second column.The abstracted drawings of the samples, in the first row first column shows the original state of the building elevation, the new exterior is on the first row second column.

The followings steps have been taken in order to form the second column of the matrix that shows the rhythm of the buildings: Since there is not any significant change on the ground floors, the rest of the elevations have been studied. Masses are darkened and voids are left as they are both at the original and transformed elevations. The forming of the third row that shows the balance achieved at the exteriors the balance axis is added onto the abstract drawings of the original and remodeled elevations. According to this balance axis, the original balance state of the building is compared with the transformed state of balance (Table1-Table10) and the effects of changes altogether on the aesthetic quality of the buildings have been discussed.

Table 1. Sample number 1



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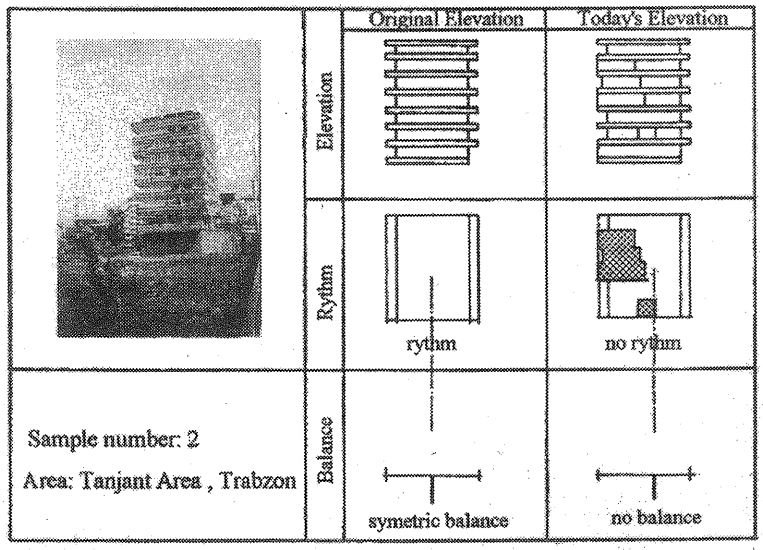

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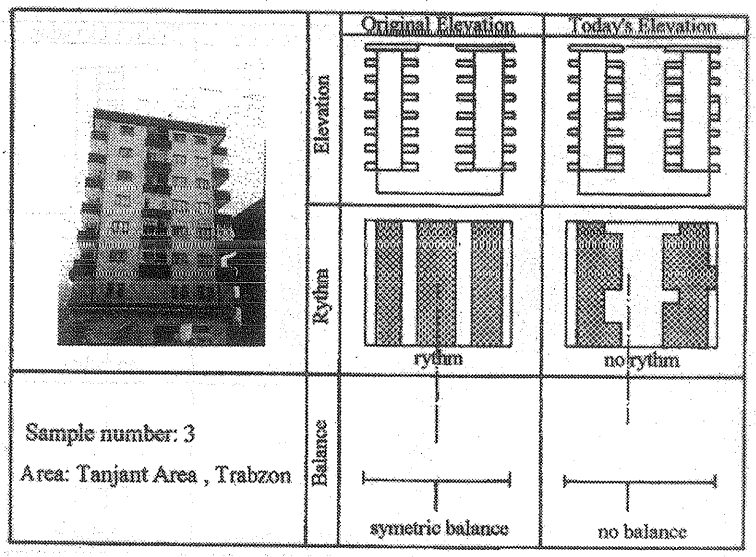
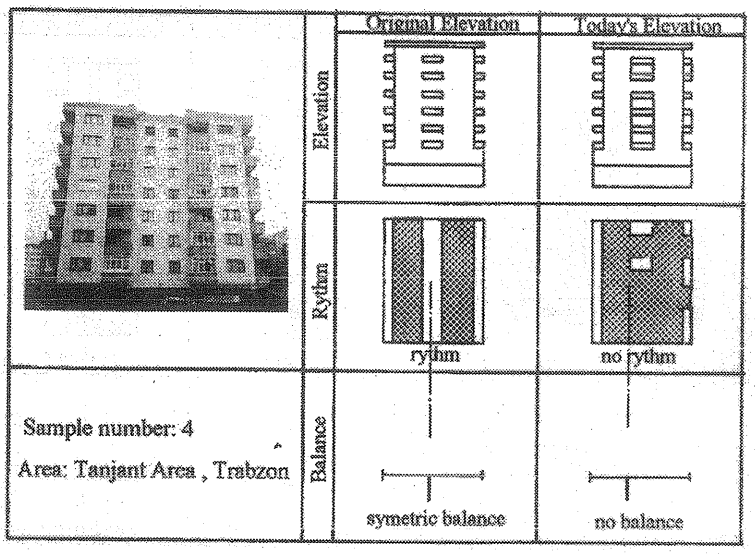


Sample number: 3
Area: Tanjant Area , Trabzon

Table 4. Sample number 4



Sample number: 4
Area: Tanjant Area , Trabzon

Table 5. Sample number 5

Sample number: 5

Area: Tanjant Area , Trabzon

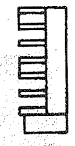
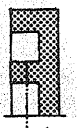
	Original Elevation	Today's Elevation
Elevation		
Rythm	 no rythm	 no rythm
Balance	 asymetric balance	 no balance

Table 6. Sample number 6

Sample number: 6

Area: Tanjant Area , Trabzon

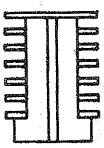
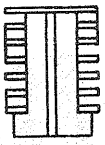
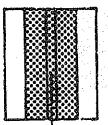
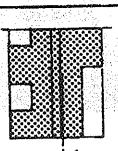
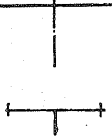
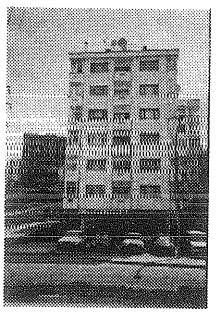
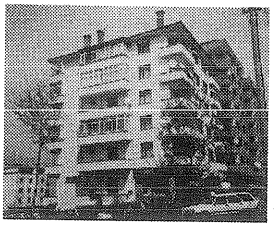
	Original Elevation	Today's Elevation
Elevation		
Rythm	 rythm	 no rythm
Balance	 symetric balance	 no balance

Table 7. Sample number 7



		Original Elevation	Today's Elevation
	Elevation		
	Rythm	rythm	no rythm
Sample number: 7 Area: Tanjant Area , Trabzon	Balance	symetric balance	no balance

Table 8. Sample number 8

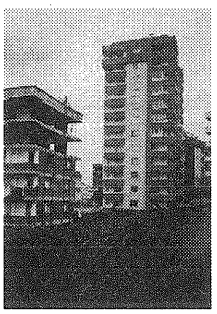


		Original Elevation	Today's Elevation
	Elevation		
	Rythm	rythm	no rythm
Sample number: 8 Area: Tanjant Area , Trabzon	Balance	symetric balance	no balance

Table 9. Sample number 9

		Original Elevation	Today's Elevation
	Elevation		
	Rythm	no rythm	no rythm
Sample number: 9 Area: Tanjant Area , Trabzon	Balance	asymetric balance	no balance

Table 10. Sample number 10



		Original Elevation	Today's Elevation
	Elevation		
	Rythm	no rythm	no rythm
Sample number: 10 Area: Tanjant Area , Trabzon	Balance	asymetric balance	no balance

In the second step, the users statements of rationale for the physical changes made on the elevations of the buildings were determined through interviewing the randomly chosen thirty families whose apartments had undergone above-explained changes (Figure 1-6).

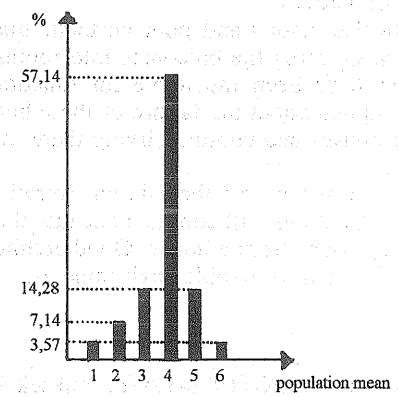


Figure 1. Household population means (%)

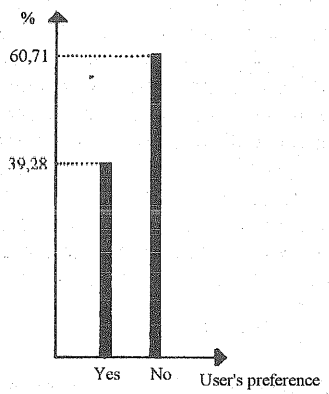


Figure 2. Satisfaction of needs (%)

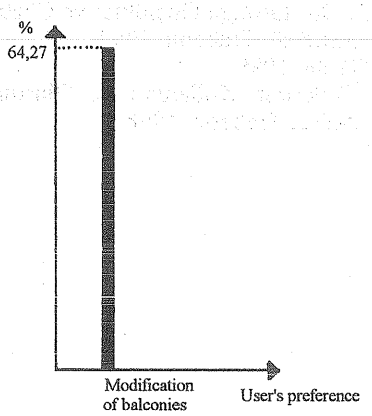


Figure 3. General transformations (%)

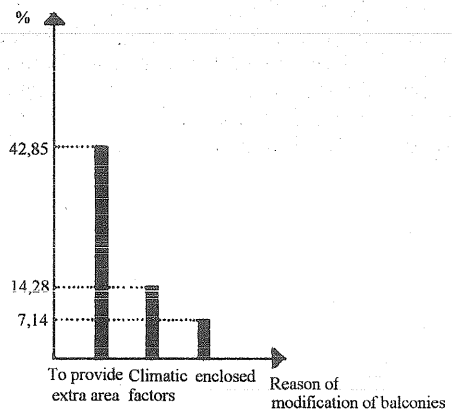


Figure 4. Modification of balconies

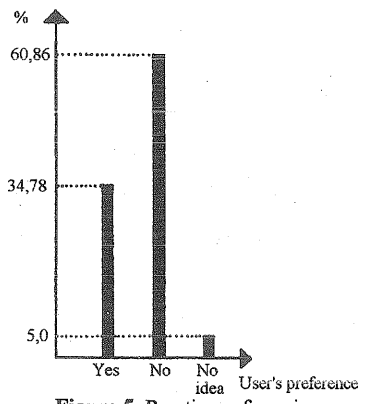


Figure 5. Practices of moving into another house (%)

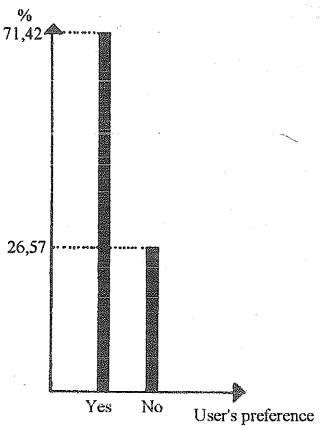


Figure 6. Negative interrentions (%)

Results

In our country, the housing problem, is treated in terms of quantity rather than quality. Although failure to meet functional needs of the people is of prime importance the aesthetic quality is unalienable.

The researches who focus on housing propose flexibility and adaptability in order to produce solutions adaptable to the different uses of families and to social and cultural changes occurring over time (Gür, 2000) insensitive practice continues (Onur, Bayraktar, Sağlam, 1999). As a result of this, users try to organize their houses according to their wishes and needs, sometimes adding new rooms or removing the walls of their houses.

According to the evaluations above; % 60.71 of the users said that their houses didn't meet their needs fully, and % 64.27 turned their balconies into rooms, and even this satisfied only the % 42.85. They needed more space.

In these standard houses, such activities as fruit or vegetable conservation or pickling and storing have been completely ignored and this led people to turn their balconies into room or gardens.

When these changes are reflected on the outside they yield uncontrolled results and poor aesthetic quality. In our study, % 71.42 of the users accept that the physical changes such as transforming the balconies into rooms or gardens corrupt the aesthetic effect of the building, adding that these changes have been inevitable for functional reasons. Nevertheless, in our study it has been observed that though the users complain about the failure of these houses to meet their expectations, % 60.86 of them are not willing to move from their houses and continue living there, making some changes in their own way.

When there is no consideration for the present and future needs of the users, and there is an overall tendency to consider the house as a completed piece of work rather than a process such actions will continue because there exists no definite or standard way of life and users will always have different expectations from a house. Good architecture ought to consider flexibility, variety and inexpensive variability in the pursuit of search for livable environments.

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Morphological Analysis Of Le Corbusier Houses

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Abstract
Modernism caused an enormous change in most of things people used to do. A great epoch was beginning. It brought about pragmatism, functionalism and standardisation live Architectural practice ameliorated the change of vision. Modern life demanded new kind of plan, both for the house and for the cities. In this paper Le Corbusier as a modernist architect is chosen for investigated with special emphasis on his houses designs.
He who was one of the greatest genius of modern architecture ,was also the pioneer of some architectural thought. He said that house was machine to live in. This makes the houses designed by him noticeable. He said that his houses incorporated sun, space and green. These factors continue to be valid from that day to the presentwhich comes to mean that space is liveable. At the beginning of his career he worked with Garnier and Perret He learned to use reinforced concrete from them. After that in 1918 he was the pioneer of cubism with 'Apres Le Cubism' with Ozenfant. In 1926 he gifted 5 golden rules to modern architecture. These rules were applied all around the world. When he was purist in the 1920s, he advocate to pure and elementary forms like sphere, cylinder cube, pyramids,....etc. Because these forms had advantages in terms of light-shadow game. Towards the end of his professional career he designed some building like sculpture.
In this paper the morphological analysis method will be applied to his houses in order to demostrate as to how his styles effected his houses with respect to spatial organisation will be exposed.

Key words: Le Corbusier, houses, livable standards, styles, syntactic analysis

Modernism and Le Corbusier

At the end of 19th century with iron and reinforced concrete as new constructional materials were introduced to into architecture. Their technical properties as materials with in their high degree of strength and their structural possibilities, differed fundamentally from conventional natural materials. (Jeodicke,1961)Architecture, like art, is an insight into reality of a period; the architects, like artists, seek to give expression to its true forces. Not to be modern for its own sake, but formulate concepts that express a society, a culture, and origin concepts in which an epoch can see itself reflected. (Heyer, 1966)Modern materials brought fore new conception of plan. Parallel to changing ideas and materials houses lost their old appearance as well. In this paper a modernist architect, Le Corbusier is chosen for investigation his in terms of houses which reflect modernist idea in their design.
Le Corbusier who was the one of the greatest genius of modern architecture, was the pioneer of some architectural thoughts as well. His buildings and writings have profoundly influenced the development of modern architecture from Europe, India and Japan to the Americas. Works of his are the creation of a better environment for 20th century man. (Heyer, 1966)

Of his early buildings which reflects the impressions of these formative years of travel and the work of Hoffmann and Perret. Here the Art Nouveau style of his engraver's training gave way to an individualist and classicist reformatory art, although still imprinted with the ideal of handicraft. Le Corbusier had worked out building type adapted to industrial production. As was to be typical throughout his career, this was endowed with a slogan like name: the Maison Domino. The prototype for series production, it comprised floor platforms with recessed supports and no load-bearing walls, and individual units could be joined to one another in any direction (1914-15). When he settled in Paris in 1917 to make his career, one of his aspirations was precisely the fabrication of cinderblocks for use in filling out skeleton constructions. This undertaking was thwarted, however, as were his other plans, by the needs of the post-war reconstruction and by increasing industrial mechanization. He rose astoundingly quickly to the fore among the avant garde of Parisian painters. The order of the day was Cubism and the 'return to order'. Together with Amedee Ozenfant, he published the manifesto Apres Le Cubisme (1918) This was followed in 1925 by La Peinture Moderne coined the new artistic movement Purism and edited the successful reforming art journal L'Esprit Nouveau (1920-25). Later he published Vers Une Architecture, 1923 and achieved international recognition. Here he formulated the famous definition of architecture as 'the masterly, correct and magnificent play of masses brought together in light'. His comparisons with engineering constructions and with modern forms of transportation were formulated into such often misunderstood postulates as 'the house is a machine for living in' and that it should be as practically constructed as a typewriter. By this he meant not a mechanistic, machine aesthetic' but rather complete rationality in plan, capacity for serial-production and function. A further enunciation of principles followed in 1926 with the 'Five points for a new architecture': the pilotis, roof terraces, free plan, continuous window strips and free facade composition were to be the essential elements of the new aesthetic .

Prominent Features of Le Corbusier Houses
Characteristic of all his house projects which have become monuments of modern architecture are their general independence of terrain as well as a rich variety of interior and exterior spaces achieved by means of 'double-height rooms, gallery floors, bridges and ramps with views into the interior as well as 'framed' views looking out, all expressions of a genuine luxury in architecture which is conceived as a 'machine for living in'. (Lampugnani,1988)

They give sun with continuous window strips, open and flexible plan with the pilotis, green with roof terrace ideas. These are the qualities which we are searching for standards of liveable houses with new industrial system and material. As a colourful architect he designed very remarkable houses with different trend. So these houses should be investigated with different methods independent of any stylistic view. Space Syntax and Morphological Analysis methods are chosen for the purpose.

What is Space Syntax

Space Syntax originated in early seventies in an effort to understand why, from a spatial point of view, buildings and build environments were as they were, and occupied only a small corner theoretically vast field of architectural and urban possibility. (Hillier, Hanson, 1988) It is a family of techniques for representing and analysing spatial layouts of all kinds. A spatial representation is first chosen according to how space is defined for the purpose of search rooms, convex spaces, lines, convex isovists, and so on and then one or more measures of 'configuration' are selected to analyse the patterns formed by that presentation. (Hillier, 1999) Numerous efforts have been made to devise mathematically or computerised methods for generating architectural plans automatically. Some of this work has involved the kinds of graph theoretical techniques and geometrical ideas. The typical form of representation used for plans was a regular grid of fixed grid dimension which influenced from theory of transformation, presented by Albercht Durer. (Steadman, 1989) Historically, space syntax analysis turned attention away from geometrical notions of spatial order in the study of buildings and cities, and pointed to spatio functional patterns, which are closer to topology than to geometry. (Hillier, 1997)

Hillier's Analysis

The morphological characteristics of a plan are revealed by the 'justified access graph'which is developed by Hillier and Hanson. One possible access graph for the plan with a vertex to represent the exterior region . The vertex for the exterior is placed on the lowest level in the diagram, level 0. In a justified access graph all rooms equally deep from a chosen reference space (in this analysis, the outside is chosen as the root space) are drawn on the same horizontal dashed lines. These lines or depth indicators are numbered from zero to show the minimum number of doorways to be crossed in moving from the reference (root) space, always placed at zero line, to any chosen destination. The number of any particular depth line (0,1,2,..) is also the depth value of any space placed on that line. The depth values given to the spaces form the basis for determining numerical measures of the spatial system of a given network. (Çağdaş, 1998) Hillier's analysis parameters are given below

1.Number of Space

The total number of cells which constitute the plan is the number of space. It consist of terminal and transition spaces.

2.Number of Terminal Space

An access graph ends with some cells which their vertex valencies which are always equal to 1. They are reached at last step in architectural plans.These cells in access graph are called terminal spaces. Number of these spaces gives the number of terminal spaces in the graph.

3.Number of Transition Space

In the access graph some cells are passed while reaching to terminal spaces from outside. They have at least two entrances which can be passed from one to another room. Vertex valencies of these cell is 2 or more. Total number of these cells gives the number of transition space in the graph

4.Depth of Graph

Number of highest level of graph is equal to dept of the graph.

5.The Deepest Space

The spaces in highest level are deepest space in the graph. They are also the most private space in the plan. In order to reach these spaces it is necessary to go ahead by starting from outside . This feature of depth is not related to dimension of space or adjacency but to the transition at door. (Eser,1993)

6.Mean Depth of All Spaces

A mean depth figure *doi* may be derived for the plan as a whole, by summing the depths of all spaces from the exterior, and dividing by total. They may be compared directly since the number of rooms is the same throughout. In general though, values of mean depth are dependent naturally on the size (number of vertices) as well as the structure of an access graph. (Steadman, 1989)

7.Mean Vertex Valency

Vertex valency is the number of edges coming out of the cell which means the unit of entrances or exits exist in that cell. Mean vertex valency is calculated by summing up all vertex numbers in the access graph with respect to root space and dividing them by the number of spaces.

8.Maximum Vertex Valency

It is the vertex which have maximum edge number.

9.Space With Maximum Vertex Valency

It is the space which can reach maximum number of space with one doorway.

10.Cyclomatic number

In the access graph of an architectural plan, presence of cycle means that there exit 2 or more different routes between certain pairs or group of rooms. The number of cycle gives the cyclomatic number of the graph. (Eser, 1993)

11.Depth of The Deepest Undistributed Space

The morphological characteristics can be identified by syntactic terms; 'symmetry/ asymmetry', distributedness/ nondistributedness', which are related with the depth and permeability of the network system. Symmetry/asymmetry is about the integrating/segregating effects of a space in relation to the plan. (Soul,1993)Distributedness/ nondistributedness is about the possibility of getting into and around in the building in more than one

way or only one way. Spaces out of cycle is nondistributed space. Highest level of these space gives the deepest nondistributed space.

12.Mean Depth of Undistributed Spaces

If the spaces are out of cycle their sum total depth value divided by their total gives mean depth of the nondistributed spaces.

13.Depth of Deepest Distributed Space

Depth of the deepest distributed space is highest level of cycle

14.Mean Depth of Distributed Space

If the spaces in cycle their sum total depth value divided by their number gives mean depth of distributed spaces. (Eser, 1993)

15.RA Value

RA is relative asymetry.It is calculated as follows:

RA = 2(doi-1)/(k-2)

doi = means depth of the system;

k = total number of spaces in the system.

This measure can only take values between 0 and 1. . It thus allows comparisons to be made of the relative mean depth away from the exterior, of access graphs of widely differing sizes.

RA ranges between 0 and 1. Low value indicates that a space tends to integrate the system as a whole, and high value indicates that a space tends to be segregated from the space. Thus, If it is low, then the plan has a quality of symmetry and spaces are more equal in terms of permeability control. If it is high, the permeability can be thought as asymmetric. The RA value of a building is equal to the mean value of the RA values of all spaces.

16.RRA Value

RRA (real relative asymmetry) is needed to compare systems of different sizes. It is a more sensitive measure of symmetry/asymmetry and extends from 0 to above 1. It is a comparison of RRA value with the RA value for the root space of a diamond shaped pattern, which is given as Dk in tables

RRA = RA/Dk

17.RD Value

RD (relative distributedness) is related to the existence of cycles in the justified networks. It ranges from 0 to 1 and is measured as the ratio of the actual number of faces to the maximum possible number of faces in a plane graph

RD = F/(2V-5)

V (vertices) = the points at which lines (edges) meet;

F (faces) = the closed areas formed by edges or cycle (Soul, 1993)

Application

Firstly, all the access graphs are drawn for famous houses of Le Coubusier. Fig.1 gives all spaces' names and codes in chosen houses.

1. Enterance	13. Bedroom	25. Void
2. Cloak-room	14. Children room	26. Terrace
3. Garage	15. Guest room	27. Roof terrace
4. Chaffeur	16. Lady's room	28. Solarium
5. WC	17. Dressing	29. Studio
6. Kitchen	18. Wardrobe	30. Workship
7. Dinning	19. Library	31. Laboratory
8. Living-room	20. Service hall	32. Museum/exhibition
9. Front hall	21. Servant	33. Balcony
10. Back hall	22. Laundry	34. Ramp
11. Staircase	23. Store	35. Courtyard
12. Bathroom	24. Vine cave	

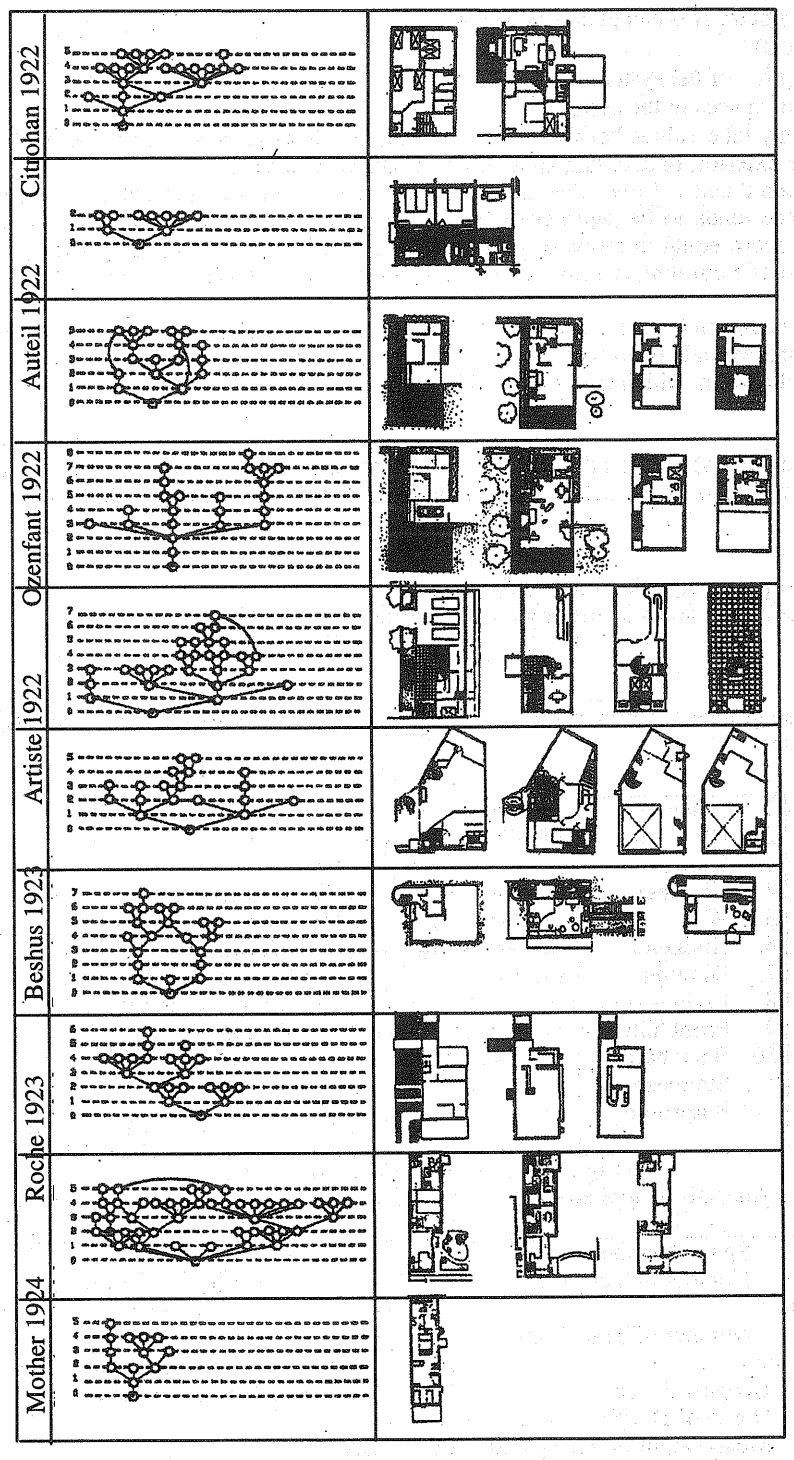
Fig.1. Space Codes Using in Fig.4.

Secondly, Hillier's Analysis is applied to all of them. The parameters of it are given below.

1. Space Number	9. Cyclomatic number
2. Number of Terminal Space	10. Deepest Undistributed Spaces
3. Number of Transition Space	11. Mean Depth of Undistributed Spaces
4. Deepest Spaces	13. Deepest Distributed Spaces
5. Depth of Deepest Space	14. Mean Depth of Distributed Spaces
6. Mean Depth of All Spaces	15. RA
7 Mean Vertex Valency	16. RRA
8 Maximum Vertex Valency Spaces in Maximum Vertex Valency	17. RD

Fig.2.Analysis Parameter List Using in Fig.4. At 1st Raw

Fig.3 shows the access graphs of Le Corbusier houses. Fig.4 shows the results of Hillier's analysis . It's first raw is in the order of parameters cited in Fig.2.



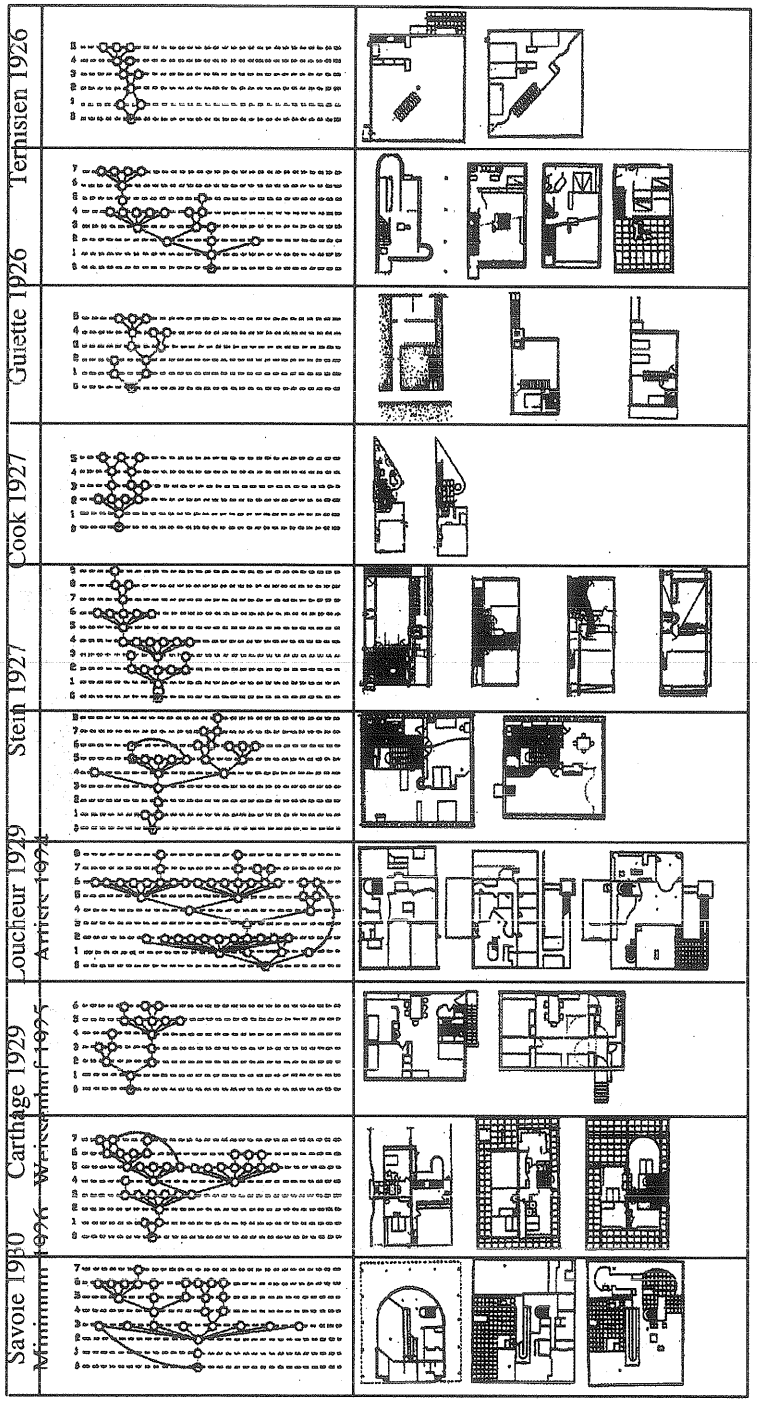


Fig.4.permeability graphs of Le Corbusier's houses

HOUSES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.DOM-INO 1914	21	13	8	5	5,13,13,13, 18	3,714	2,047 6	6	10	1	5,13,13	4,125	6	2,4	0,271 4	1,233 6	0,027
2.TROYES 1919	9	7	2	2	6,8,12,13,1 3,23	3,3	2	6	1	-	-	-	-	-	0,575	1,813 8	0
3. CITROHAN I 1920	16	6	10	5	5,6,12,13,21	3,875	2,312 5	4	20	3	5,12,13 ,21	3,875 7	6	2,777 7	0,317 8	1,431 4	0,081
4.CITROHAN II 1922	24	9	15	9	5	5,291	2	6	1	-	-	-	-	-	0,359 3	1,690 4	0
5.AUTEUIL 1922	28	9	18	7	12	2,814	2	5	20	3	5	3,083 3	12	4,142 8	0,134 3	0,714 3	0,056 6
6.OZENFANT 1922	19	8	11	5	12,18	2,684	2	4	3,9,11	1	12,18	3,214 2	9,11	1,5	0,142 6	0,617 3	0,030 3
7.ARTISTE 1922	20	8	12	8	33	4	2,1	4	9	1	33	2,777	9	5	0,315 7	0,403 1	0,028 5
8.BESNUS 1922	20	12	8	6	12	2,9	2	5	9	-	-	-	-	-	0,2	0,888 8	0
9.ROCHE 1923	44	21	23	5	19,26,32,33	3,113	2,136 3	8	10	9	19,32,3 3	3,703 7	26,26	2,764 7	0,098 3	1,328 7	0
10.MOTHER 1924	12	6	6	5	27	3,083	2	4	10	-	-	-	-	-	0,378 7	0,682 6	0,108 4
11.ARTISTS 1924	10	5	5	5	13,13,13	3,3	2,2	4	8,1	1	13,13,1 3	4,142 8	8	1,333 3	0,511 1	1,670 2	0,066 6
12.WEISSENHO F 1925	21	12	9	7	14,15,26	4,666	2,142 8	6	10	-	-	-	-	-	0,366 6	1,663 6	0
13.MINIMUM 1926	12	6	6	5	12,13,13	3,25	2	4	10	-	-	-	-	-	0,409	1,435	0
14.TERNISIEN 1926	13	5	8	5	12,25,27	2,692	2,153 8	5	1	1	12,25	2,4	27	3	0,282	1,021 7	0,047 6
15.GUIETTE 1926	24	12	12	9	27	4,708	2,333 3	7	1	6	27	4,894 7	12,13, 13	3	0,322 4	1,572 6	0,139 5
16.COOK 1926	23	10	13	8	27	4,869	2,173 9	6	10	3	27	5,466 6	16	3,75	0,351 7	1,682 7	0,073 1
17.STEIN 1927	47	27	20	8	25	4,4	2,063 8	14	20	6	25	4,972 2	26	2,545 4	0,147 8	1,063 3	0,067 4
18.LAUCHEUR 1929	16	9	7	5	12,13,13	3,125	2,125	6	8	-	-	-	-	-	0,283 3	1,128 6	0
19.CARTHAGE 1929	35	17	18	7	5,12,26	4,657	2,173 9	8	10	5	5,12	4,782 6	26	4,416 6	0,215 1	1,295 7	0,076 9
20.SAVOIE	28	15	13	7	12	4,464	1,964 2	9	20	1	12	4,653 8	3	3	0,256 6	1,364 8	0,019 6

Figure.4.Application of Hillier Analysis

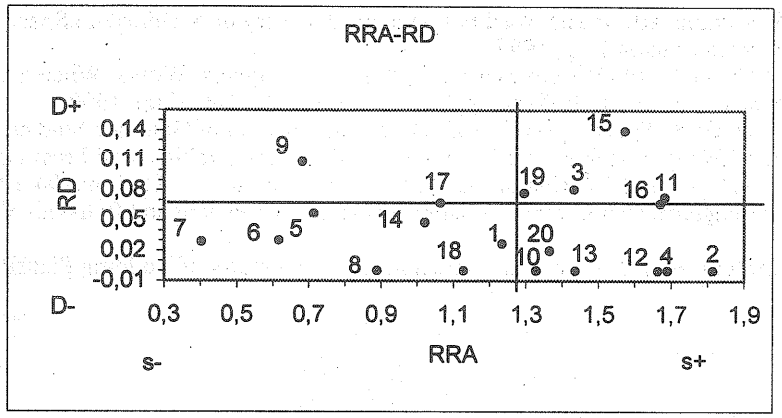


Fig..5. RRA-RD Relationship

Conclusion

The house with maximum number of spaces unit is found in *Stein (17)* and minimum number of spaces is found in *Troyes (2)*. Maximum number of terminal spaces is also observed in *Stein* minimum space number is in *Ternesien (14)*. Maximum number of transition spaces is found in *Roche* and minimum in Troyes (2). The deepest access level is observed in *Guiette (15)*and *Citrohan I (3)*. The lowest depth of the access graph is depicted in *Troyes (2)* again. Maximum mean depth of all spaces is in *Cook (16)* and minimum is in *Besnus (8)*. The deepest spaces in the graphs are the most private spaces and they are generally bedrooms, bathrooms and roof terraces of all houses as shown in Fig.4. Since Le Corbusier prefers gardens on the houses, roof terrace is the most prominent feature of all his house designs.

The houses in maximum cyclomatic number range as in $D^+ S^-$ (*Roche (9),.Stein (17)*), D^+S^+ [*CitrohanI (3), .Artists (11), .Guiette (15), .Cook, (16) .Carthage(19)]* and $D^- S^-$ [*Dom-ino (1),.Auteil (5), .Ozenfant(6), Artiste(7), Besnus(8), Ternesien (14), Laucheur(18)]* groups. No house to exemplify $D^- S^+$ is found except for Villa Savoie (20) which has a single cycle.

Since D^- value shows low or no cycle value in a house, $D^- S^-$[*Dom-ino (1), Auteil(5) Ozenfant (6), Artiste (7), Besnus (8), Ternesien (14), Laucheur(18],* group represent the most hierarchic houses. In these houses one could reach the spaces step by step. A route is followed from entrance. Their spatial privacy is more stronger than the other three groups.

$D^+ S^+$[*CitrohanI (3), .Artists (11), .Guiette (15), .Cook (16), Carthage (19)]* and $D^- S^+$ [*Troyes (2), Citrohan II (4),M other(10), Weissenhof (12), Minimum (13), Savoie (20)]* groups have quality of symmetry and spaces are more equal in control of permeability.

Artiste (7) 1922, Roche (9) 1923 and *Guiette (15) 1926* are very specific houses in the whole sample. *Roche (9)* has maximum cyclomatic number. *Artiste (7)* is the most hierarchic house. *Guiette (15)* has 6 cycle and shows the most equal control of space from the entrance on.

Dom-ino (1) and *Troyes (2)* both designed in Le Corbusier's Cubic term but it expose so different syntactic characters. For instance, *Dom-ino (1)* has one cycle but *Troyes (2)* has none.

Nevertheless $D^- S^-$ and $D^- S^+$ groups are contemporaneous. In $D^- S^-$ group, *Auteil (5)* in 1922, *Ozenfant (6)* in 1922, *Artiste (7)* in 1922, and *Besnus (8)* in 1923 show close RRA and RD value. So are $D^- S^+$ houses; *Mother (10)* in 1924, *Weissenhof (12)* in1925 and *Mimimum (13)* in 1926 also show close RRA and RD values.

It is seen that *Artiste (11)* 1922 and *Cook (16)* 1926 and also *Citrohan II (4)* 1922 and *Weissenhof (12)* 1925 have similar characteristics. The first and the last houses of the entire group, *Domino (1)* and *Savoie (20)*, show close morphological characters, but the others show variety on the diagram

Despite the similarities of all his house projects rich variety of interior and exterior spaces achieved by means of 'double-height rooms, gallery floors, bridges and ramps with views into the interior as well as 'framed' views looking out with continuos window strip, roof terrace and pilotis ideas, their differences lie on spatial organisation details. Le Corbusier designed his houses based on environmental varieties and houses owners' need and preferences with a deep creative sense. Morphological analysis looked at in its own, it is difficult to say that morphological characters of Le Corbusier's houses change chronologically, although their appearances and forms have changed depending on Le Corbusier's changing architectural creeds and beliefs in his career life.

His highly appreciated aphorisms on architecture and in paticular houses all around the world without any inquiry for some time. But his basic rules and principles did not deter him from seeking new forms One can see this in houses built between 1914 and 1930 all of which have different syntactic meaning. Illustration fig.5 strongly corroborates his searching quality.

If one design his projects with inspiration gained from Le Corbusier's glitter ideas with adequate sunlight, green, open plan and flexibility and also affluent interior spaces with meticulous search of exterior conditions and users' needs with sensitive and creative manner, these criteria will afford the liveable environment and houses like.

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Livable housing and kitchen

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Abstract
People have various expectations of their housing because of their different life styles. Today people's understanding of housing quite differs from the traditional one. The economic, social and technological changes and the fact that patriarchal family structure changed to nucleus one have had an effect on the housing styles. Large detached houses with a garden changed into smaller apartment houses, to begin with. The increase in the number of working women has also reduced the use of houses during the day. Thus, houses turned out to be the spaces we use during the evening rather than day time. In order to make these places which we have limited use of, really "livable" they must be organized in the best possible way. In the process of spatial organization of the house the place of "kitchen" is of utmost importance.

Kitchens which are used most frequently by women have, as well known, different styles. Kitchens are basically either separate or joint (living room + kitchen), and this difference can completely change the overall organization of the house.

In this paper, kitchens are studied in terms of spatial organization, by taking into consideration the basic elements of its organisation. The effects of cultural factors on the kitchen organization is dealt with particularly. The main objective of this study was the determination of users' kitchen preferences. The research was to meant to disclose the present and the ideal kitchen styles of the users by means of a questionary survey technique.

The results of the research indicate that the changes in cultural and social spheres give way to changes or differences in the needs of the users. In most cases instead of smaller kitchens used only for cooking, larger kitchens where the whole family can live together and which can be used alternatively as a living room are preferred by the users. Within the scope of this study, the reasons underlying this preference is elaborated.

1. Introduction

Human beings, in every period of history meet their needs of shelter in houses, either created by themselves or by others. The houses, which are necessary parts of human life, have to be in harmony with their user's life style. They must also be designed to meet physical, social, psychological, aesthetic and economic concerns of the users. That is why, human beings for centuries, have constantly changed their houses in order to make them "LIVABLE".

People's expectations change over time. The concept of house today is quite different from the one in the past. Passage from the patriarchal family to the nucleus one, the change in the role of the women in society, the increase in the number of working women brought about changes in the use of house spaces and changes in certain activities at home. As a result of the socio-demographic, socio-cultural and technological progresses in the society, the changes in the kitchen as in other spaces as well have become inevitable.

Kitchens are the most prone spaces to technological and economic changes and to adjustments to new living standards and expectations. Nevertheless, while the kitchens are expected to meet physical and psycho-social needs of the users, some of these needs are deliberately ignored due to particularly economic reasons.

2. The role of culture in house and kitchen organization

Lawrence argues that the house and the other architectural environments have close interaction with culture, socio-demographic structure, psychology and other man-made environments, and adds that, in order to understand the complex structures of these interactive dimensions, we should look at the subject proper from the standpoints of design, meaning and usage. As a result, he says that there are three basic components in the organization of the house and its environment (Lawrence, 1985); Cultural, social, psychological.

These components play an important role in the shaping of houses and in the general organization of kitchens. The cultural variations in the community are directly reflected on the kitchen and the house. Life style, traditions and customs and eating habits in particular, play an important role in the organization of the kitchen. Eating habits and dishes such as bakery, frying, etc., which need a long preparation time require large enclosed kitchens and a large and comfortable counter. Ready and fast food habits in western cultures support the idea of open kitchens.

According to Rapoport (1977) culture is a life style of a certain group of people and he considers the relation between culture and human behavior as a part of worldviews, values, images and life styles of people.

Within the Turkish culture, the location and organization of kitchen show many differences contingent with the life styles from the nomads' period to our day. Village, town and city houses in Anatolia show differences in many respects (Beyazıt, 1996). Here, the influences of economic structures, life styles, judgements, family relations, traditions, customs and beliefs are great (Efendioğlu, 2001).

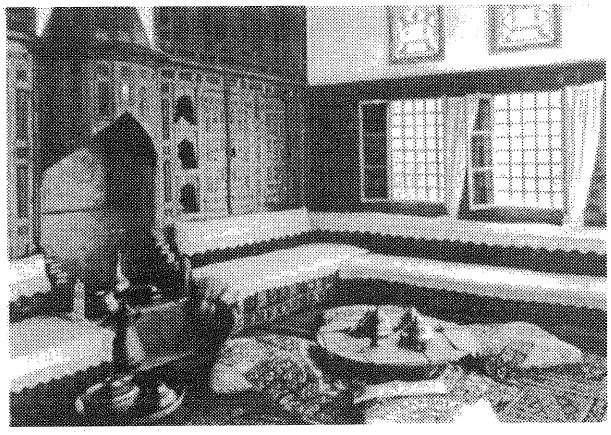

Figure 1: Turkish House "oda"

3. Traditional Turkish House and kitchen

"Room" is the major unit of the traditional Turkish house. It is used for various purposes such as eating, living, sleeping, bathing, etc. at different times of the day. Room is a unique place with its components like kitchen range, cupboards, sofas, etc. Kitchen is a female domain on the ground floor. They are quite big and cool spaces where mothers and sisters can work together, and which can accommodate even children when necessary. The food is generally carried upstairs with "sini" or "trays" and is eaten on the ground. As there is not any fixed place for this activity, every space of the house can be a dinner place in the traditional house. This place may also be a common space of the house and be used as kitchen alternately (Özdemir, 1994).

4. Modern Turkish kitchen

The changes in the traditional Turkish family structure in which several generations used to live together once, in addition to the economic, social, technological, etc. changes have had a dramatic influence on the formation of the house. The large detached houses with gardens have been replaced by small apartment flats. The increase in the number of working women has also reduced the use of house during the day time. For this reason, houses are used more frequently during night time than day time. The kitchens of such houses which are used for a limited time have been formed much like a small laboratory. Such kitchens are used only for cooking and dining is almost impossible in them and in most cases they are not wide enough for more than one person. Bauer (1996) says "A house (apartment) plan mustn't force its inhabitants to use it in only in a single way. That is, functional hierarchical order of the rooms (living room, child's room etc.) must be avoided in particular. Houses have to have multi-functional rooms so that they can serve for various purposes. The kitchen must be so designed as to serve for the center of common activities such as dining, studying, recreating, etc. Thus he implies that the kitchen must be used as a living space.

However today, standardized house designs are offered to users. Equipped with the latest technological devices, kitchens are now means of cooking, washing, etc. But, working women, in particular have begun to complain about them.

Both working women and housewives spend most of their time in the kitchen. Thus, when the family come together in the evenings, women stay in the kitchen and can not participate in other activities. This leads to a monotonous life and causes some disturbances among the family members. Especially for the working women this creates both psychological and physical uneasiness. Bauer (1996, p.101) says, 'Most of the household jobs are done in the kitchens. However, the kitchens are becoming smaller for producing more practical house organisations. The kitchens together with bathrooms and toilets are placed in direction of noisy streets and thus function like a sound insulators for the rest of the house and thus they are rarely valued as livable spaces'.

Kitchens are offered in different styles. They are either independent entities or open spaces. In whatever form they appear in the house they have direct influence on the general organization of the house. The eating habits of the societies determine the concept of kitchen in people's minds. Compared with other cultures, open kitchens are more common in the U.S.A. and Germany than they are in Italy, France, England and Spain.

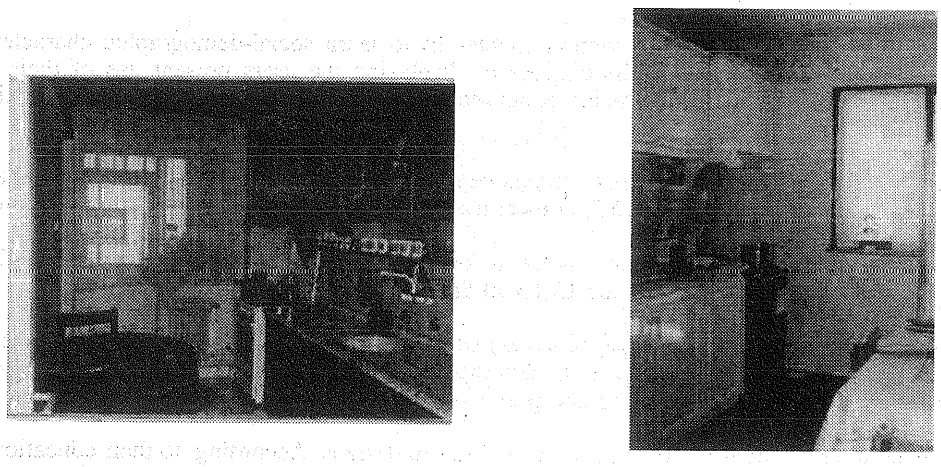

Figure 2-3: Turkish kitchen in the present

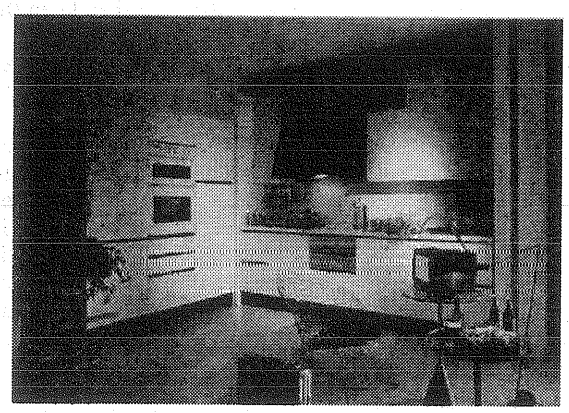

Figure 4: Open kitchen

Özbay (1996, p, 63) says, " In the kitchens the menu also has changed". Turkish dishes and roasts which are time consuming and need expertise are no longer preferred to easy ready foods and to some healthier foods. Where there is no need for cooking expertise, other family members are also able to cook themselves". It can be concluded that in such kitchens the woman is no longer alone and there is much co-operation between husband and wife today.

In addition to all these, Beyazıt and Yüksel say that, " Children's play grounds must be linked to living spheres at home. Open kitchen and living room organization should be considered in this respect as well. Especially, the play grounds of 2-5 year-old children have to be somewhere the mother could be able to watch her children while she is working in the kitchen and due access to children should also be provided". Beyazıt and Dülgeroğlu (1996, p.444) also express quite clearly their preference for the open kitchens in favor of children.

He goal of this study is to demonstrate the modern user's view of the kitchen space, to decide on an ideal kitchen and to discuss the preference for open kitchen applications and reasons for them.

5.Research: Survey study and evaluation

5.1. Study area

A survey has been conducted among different economic, cultural and education groups in Trabzon, Turkey. Houses, belonging to the three different user groups have been randomly chosen from six districts.

5.2. Subjects

The survey has been conducted on eighty subjects between the ages of 20-65, some sixty of whom are married women as they are thought to be using the kitchen more frequently. According to their education levels, twenty primary school graduates, twenty high school graduates and another twenty university graduates have been surveyed. In addition to this, twenty designers regardless of their sex and marital statues, have been included in the research as a control group.

The purpose of this survey was to find out in what ways the differences in education level, culture and financial status have affected the kitchen preferences of the people and what ideas the designers had about the kitchens.

5.3. Method

The survey consists of three sections. The first section enables us to learn social-demographic characteristics of the subjects. The second section is prepared with the purpose of displaying the users present use of their kitchens and houses. The third section targets at discovering whether or not the subject prefer to use segregated or open kitchens.

5.4. Findings

The study of the present kitchen types of the subject groups demonstrated that 60% of them use 'I' type, 8,8% of them use 'corridor' type 23,8% of them use 'L' type, 2,5% of them use 'U-G' type and 5% of them use 'open kitchen' in their houses.

The degrees of satisfaction with the present kitchens are as follows: 24,6% of them are very satisfied, 47,5% of them are satisfied and 14,8% of them are little satisfied and 13,1% of them are dissatisfied.

It has been observed that such factors as the age, economic situation, education level, occupations of the subjects and the size of their houses and kitchens, do not influence directly the kitchen preferences of the people. 76,3% of the subject group wish to use their kitchens as a living spaces and prefer open kitchen designs, and 23,8% of them wish to have segregated kitchens.

62% of the subjects between the ages of 26-35 prefer open kitchen designs. According to their education levels; 60% of the primary school and high school graduates, 73% of the university graduates and 70% of the working women, and 79% of the house wives prefer open kitchens (Efendioğlu, 2001).

6.Conclusion

Results of the survey conducted for the purpose of disclosing the kitchen preferences of the users indicated that open kitchen types combined with the living room rather than the guestroom have been preferred mostly by the subjects as a whole. Turkish people still regard the quest rooms as a status symbol and they keep their most expensive items there and only use it when the guests frequent them.

The reasons underlying the preference for open kitchens as cited by the subjects are:

- They do not isolate women from the rest of the family. Women can join the family members when they are back from the work and quests, and enjoy their company.
- Technology has enabled to meet the various desires and needs in kitchens and cooking is less odorless
- Secrecy of the kitchens are no longer the case because they are no more considered as private places.
- The statue and the place of women in the society have changed and thus women have become more extrovert.

No matter how what changes take place in our life styles and eating habits, the kitchens are still the most frequently used spaces in our culture by women. As a result, the study corroborated the observations that women in our country still prefer the big and comfortable kitchens of the past which used to hold the family members together, housed rich variety of activities, and served as living rooms. Therefore we can suggest on sound grounds that the houses designed with efficient and spacious kitchens are to be more 'livable' from the standpoint of women.

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Architectural Responsibilities Within the Context of Sustainability

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Abstract

Demand for land, buildings or building products, energy, and other resources increases the combined impact of architecture on the local and global ecosystem, which is made up of "inorganic elements", "living organisms", and "humans". During a building's existence, it affects the local and global environments via a series of interrelated human activities and natural processes. At the early stage, site organization and construction influence ecological characteristics of the environment. Although it is temporary, process of construction break the local ecology. Manufacturing of materials impact the global environment. Once built, building imposes long-lasting impact on the environment. Architects are responsible from designing and producing sustainable environments for inorganic elements, living organisms, and humans. Within this context, the goal of "sustainable design" is to find architectural solutions that secure the well-being and coexistence of these organic and inorganic groups. To meet this goal of coexistence, a conceptual framework can be developed by considering principles, strategies, and methods of creating an environmental awareness, explaining the building ecosystem, and considering how to design and produce sustainable buildings.

Keywords: Sustainability, Ecology, Economy of Resources, Life Cycle Design, Livable Design

1. Introduction

In recent years, the environmental discourse has increasingly gained significance in formulating development theories, models, and policies, especially under the rubric of "sustainable development". According to The World Commission on Environment and Development sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, *Our Common Future*, 1987). This definition of sustainability does not specify the ethical roles of humans for their everlasting existence on the planet. It also fails to embrace the value of all other constituents participating in the global ecosystem. The need for finding long-terms solutions that warrant continuing human existence and well-being is far more compelling than that of finding a proper terminology to describe the human need (Papanek, 1995). Within this respect, the debate on the terms *"green," "sustainable,"* or *"ecological"* architecture is not important. During a building's existence, it affects the local and global environments via interconnected human activities and natural processes. At the early stage, site development and construction influence indigenous ecological characteristics. Though temporary, the influx of construction equipment and personnel onto a building site and process of construction itself disrupt the local ecology (Spence, Mulligan, 1995). The procurement and manufacturing of materials impact the global environment. Once built, building operation inflicts long-lasting impact on the environment. For instance, the energy and water used by its inhabitants produce toxic gases and sewage; the process of extracting, refining, and transporting all the resources used in building operation and maintenance also have numerous effects on the environment.

Buildings increase the combined impact of architecture on the global ecosystem, which is made up of three constituent groups: *inorganic elements*, *living organisms,* and *humans*. The term *"Sustainable architecture"* used to describe the movement associated with environmentally conscious architectural design, has created ambivalence and confusion. An examination of the meaning of "sustainable" identifies why this occurs (Andrew, 1992). Sustainable architecture describes the fact that we receive what we need from the universe. Sustainable architecture, then, is a response to an awareness and not a prescriptive formula for survival. In other words, the goal of sustainable design is to find architectural solutions that guarantee the well-being and coexistence of constituent groups (Kim, Rigdon). To meet the goal of coexistence, a conceptual framework is considered in this article. The three levels of framework: *Principles*, *Strategies*, and *Methods* correspond to three objectives of environmental responsibilities: creating environmental awareness, explaining the building ecosystem, and how to design sustainable buildings.

2. Principles of sustainable design

Three principles of Sustainability in architecture can be proposed as in the following:

"Economy of Resources", "Life Cycle Design", and*"Livable Design"*

Economy of resources is concerned with the reduction, reuse, and recycling of the natural resources that are input to a building. **Life cycle design** provides a methodology for analyzing the building process and its impact on the environment. **Livable design** focuses on the interactions between humans and the natural world. Each of these principles embody a unique set of strategies. Studying these strategies leads architects to more thorough understanding of architecture's interaction with the environment.

2.1 Economy of resources

By economizing resources, the architect reduces the use of nonrenewable resources in the construction and operation process of buildings. There is a continuous flow of resources, natural and manufactured, in and out of a building. This flow begins with the production of building materials and continues throughout the building's life in order to create an

environment for sustaining human well-being and activities. When examining a building, consider two streams of resource flow. (see Figure 1) Upstream, resources flow into the building as input to the building ecosystem. Downstream, resources flow out of the building as output from the building ecosystem (Kim, Rigdon).

The strategies for the economy of resources principle are;

"Energy conservation", "Water conservation", and *"Material conservation"*

Each of these strategies focuses on a particular resource necessary for building construction and operation. The environmental impacts of ***energy*** consumption by buildings occur primarily away from the building site, through mining or harvesting energy sources and generating power. The energy consumed by a building in the process of heating, cooling, lighting, and equipment operation cannot be recovered. A building requires a large quantity of ***water*** for the purposes of drinking, cooking, washing and cleaning, flushing toilets, irrigating plants, etc.. All of this water requires treatments and delivery, which consume energy. A range of building ***materials*** are brought onto building sites. The influx of building materials occurs primarily during the construction stage. The waste generated by the construction and installation process is significant. After construction, a low-level flow of materials continues in for maintenance, replacement, and renovation activities. Consumer goods flow into the building to support human activities. All of these materials are eventually output, either to be recycled or dumped in a landfill (Federle, 1993).

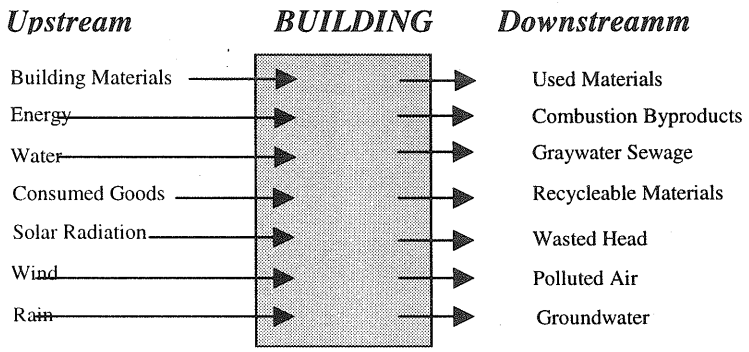

Figure1 : The input and output streams of resource flow.

2.2 Life cycle design (LCD)

The conventional model of the building life cycle is a linear process consisting of four major phases: design; construction; operation and maintenance; and demolition. (see Figure 2)

This approach recognizes environmental consequences of the entire life cycle of architectural resources, from procurement to return to nature (Burall, 1996). For the purpose of conceptual clarity, the life cycle of a building can be categorized into three phases:

"Pre-building", "Building", and *"Post-building"*

The phases can be developed into LCD strategies that focus on minimizing the environmental impact of a building. Analyzing the building processes in each of these three phases provides a better understanding of how a building's design, construction, operation, and disposal affect the ecosystem.

The ***pre-building phase*** includes site selection, building design, and building material processes, up to but not including installation. Under the sustainable-design strategy, the environmental consequences of the structure's design, orientation, impact on the landscape, and materials used must be examined (Dimson, 1996). The procurement of building materials impacts the environment: harvesting trees could result in deforestation; mining mineral resources (iron for steel; bauxite for aluminum; sand, gravel, and limestone for concrete) disturbs the nature and creates environmental pollution.

Building phase refers to the stage of a building's life cycle when a building is physically being constructed and operated. In the sustainable-design strategy, the construction and operation processes for ways to reduce the environmental impact of resource consumption, also long-term health effects of the built environment on its occupants must be examined.

Post-building phase begins when the useful life of a building has ended. In this stage, building materials become resources for other buildings or waste to be returned to nature. The sustainable-design strategy focuses on reducing construction waste by recycling and reusing buildings and building materials (Dimson, 1996)

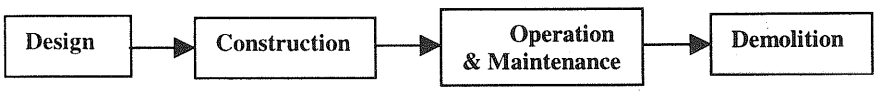

Figure 2 : The conventional model of building life cycle

2.3 Livable design

While economy of resources and life cycle design deal with efficiency and conservation, livable design is concerned with the livability of all constituents of the global ecosystem, including plants and wildlife. The following three strategies for livable design focus on enhancing the coexistence between buildings and the environment, and between buildings and their occupants. this principle is deeply rooted in the need to preserve the chain elements of the ecosystems that allow human survival. An essential role of architecture is to provide built environments that sustain occupants' safety, health, physiological comfort, psychological well-being, and productivity. The livable design principle can be examined under three particular resource:

- *Preservation of natural conditions*
- *Urban design and site planning*
- *Design for human comfort*

An architect should minimize the impact of a building on its local ***ecosystem*** (e.g., existing topography, plants, wildlife). Neighborhoods, cities, and entire geographic regions can benefit from cooperative planning to reduce energy and water demands. The result can be a more pleasant ***urban*** environment, free of pollution and welcoming to nature. As discussed previously, sustainable design need not preclude ***human comfort***. This can improve productivity, reduce stress, and positively affect health and well-being.

The current status of sustainable design in architecture is that of an ethic rather than a science. While a change of lifestyles and attitudes toward the local and global environments is important, the development of scientific knowledge-bases that provide skills, techniques, and methods of implementing specific environmental design goals is urgent. To enhance environmental sustainability, a building must holistically balance and integrate all three principles: *Sustainable Design, Economy of Resources,* and *Life Cycle Design* in design, construction, operation and maintenance, recycling and reuse of architectural resources.

3. Methods for achieving sustainable design

The ultimate goal and challenge of sustainable design is to find solutions that provide quantitative, qualitative, physical, and psychological benefits to building users. The three principles of sustainable design provide a broad awareness of the environment issues associated with architecture. The strategies within each principle focus on more specific topics. These strategies intend to understanding of how a building interacts with the internal, local, and global environments. (see Figure 3)

3.1 Economy of resources

Conserving energy, water, and materials can yield specific design methods that will improve the sustainability of architecture. These methods can be classified as two types. ***Input-reduction methods*** reduce the flow of nonrenewable resources input to buildings. A building's resource demands are directly related its efficiency in utilizing resources. ***Output-management methods*** reduce environmental pollution by requiring a low level of waste and proper waste management. (Bossink, Brouwers, 1996)

3.1.1 Energy conservation

Energy conservation is an input-reduction method. The main goal is to reduce consumption of fossil fuels. Buildings consume energy not only in their operation, for heating, lighting and cooling, but also in their construction. The strategies of this principle focus on specific topics:

Energy-Conscious urban planning;Cities and neighborhoods that are energy-conscious are not planned around the automobile, but around public transportation and pedestrian walkways. These cities have zoning laws favorable to mixed-use developments, allowing people to live near their workplaces. Urban sprawl is avoided by encouraging redevelopment of existing sites and the adaptive reuse of old buildings.

Energy-Conscious site planning; Such planning allows the designer to maximize the use of natural resources on the site. In temperate climates, open southern exposure will encourage passive solar heating; deciduous trees provide shade in summer and solar heat gain in winter. Evergreens planted on the north of a building protects it from winter winds, improves its energy efficiency. Buildings can be located relative to water to provide natural cooling in summer.

Passive heating and cooling; Solar radiation incident on building surfaces is the most significant energy input to buildings. It provides heat, light, and ultraviolet radiation necessary for photosynthesis. Historically, architects have devised building forms that provide shading in summer and retain heat in winter. Passive solar architecture offers design schemes to control the flow of solar radiation using building structure, so that it may be utilized at a more desirable time of day. Shading in summer, by plants or overhangs, prevents summer heat gain and the accompanying costs of air-conditioning.

Insulation; High-performance windows and wall insulation prevent both heat gain and loss. Reducing such heat transfer reduces the building's heating and cooling loads and thus its energy consumption. Reduced heating and cooling loads require smaller HVAC equipment, and the initial investment need for the smaller equipment. The installation of smaller HVAC equipment reduces mechanical noise and increases sonic quality of the indoor space.

Alternate sources of energy; Solar, wind, water, and geothermal energy systems are all commercially available to reduce or eliminate the need for external energy sources.

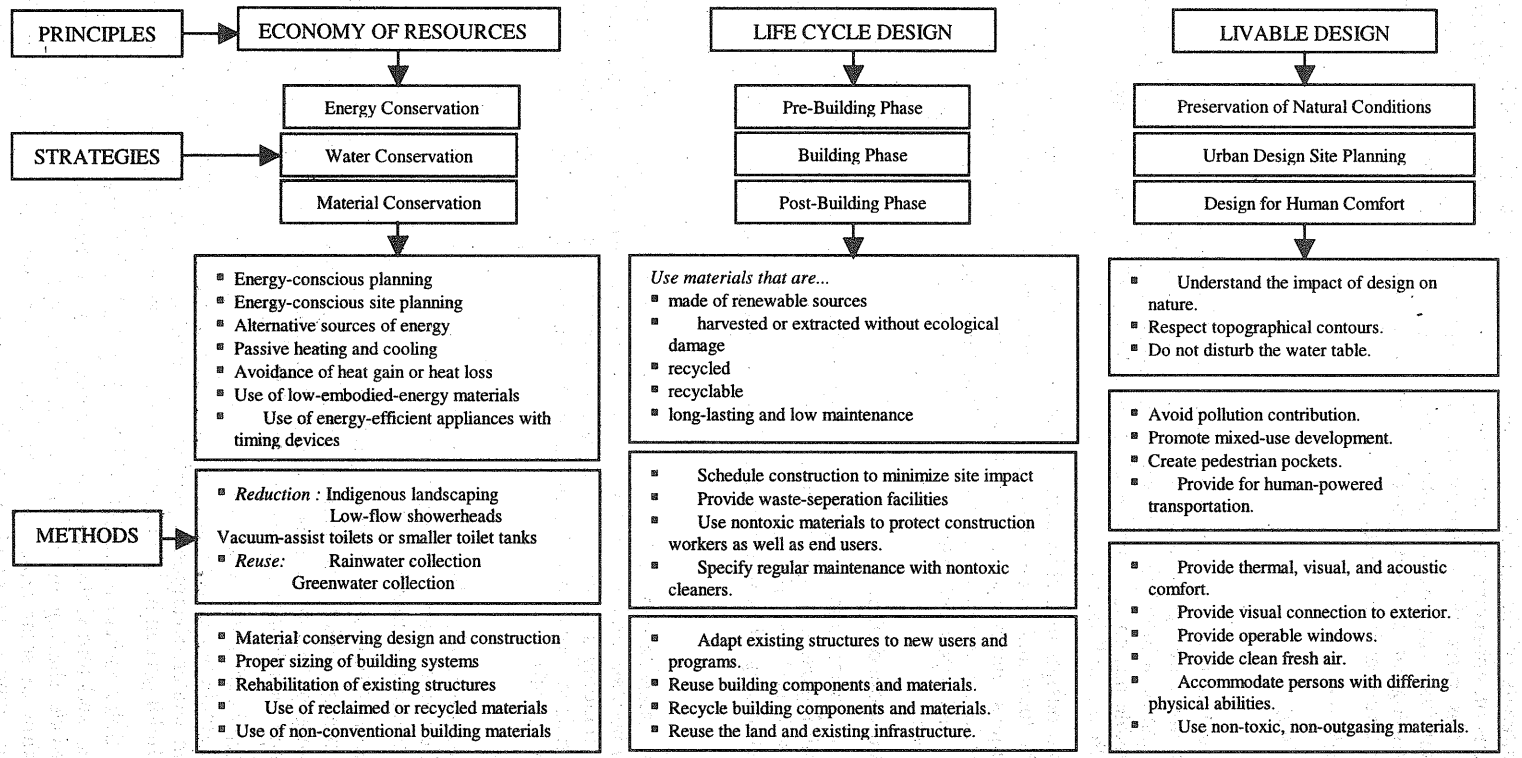

Figure 3 : The conceptual framework of sustainable architecture

Daylighting; Building and window design that utilizes natural light will lead to conserving electrical lighting energy, shaving peak electric loads, and reducing cooling energy consumptions. At the same time, daylighting increases the luminous quality of indoor environments, enhancing the psychological well-being and productivity of indoor occupants. These qualitative benefits of daylighting can be far more significant than its energy-savings potential.

Energy-Efficient equipment; Operation costs can even exceed construction costs over a building's lifetime. Careful selection of high-efficiency heating, cooling, and ventilation systems becomes critical. The initial price of this equipment may be higher than that of less efficient equipment, but this will be offset by future savings. Appliances, from refrigerators to computers, not only consume energy, they also give off heat as a result of the inefficient use of electricity.

Choose materials with low embodied energy; Building materials vary with respect to how much energy is needed to produce them. The embodied energy of a material attempts to measure the energy that goes into the entire life cycle of building material. Using local materials, over imported materials of the same type, save transportation energy (Burall, 1996).

3.1.2. Water conservation

Methods for water conservation may reduce input, output, or both. This is because, conventionally, the water that is supplied to a building and the water that leaves the building as sewage is all treated by municipal water treatment plants. Therefore, a reduction in use also produces a reduction in waste (Bossink, Brouwers, 1996). The specific topics are in the following:

Reuse water onsite; Water consumed in buildings can be classified as two types: graywater and sewage. Graywater is produced by activities such as handwashing. While it is not of drinking-water quality, it does not need to be treated as nearly as intensively as sewage. In fact, it can be recycled within a building, perhaps to irrigate ornamental plants or flush toilets.

Reduce consumption; Water supply systems and fixtures can be selected to reduce consumption and waste. Vacuum-assisted and biocomposting toilets further reduce water consumption. Biocomposting toilets, available on both residential and commercial scales, treat sewage on site, eliminating the need for energy-intensive municipal treatment. Indigenous landscaping (using plants native to the local ecosystem) reduce water consumption.

3.1.3. Materials conservation

The production and consumption of building materials has diverse implications on the local and global environments. Extraction, processing, manufacturing, and transporting building materials all cause ecological damage to some extent. There are input and output reduction methods for materials conservation (Lyle, J. 1994). The specific topics of strategies focus on:

Adapt existing buildings to new users; One of the most straightforward and effective methods for material conservation is to make use of the resources that already exist in the form of buildings. Most buildings outlive the purpose for which they were designed. Many, if not all, of these buildings can be converted to new uses at a lower cost than brand-new construction.

Incorporate reclaimed or recycled materials; Buildings that have to be demolished should become the resources for new buildings (Federle, 1993). Many building materials, such as wood, steel, and glass, are easily recycled into new materials. Some can be used whole in the new structure.

Use recycled materials; During the process of designing the building and selecting the building materials, look for ways to use materials that can themselves be recycled. This preserves the energy embodied in their manufacture.

Size buildings and systems properly; When a building is too large or small for the number of occupants it must contain, its heating, cooling, and ventilation systems, typically sized by square meter, will be inadequate or inefficient. This method relates directly to the programming and design phases of the architectural process. Architects are encouraged to design around standardized building material sizes as much as possible. Excess trimming of materials to fit non-modular spaces generates more waste.

Reuse Non-Conventional products as building materials; Building materials from unconventional sources, such as recycled tires, pop bottles, and agricultural waste, are readily available. These products reduce the need for new landfills and have a lower embodied energy that the conventional materials they are designed to replace.

Consumer goods; All consumer goods lose their original usefulness by the time. The "useful life" quantifies the time of conversion from the useful stage to the loss of original usefulness stage. For instance, a daily newspaper is useful only for one day. The shorter the useful life of consumer goods, the greater the volume of useless goods result. Consequently, more architectural considerations is required for the recycling of short-life consumer goods. The conventional term for consumer goods that have lost their original usefulness is waste. But waste is or can be a resource for another use. Therefore, it is better to use the term "recyclable materials."

3.2 Life cycle design

As discussed earlier, the Life Cycle Design principle embodies three strategies: pre-building, building, and post-building. These strategies, in turn, can yield specific design methods that will improve the sustainability of architecture.

3.2.1 Pre-building phase

During the Pre-Building Phase, the design of a building and materials selected for it are examined for their environmental impact. The selection of materials is particularly important at this stage: the impact of materials processing can be global and have long-term consequences.

Use materials made from renewable resources; Renewable resources are those that can be grown or harvested at a rate that exceeds the rate of human consumption. Using these materials is, by definition, sustainable. Materials made from nonrenewable materials (petroleum, metals, etc.) are, ultimately, not sustainable, even if current supplies are adequate.

Use materials harvested or extracted without causing ecological damage; Of the renewable materials available, not all can be obtained without significant environmental effects. Therefore, the architect must be aware of how various raw materials are harvested and understand the local and global ramifications.

Use recycled materials; Using recycle materials reduces waste and saves scarce landfill space. Recycled materials also preserve the embodied energy of their original form, which would otherwise be wasted. This also reduces the consumption of materials made from virgin natural resources. Many building materials, particularly steel, are easily recycled, eliminating the need for more mining and milling operations.

Use materials with long life and low maintenance; Durable materials last longer and require less maintenance with harsh cleansers. This reduces the consumption of raw materials needed to make replacements and the amount of landfill space taken by discarded products. It also means occupants receive less exposure to irritating chemicals used in the installation and maintenance of materials.

3.2.2. Building phase

The methods associated with the Building Phase strategy are concerned with the environmental impact of actual construction and operation processes. Specific topics are in following:

Minimize site impact; Careful planning can minimize invasion of heavy equipment and the accompanying ecosystem damage to the site. Excavations should not alter the flow of groundwater through the site. Finished structures should respect site topology and existing drainage. Trees and vegetation should only be removed when absolutely necessary for access.

Employ nontoxic materials; The use of nontoxic materials is vital to the health of the building's occupants, who typically spend more than three-quarters of their time indoors. Adhesives used to make many common building materials can outgas for years after the original construction. Maintenance with nontoxic cleansers is also important, as the cleaners are often airborne and stay within a building's ventilation system for an extended period of time.

3.2.3. Post-building phase

During this phase, the architect examines the environmental consequences of structures that have outlived their usefulness. At this point, there are three possibilities in a building's future: *reuse*, *recycling of components*, and *disposal*. Reuse and recycling allow a building to become a resource for new buildings or consumer goods; disposal requires incineration or landfill dumping, contributing to an already overburdened waste stream (Ngowi, 2001).

Reuse the building and components; The embodied energy of a building is considerable. It includes not only the sum of energy embodied in the materials, but also the energy that gone into the building's construction. If the building can be adapted to new uses, this energy will be conserved. Where complete reuse of a building is not possible, individual components can be selected for reuse; windows, doors, bricks, and interior fixtures are all excellent candidates.

Recycle materials; Recycling materials from a building can often be difficult due to the difficulty in separating different substances from one another. Some materials, like glass and aluminum, must be scavenged from the building by hand. Steel can easily be separated from rubble by magnets. Concrete can be crushed and used as aggregate in new pours.

Reuse existing buildings and infrastructure; It has become common for new suburbs to move farther from the 'city center' as people search for "space" and "nature." The development of new suburbs from virgin woods or fertile agricultural fields destroys the qualities of suburbanites are seeking. Moreover, in addition to the materials for new houses, new development requires investments in material for roads, sewers, and the businesses that inevitability follow. Meanwhile, vacant land and abandoned structures in the city, with its existing infra-structure, go unused, materials wasted.

3.3 Livable design

As described in the introduction, this principle embodies three strategies. These strategies, in turn, yield specific design methods that will improve the sustainability of architecture. Specific topics are as in the following:

3.3.1. Preservation of natural conditions

Respect topographical contours; The existing contours of a site should be respected. Radical terraforming is not only expensive but devastating to the site's microclimate. Alteration of contours will affect how water drains and how wind moves through a site.

Do not disturb the water table; Select sites and building designs that do not require excavation below the local water table. Placing a large obstruction (the building) into the water table will disturb natural hydraulic process. If the water

table is exposed during construction, it will also become more susceptible to contamination from polluted surface runoff.

Preserve existing flora and fauna; Local wildlife and vegetation should be recognized as part of the building site. When treated as resources to be conserved rather than as obstacle to be overcome, native plants and animals will make the finished building a more enjoyable space for human habitation.

3.3.2. Urban design and site planning

The methods associated with the Urban Design and Site Planning strategy apply sustainability at a scale larger than the individual building.

Integrate design with public transportation; Sustainable architecture on an urban scale must be designed to promote public transportation. Thousands of individual vehicles moving in and out of area with the daily commute create smog, congest traffic, and require parking spaces.

Promote mixed use development; Sustainable development encourages the mixing of residential, commercial, office and retail space. People then have the option of living near where they work and shop. This provides a greater sense of community than conventional suburbs. The potential for 24-hour activity also makes an area safer.

3.3.3. Design for human comfort

Provide thermal, visual, and acoustic comfort; People do not perform well in spaces that are too hot or too cold. Proper lighting, appropriate to each task, is essential. Background noise from equipment or people can be distracting and damage occupants' hearing.

Provide visual connection to exterior; The light in the sky changes throughout the day. Humans all have an internal clock that is synchronized to the cycle of day and night. From a psychological and physiological standpoint, windows and skylights are essential of keeping the body working properly.

Provide operable windows; Operable windows are necessary so that building occupants can have some degree of control over the temperature and ventilation.

Provide fresh clean air; Fresh air through clean air ducts is vital to the well-being of building occupants. The benefits of fresh air go beyond the need for oxygen. Continuous recirculation of interior air exposes people to concentrated levels of bacteria and chemicals within the building.

Use nontoxic, Non-outgassing Materials; Long-term exposure to chemicals commonly used in building materials can have a detrimental effect on health.

Accommodate persons with differing physical abilities; Buildings that are durable and adaptable are more sustainable than those that are not. This adaptability includes welcoming people of different ages and physical conditions. The more people that can use a building, the longer the building's useful life.

4. Conclusion

The goal of "sustainable design" is to find architectural solutions that secure the well-being and coexistence of organic and inorganic groups. To meet this goal of coexistence, we represented a conceptual framework by considering principles, strategies, and methods of sustainable design. The conceptual framework of the proposed model, proposed in Figure 3, indicates the architectural responsibilities within the context of sustainability.

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City and city life: a synthesis of dilemmas

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Abstract
We have begun to live at environments away from nature. Globalization and advances in information technologies have been altering the lives of people. Homes have been becoming offices as most of the work can be carried through computers and internet accessibility. Commerce has become the recreational activity of today's population. Shopping malls and virtual shopping opportunities are taking the place of conventional shopping activities, and traditional shopping places, such as bazaars. In the past, however, human intercourse had a stimulating effect, and was considered as the main prerequisite for the cultural development. Today, open spaces and parks have been losing their characteristics as being spaces supporting social interactions between people since more people prefer staying at homes or going to internet cafes so as to chat with people from all over the world, travel around virtually, etc. Thus, the physical environments of people have been affected due to these factors.

Due to the rapid increase in car ownership after 1950s, traffic has been given a high priority in cities. On the one hand traffic provides ease of transportation from one place to another, but on the other hand it causes environmental problems such as noise and air pollution; as well as visual pollution.

Likewise the lifestyles of citizens of most of the cities all around the world, lifestyles of the citizens of Ankara have been affected by globalization and technological improvements.

Hence, this paper explores urbanism and city life by the end of the 20th century and in the beginning of the 21st century, and the physical changes in the capital city of Turkey, Ankara, and the alterations in the people's lives are criticized as a case.

1. Introduction

Cities have been the places where social interaction between people has evolved throughout the history. Cities accommodate a complex system of residential areas, office buildings, trade centers, hospitals, theaters, cinemas, schools, university campuses, parks, sports areas, etc., providing people places for housing, utilities, education, and social interaction. Different parts of the cities can be accessed and are connected to each other by means of congested motorways.

In the past, the city was the place for social interaction and cultural activities. People were gathering at the public square for celebrations, were going to parks to see their friends, were shopping at the bazaar where they could talk with the salesman. However, globalization and advances in information technologies have altered the lifestyles of the city dwellers. As Robins (1993) states, cities have become integrated into complex, international transportation systems, and global information and communications networks. Complexities, contradictions and difficulties influence the transformation of cities. Relph (1976) points out the considerable influences of the separation from nature, and the creation of artificial environments, combined with the changes in society and economy, on the types of the environments that have been created. Thus, we can talk of a process of globalization in the transformation of urban spaces and forms.

2. Globalization and transformation in cities

According to American urbanist Milton Webber the essence of the city lies on the interaction between people (Norberg-Schulz, 1988). In the great metropolises, however, interaction between people decreases as we become more dependent on technological improvements and machines. New communications and media technologies encourage privacy and isolation. Homes become offices as most of the work can be carried out through computers and internet accessibility. Virtual shopping opportunities take the place of conventional shopping activities. People spend much time at their homes watching television or surfing on the net. Most people do not know who lives next door. This fact diminishes the social relations between neighbors and the city dwellers as a whole.

The forces of new technologies, globalization and 'time-space compression' have together created a sense of information flows, fragmentation and motion. Yet, this time-space compression has not been experienced by all in the same way (Carter, Donald and Squires, 1993). Even though contemporary developments are frequently disturbing, they are often exciting. Some are favored by the technological improvements, whereas others are constrained by it as face-to-face relations between people are diminished.

> "... the lack of direct human contact may produce psychic disturbances, which in fact are becoming ever more frequent among the inhabitants of the great metropolises. The architectural theorist Christopher Alexander has carried through several studies of the problem, and concludes that "... the social pathologies which are characteristic of urban life, delinquency and mental disorder, depend inevitably on the lack of direct contact." To make such a contact possible "the interested persons have to meet very often, almost every day." Mental disturbances, on the contrary, occur when meetings are causal and irregular. The environment advocated by the utopians therefore would lead to self-centeredness and in the worst case to schizophrenia." (Norberg-Schulz, 1988: 27).

Although newspapers, journals, radio, television, internet accessibility, and various means of transportation transmit ideas from one place to another making it possible to treat problems as widespread and general rather than local and specific, they reduce the need for face-to-face contact, free communities from their geographical constraints, and reduce the significance of place-based communities (Relph, 1976).

Mass communications, mass culture, big business, powerful central authority, and the economic system encourage directly or indirectly 'placelessness'. This inauthentic attitude towards places weaken the identity of places to the point where they not only look alike but feel alike and offer the same bland possibilities of experience. Mass culture, which has been formulated by manufacturers, governments, and professional designers, and is guided and communicated through mass media, has been encouraging and transmitting general and standardized tastes and fashions. This has resulted in growing uniformity of landscape and lessening diversity of places, providing no roots, no sense of belonging to a place. Uniform products and places are created for people of supposedly uniform needs and tastes, and it is very little that companies involved in mass production leave to chance whether in advertising, packaging, or the product itself. The cultural landscapes of the world are becoming standardized both at the points of production and administration, and at the points of consumption. Yet, such uniformities provide a measure of familiarity from city to city and may make tolerable the high rates of mobility that characterize present-day life (Relph, 1976).

Shopping malls and virtual shopping opportunities are taking the place of conventional shopping activities, and traditional shopping places, such as bazaars. According to Hough (1990), today, all over the world, from the US and Europe to Far East, the mall has become an irresistible magnet, attracting many people -old and young, teenagers and families- to spend their money and much of their leisure time within its covered and air-conditioned spaces. Spreading like an octopus over vast areas, it includes parking, shopping, and entertainment- and a complete weekend's fun for everyone. It represents contemporary values; consumption as a leisure-time activity, a world where buying, living, and entertainment are perceptible in a fantasy world -a make-believe world- created from plastic and conditioned air that has no connections with the cultural and ecological realities of the place. This has become a universal phenomenon of contemporary urban life and a major contributor to the sense of placelessness that massive urbanization has helped to create.

The impacts of these mega-commercial entertainment centers are more crucial on the larger environments. Malls have become islands of activity and life separated by roads, parking lots, and sprawl. The hostile parking environment surrounding the mall complex isolates it from the larger environment (Hough, 1990).

Lack of identity pervades both cities and the entire regional landscape as a universal phenomenon. Not only formal open spaces of the cities, but also the parks, even the gardens of the houses have been subjected to a universal design standard that denies a sense of place. The new plantings gracing the grounds of every subdivision and corporate development are selected from the nursery catalog of best selling species. Thus, the ecological diversity of the native landscape is replaced by horticulture. Many of our urban parks have been designed by a tradition of standard landscapes for standard people ignoring the inherent social diversity of neighborhoods. As a result, the socially disadvantaged, the homeless, and transient use parks and waste places in the city night and day and often year round more permanently and with more basic need than the people for whom the parks were actually intended. Yet these people are not welcome in the parks system (Hough, 1990). Activities of the users of open spaces should be independent, creative, educational, and cooperative and should involve the environment (Nohl, 1992) and meet the desires of the users. Hence, more people could use parks.

3. Globalization and transformations in Ankara

Likewise the lifestyles of citizens of most of the cities all around the world, lifestyles of the citizens of Ankara have been affected by globalization and technological improvements.

In the past the citizens were buying food daily from the butcher, grocer, baker, and having talks with them. Shops were lined up along the major streets of the city. In the beginning of the 1960s, the ground floors and basements of the newly built buildings were used as passages –like closed streets- where the number of shops were placed. After 1980s, due to globalization, and mass production and mass consumption, shopping malls, where one could make shopping, have meal, and recreate indoors, have been constituted within the city center. However, due to ease of transportation and the sprawl of suburban developments, several mega-commercial centers extended over the suburbs (Osmay, 1998).

As a result of the increase in car production and car ownership after 1970s, accessibility to the various parts of the city has increased rapidly. Hence, high-income groups have been leaving their apartment flats and begin to live at houses with gardens at the suburbs. The shopping malls constituted at the suburbs, therefore, satisfy the needs of the people living at suburbs and attract people from the city center as well.

It is wonderful once you get inside those mega-commercial centers, but pure hell getting there as they attract a number of people and cause traffic congestion. The parking lots of these malls separate them from their surroundings. While the roads connect various places to the malls, they segregate them from the nearby surroundings.

The open-green spaces within the city center are diminished by buildings and traffic roads. As most of the parks are designed without reflecting the characteristics of the inhabitants and encouraging the usage of the people living there, they are not used properly. In some parts of the city, children cannot find playgrounds in which to play. Thus, they spend most of their time on the computers, playing computer games and surfing on the net, playing with electronic toys etc. In some parts of the city, we can see playgrounds without any children. This is because they are built on spaces that are dangerous for children to play. We see teenagers wandering in the malls or meeting their friends at internet cafes so as to chat with other children from all over the world.

4. Conclusion

The combination of cultural and natural history, the variety of its ethnic and interest groups, and its development patterns form the identity of cities. The quality of urban life today has to do, among other things, with busy plazas and markets; noisy and quiet places; cultivated landscapes and formal gardens; funfairs and cultural events. In multicultural

cities, the cultural and physical identity of these groups could be reflected by public open spaces. Open spaces of cities are functional, richly diverse, and environmentally beneficial to the health and productivity of people and places (Hough, 1990).

However, there is a shift in the recreational places of today's society from outdoor spaces to indoor spaces. We have been isolating ourselves from nature. Yet, we are trying to bring about nature into artificial environments we create since natural processes cannot be experienced within closed environments.

According to 19th century German educator Friedrich Froebel, children have to learn how to function both as separate individuals and as participants of the society. Therefore, they need more than toys, games, music, dedicated teachers, and a pleasant classroom to develop their intellects and their feelings. They need to experience outdoors since it is only outdoors that a person could learn empathy with the rest of creation (Hiss, 1991).

We cannot expect the information based society of today's cities to give up cars, televisions, and computers as they put people in contact with the world in a challenging way, while they diminish social intercourses between people.

Geoff Mulgan, who has rekindled soft technological urbanism recently, argues that the new 'soft infrastructures' of information and communications technologies can sustain health training and distant education projects on cable television, tele-shopping for the old and disabled, on-line access to councils and assemblies. This idea is in fact a markedly anti-urban vision, a kind of postmodern, electronic garden city (Robins, 1993).

How will our cities look like in the future? Shall we prefer to live in electronic garden cities or in cities where we can find nature, culture, and social interaction?

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Urbanization problems in the GAP (Southeastern Anatolia Project) region & suggested solutions

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Abstract

The Southeastern Anatolia Development Project, which aims at diminishing the intra-regional inequality in the socio-economic development process of Turkey, is an important attempt considering its anticipated influence on the rural and agricultural economies and the ways of living, on the development of agricultural industries, and the increase in the employment and the capital potential of the stated region. It is estimated by the GAP Regional Development Administration that, in the region, the level of income will multiply by five, the population will approximately be 10 000 000, and 3 500 000 people will be employed. However, although these projected circumstances are positive attempts in solving the socio-economic and socio-cultural problems of the region which, when compared to other regions, reflects an under-developed panorama, it is evident that these circumstances, along with population movement, will end in new consequential socio-economic and socio-cultural problems.

Diyarbakır, Şanlıurfa and Gaziantep present different dynamics of population density and socio-economic structure, when compared with other provinces of GAP region. Consequently, the GAP master plan bases the physical demands on these three cities with respect to the "Broken Development Axe" thesis. These cities are presented as centers of attraction in the master plan, and are suggested to gain the capacity of absorbing the increasing population.

In this article, with respect to the experiences of the cities which are already industrialised or are in the process of industrialising, the change process the cities on the "Broken Development Axe" will undergo as a result of the population movement will be discussed, and the negative effects of this process on the urban areas resulting from the stated experiences will be presented. This discussion will be followed by the suggestion of a model for the physical demands of the stated provinces, which will involve an interest in maintaining the already-existing city structure.

1. Southeastern Anatolia Region and GAP

The GAP region (75358 km2), which includes Adıyaman, Batman, Diyarbakır, Gaziantep, Kilis, Mardin, Siirt, Şanlıurfa and Şırnak, holds 9.7 % of Turkey's area. When the socio-cultural and socio-economic structures of the region are considered, it is seen that the level of development in the region is definitely lower than that of Turkey in general. The Southeastern Anatolia Project (GAP) has been started in order to develop the region wholly by means of dynamising resources such as soil, water and human beings. The GAP Region Development Administration, which was established in 1990, outlined the regional development in the GAP Master Plan that was published in the same year. The Master Plan prepared a calendar for the development of the soil and water resources by taking financial and technical capacities into consideration, estimated the influence of this development on the economic and social life (e.g., emerging employment) related with urban and rural structures, and determined education, health and urban infrastructural needs on the macro level to announce financial needs (DPT,1990).

The constant financial investment of GAP is 32 000 000 000 (billion) USA dollars whereas by the end of 1999 the financial realisation of GAP is 14 000 000 000 USA dollars, which equals to a 44% of the whole process.

However, some important developments that have been experienced both in the region and in Turkey during the 12 years that has passed since the time GAP Master Plan was prepared have been inconsistent with what the plan foreshadowed. During the stated time period, the region has been subject to enormous population movements and urbanisation, which the plan failed to state. In the meantime, Turkey had three population censuses whose results were not reflected to the plan. Moreover, The United Nations and Habitat conferences that were held after the 1990's introduced some new terms such as "governance" and "sustainability", which highlighted participation and environmental sensitivity.

After the 1990's, new financial models such as bidding gained importance as well, which, along with the other aspects stated above, draws one to the conclusion that the GAP Master Plan should be updated and revised for the project to be managed properly and efficiently.

The population in GAP, which figured as 6.151.353 in the population census of 1997, makes 9.7 % of the population in Turkey. 64.1 % of this population lives in urban areas whereas 35.9 % of it lives in rural areas (Table 1). In the same population census, the population rise ratio was 2.4 for Turkey and 2.9 for the region (DİE, 2001).

However, in the 1985-population census, which GAP Master plan considered, as a main reference among the other previous ones, the population of the region was 4.303.567, making 8.5 % of that of Turkey. 49.9 % of the population lived in urban areas whereas 50.1 % of it lived in rural areas (Table 1). The population rise ratio was 1.5 for Turkey and 2.5 for the region. These figures, which the master plan could not foresee, show that there is an immense population condensation and population movement within the region. The increasing ratio

Table – 1
Distribution of Urban and Rural Population in GAP Region

Provinces	1985 Population	1985 Urban %	1985 Rural %	1997 Population	1997 Urban %	1997 Rural %
Adıyaman	430 728	36.7	63.3	679 067	58.1	41.9
Batman	-	51.3	48.7	400 380	68.2	31.8
Diyarbakır	934 505	51.5	48.5	1 282 678	64.9	35.1
Gaziantep	966 490	67.4	32.6	1 127 686	76.8	23.2
Mardin	652 069	41.1	58.9	646 826	56.1	43.9
Siirt	524 741	39.7	60.3	262 371	60.5	39.5

2.1 GAP and Urbanisation Problems In the Three Cities

Citywise, Şanlıurfa, Diyarbakır and Gaziantep, whose populations are estimated to be over 500.000 by the end of 2005, will be holding a collective

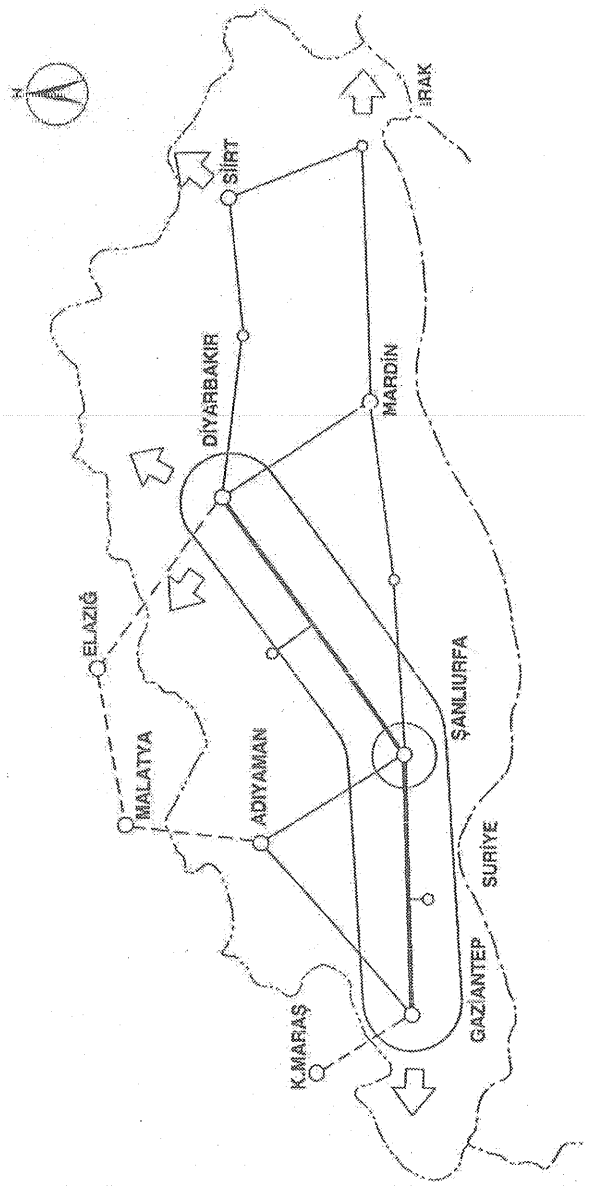

Figure 1 : 'Broken Development Axe' Spacial Development Structure

Table – 2
Numbers Of Buildings & Housings In the Municipalities In GAP Region

	# of Buildings			# of Housings		
	1984	2000	%	1984	2000	%
Adıyaman	26 285	52 006	97.9	30 415	75 690	148.9
Batman	17 234	34 853	102.2	19 016	55 577	192.3
Diyarbakır	51 321	90 620	76.6	75 453	200 351	165.5
Gaziantep	80 541	155 343	92.9	114 817	279 617	143.5
Kilis	10 347	13 799	33.4	13 180	20 397	54.8
Mardin	40 493	62 925	55.4	42 256	87 668	107.5
Siirt	10 504	21 027	100.2	12 613	30 244	139.8
Şanlıurfa	60 665	113 612	87.3	63 113	158 645	151.4
Şırnak	1 493	28 089	1781.4	1 699	34 184	2 147.4
Türkiye	4.387 971	7838 675	78.6	7 096 277	16 235 830	128.8

figure of 3.125.428 individuals which makes 48.5 % of the whole region (DPT,1990).

In Table-2, the increase of buildings and housings in the GAP region between the years of 1985 and 2000 have been shown (DİE, 2001). In this table, it is seen that the building and housing construction activities in the last 16 years have been doubled. From 1984 to 2000, 124.898 housings in Diyarbakır, 164.800 housings in Gaziantep and 95.532 housings in Şanlıurfa have been completed and been added to the urban structure. Consequently, these population movements, which are easy to observe from the figures, have increased the structural problems already existing in these cities.

The studies made so far have handled the stated structural problems in a superficial manner, instead of probing the multi-dimensional difficulties in order to provide coherent and extensive solutions. Inevitably, this has been a stumbling block on the way to the desired development. The municipalities' reaction to the increase in the population has been to extend the municipal construction areas, to determine reserved development zones and to allow for building estate and industrial areas within the cities.

The mistakes made in choosing industrial zones, and the rapid emergence of building estates, which integrate into the cities have made the cities grow in a congested manner, resulting in the incapability and inefficiency of the infrastructure, transportation, urban procurement and recreative units.

3. Conclusion

The provinces Diyarbakır, Şanlıurfa and Gaziantep, which are situated on the Broken Development Axe, fall short of a planned and a controlled development process. The stated provinces still experience illegal housing, infrastructural and residential problems; and provincial requirements such as social procreation units and recreation areas cannot be satisfied. However, housing estates and industrial zones, which have become organic parts of the provinces increase the intensity for such requirements. Ironically, their planned but unestimated development process, along with their historical pattern, are the two main stumbling blocks in realising the the stated goals. When the estimation that, due to GAP, one third of the population will be dwelling mainly in Diyarbakır, Şanlıurfa and Gaziantep by the end of 2005, is taken into account; it is obvious that these provinces will neither satisfy the housing demands of the increasing population, nor provide an efficient urbanisation process. The foreshadowed chaotic situation suggests that, without a further perpetuation of the already existing problems in the area, it is better to move the increasing population to other areas. This can be realised by establishing a linear industrial area and its suburban connections which will be situated parallel to a strong transportation web on the Broken Development Axe (Figure-2). The formation of the provinces is realised via the decisions made by behavioural units : decisions of the house builders or industrial entrepreneurs which will undertake the activity, and decisions included in planning (Şener, 1996). For this reason, when the planning is initialised, the prioritized goal must be to identify the existing settlement tendency and to reflect it to the planning. The basic planning criteria of the suggested model are as follows :

- The planning of the suburbs that will be established must be a mutual study of experts in various fields.
- Physical limitations of the geography should not be the sole aspect that determines the urban planning; it should be achieved with contribution from social, economic, legal, bureaucratical and political units as well .
- Industrial units should be situated along the Broken Development Axe. The suggested area will at the same time project the entrepreneurs' tendency to settle, and this will speed up the development of the industry.
- Roads should be situated in a hierachal manner and be ranked as international roads, interprovincial roads, intraprovincial roads and outer-provincial roads. The transportational line should also be linked to the harbours of Mersin and İskenderun.
- In addition to highways, railways are also suggested for transportation. Railways are important in the sense that they disburden highways' cargo transportation, and in doing so, they decrease the risk of accidents. Human transportation should also be realised via railways.
- Industrial development should be initiated closest to suburbs. Along the axe, these areas should be provided with the infrastructural facilities that the industrial zone demands. The infrastructural development zone's being situated along the axe amongst the three provinces results in a lower cost of the infrastructural development process and in its upkeep. Today, Turkey's infrastructure production has been institutionalized in separate ways. In industrial and infrastructural processes, instead of using infrastructure projects, constructions and managements separately for each infrastructure, the infrastructure services should be organised in a unifying manner, thoroughly from construction to management.
- The suburbs in question should be planned in a three-dimensional attitude and should include these peculiarities :

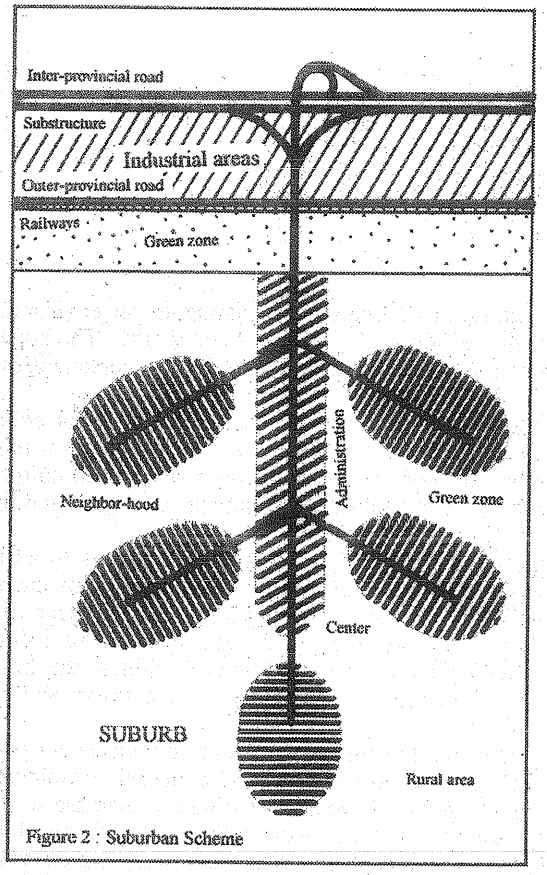

Figure 2 : Suburban Scheme

. The suburbs closest to the provinces should be situated at a distance from the provinces so as not to integrate with them in time.
. They should be planned to have populations of approximately 100.000, and for this process, the increase in the population of the provinces over five years' period should be taken into consideration.
. The suburbs should be planned as self-sufficient settlements, consisting of working places, housings and recreation units.
. For a housing settlement that can really be satisfactory, the housings should be planned to have a garden and fewer floors, when the rural characteristic of the population is taken into consideration. Such a planning will enable the families with lower income to develop their limited budget by indulging in poultry and vegetable growing.
In Turkey, when the provinces that initiated their industrialisation process in the 1945s are surveyed, it is seen that they have not been successful in realising a consistent and competent urbanisation, and that they still suffer from various structural problems. The suburbs, which will be established by taking these experiences into account, will become major aspects in rendering the Southeastern Anatolia Project successful, in regional development and in attaining spatial standards that a contemporary way of living necessitates.

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Housing, identity and well-being

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Abstract

The house is regarded as an extension of one's self existing in an environmental context. Values and social meanings, including conceptions of the self depend on one's social world. The house reflects cultural values regarding personal and social identities. Individuals invest some part of their personalities in their houses, in other words, personalize their places.

In this research, the multi-method techniques have been used for document collection consisting of observation of place and behaviour. Concepts and approaches in the field have been discussed within the theoretical framework. House identity and style have been examined through examples in their relation to culture, values, meanings, and symbols, which have changed in time within the context of their environment. Analyses and the samples have been considered in a naturalistic way with respect to well-being.

Identity is expressed through the house's reflection of the self according to an individual way of understanding it. Social symbols are used to communicate what is believed to be the nature of the world. The environment and house style can be regarded as a text that can be read by those who know the language of the built-form. House styles have changed in regions, towns and countries all over the world because of cultural differences for climate, materials and technology affect the way people build their houses. In several studies, the house identity has been viewed as a symbolic extension of one's self, as a factor increasing or minimizing stress, and as a factor of satisfaction related to well-being.

Throughout the time, scientific and technological inventions made it easier for people to live in houses, but they also arouse problems such as high pollution, rapid urbanization and economic problems which caused loss of identity and meaning related to house and alienation. A lot of issues including the increase in population, the changing values and the globalization, which have all together destroyed cultural differences, affected the housing environment in the world. Considering effects of built environment on well-being, the government, universities, the researchers and the architects should participate more widely in the interdisciplinary work.

Introduction

There has been an importance of the houses for man since the very beginning when he/she first started building houses. Due to industrialisation and advances in technology there have indeed been changes in the material, shape and construction of houses. Beyond accommodation, the concept of house and its environment means to man a lot more than just physical forms as a basic need. Concepts relating to house and place of dwelling are being discussed in many fields of science in an effort to find explanations. These discussions and differences have to be carefully studied in order to reach a definition of the house identity and style and establish their relation with well-being.

Dwelling, house and home

Dwelling, house and home all have differences in meaning (Seagert, 1985; Tognoli,1987; Tiftik, 1995). Qualities of dwelling are based on the orientation and identification all in different meanings explaining the 'where' and 'how' of man's existence on earth. (Norberg-Schulz, 1985). Two aspects of dwelling, orientation and identification are all together achieved through an arranged space and style of construction that constitute the concrete setting. The nature of man's close relations experienced in the house environment is mainly determined by psychological, social and physical factors inherent in dwellers of the place.

The concept of place identity by Prohansky and his colleagues (Proshansky, Fabian, & Kaminoff, 1983) and place dependence by Stokols and Shumaker (1982) help understand the strength of attachment of man for a particular setting. Researches have shown that house, besides being a physical setting of privacy, is also a concept comprising topics of social, cognitive, cultural and behavioural nature. Identity and attachment arise in such cases where people are attached to objects and places in the psychological, social and cultural sense of the word, and unite in this way with their environment and houses. House plays an important role as the symbol for security, comfort and the individual himself/herself and thus gains an identity. The sense of place, of belonging, of having roots are reinforced by the retention of almost any familiar feature and social security but more importantly a sense of security which comes from symbols of continuity.

Some concepts are the key to the definition of a house as home. There are certain qualities in man's life constituting the place of importance of home and its difference from the house and housing. When concepts of space, home and house are compared to one another, it is clearly seen that there exists a significant difference between the conceptual space and the lived space (Bollnow, 1967). Conceptual space is a total of environment and certain circumstances which can be measured in abstract, geometrical and objective terms and in which man exists together with all other things. Lived space, on the other hand, is the opposite of this; that is, a preconceptual and meaningful spatial experience referred to as "being in the world" by the phenomenologists (Heidegger, 1962).

House as home is a place whose roots the individual has and where he/she belongs. It plays a comprehensive role in giving the individual a place in society and joins with other houses through interpersonal relations. (Norberg-Schulz, 1985; Oliver, 1987).

House as home contains temporal qualities reflecting the dynamic, flexible and changeable relations between man and the environment. Home environment is filled with familiarity. In terms of continuity, home contains images of heritage, sense of belonging, life and death, time, line of a family, connections to the childhood memories, relations with the past (Dovey, 1985; Tognoli, 1987). The phenomena of home becomes concrete in this framework which is arranged spatially, socioculturally and in terms of time and is regarded as the symbol for unity, order and sacredness. It is believed that the symbolic qualities of home have evolved into new forms through their transference culturally and in unity from one generation to another. Home, seen as the representation of order and identity, means a series of connections between the individual and the world, people, places, past and future. Home as a familiar area comprises the neighbourhood, the town and the landscape and is like an arranged centre distinct from the other larger and alien environment.

House identity and style

Appropriation, attachment, personalization ,individualism, social and gender identification with home, identification as belonging, feeling in control, feeling habituated or adapted, and feeling that one has the freedom to do as one chooses are all different aspects contained in house as home as self –identification.

Concepts of home identity, appropriation and attachment reflect the notion that man acts in such ways as to show his/her closeness and connection to a house (Werner, Altman & Oxley,1985). On the whole, appropriation of home is used to indicate the individual being transformed during a process where he or she explicitly or implicitly claims to own the environment. Appropriation operates not only through modification of things but their identification as well.

Personalization, which emerges out of the need to be different and displays variation as a function of the individual's financial, cultural and intellectual capital, leads to the acceptance of the alteration of the being and recognition of the home through its openness (Korosec-Serfaty, 1985). Identification of self with house as home and its environment stands for an archetypal image that arouses strong sexual and social unities allowing one to comprehend a more complicated and a unified self of him/her (Jung, 1963; Cooper, 1976). To Jung, the manifestation of self archetype is possible through self expression in built form. This approach has been developed by Cooper and the connection between place and self has been put forth in his article on the symbol of home as a concept of the self. Not only personal meanings but the ideology of prevailing social orders are also embodied in the house as an aspect of the built environment bearing the utmost importance. There have been widespread and fruitful debates on the issue of individualistic versus social interpretations of house identity. (Duncan, 1982).

Man requires of his/her home as a place to take shelter in to protect him/her from the rain, the snow, the wind, the sun and at the same time to have all the facilities and luxuries to enable a perfect airing and to keep hot in winter and cool in summer. House styles can differentiate according to the environment; the climate conditions, the temperature and the acquisition of the material and technology within the specific culture. Rapoport (1969), who defines the cultural variation in people's styles of designing and building their houses. According to the premise suggesting that culture creates a particular world view, world views mirror ideals specifically difficult to put into practice in an environmental context and affect the environmental choices based on values. Filtered through the worldviews, the effect of the culture becomes manifest in values, lifestyles and actions. Duncan (1985), who argues that the social structure and culture are reflected in the environment as mere symbols, puts stress on the role of the myths concerning the relation among the individual, the group, home and the cosmos.

House designs, society dwelling plans and public buildings reflect expressly the beliefs and values of a culture most of the time (Altman & Chemers, 1989). Differentiating manifestations of the culture both affects and are affected by the physical surrounding. Studies on architecture have indicated that different cultures have in time developed different styles of architecture. They display their inner characteristics by means of symbols in different styles, the concept of which traditionally covers formal properties common to a collection of works. The style in cultural terms expresses a higher level than the single work; it is the concretization of a collection of all individual situations in its totality. It is the united form of individual products as a meaningful whole(Norberg-Schulz,1965). This way, house identity expresses itself through symbols and house styles are thus created. House style reflects cultural values related to individual and social identities as well as the family structure as is the case in the traditional Turkish family Turgut, 1990). Cultural beliefs and social practices stand for a regulatory system and shape the broad perspective of the home's official manifestations in any given socio-cultural context. The effects of the spatial separation of women from men in some strict Islamic societies and many other Islamic communities are observable on the house form and style (Mazumdar & Mazumdar, 1994).

Houses become concrete within a socio-cultural order. A home style and the qualities through which it becomes meaningful may change together with circumstances, architecture, culture and history. The world is continuously shaped through the systematic application of rules that provide us with the consistent choices to create particular lifestyles, building styles and open lands for settlement. Man's cultural relation with the environment is reciprocal; in his effort to change the environment he is himself exposed to counter effects from it. This modifies the individuals' objectives and lifestyles and affects the environmental arts and architecture. Each society has had a different way of using the time, the space and the land in the process of cultural evolution and therefore the identity of the society is reflected in the environmental designs and styles. Home styles in different countries reflect, when compared to one another, diverse cultural and social worlds and social structures. The emergence of varied house styles within one particular country is a concrete indication of this fact. Today, as a result of increase in population and rapid urbanisation, housing projects are being carried out to provide the social groups with temporary houses.

Housing may be defined as the organisational programme of the physical space amounting to the use of land and certain resources and counts for the public space rather than the private space taking root in the concrete/material world. Growth of cities is financed by the expansion of the outer districts and the housing constructed by those undertakers of construction who are related to financial speculation. There lies a difference between the houses and the housing, which is the same as the one between the settlement of individual house units and the process/procedure of providing people with houses. Housing and apartment as different from houses incorporate finding solutions to people's dwelling problems on a larger scale as a product of this provision process. Mass housing designed mostly as concentrated multi-

storeys as a result of the advances in technology is observable all over the world. Huge housing complexes have been designed for getting millions of homeless people established in new homes and modernist high-rise slab blocks have consequently emerged.

Well-being

In housing and mass housing where there exist no neighbourly relations and milieu, an understanding of a neither individualistic nor a collective identity can be formed. Individuals lack the most necessary experiences to turn their houses into homes and therefore fail to identify themselves with them. The economic and social goals can not be attained and quality and aesthetics are neglected. In the practice of housing projects, problems of architectural quality arise because of non-establishment of user-architect relations along with other problems due to a failure to reflect the individual and socio-cultural values.

Many intuitive notions and heuristics (e.g., place dependence, place as contributor to self-identity, and so on) provide medium for further conceptual development, which connect in with the more general area of satisfaction and dissatisfaction. Several studies find a strong relationship between satisfaction with neighbourhood and links between environmental form and stress (Ewans & Cohen,1987; Baum, Singer & Baum,1982; Taylor,1982; Zimring,1982). Besides many other factors, lack of clear identity finds its place among the most stressful factors concerning the house and its physical environment of the neighbourhood. It is commonly understood that where people live reflects who they are. Such as simple mention of some of famous neighbourhoods brings their residents to mind.

Considered together with the other disadvantages brought about by the city life, life in housing is observed to be far from being satisfactory for the user. Pastalan (1973) have linked poor way finding and disorientation to stress. In his research, older people have shown a higher death rate when moved to new housing, an affect apparently at least due to disorientation. According to Stokols and Shumaker (1982), staying in an environment that does not sufficiently meet the individual's needs can deteriorate his/her health in a very unfavourable way. While house as home manifests itself as the ideal of unity and order, many people are driven to search for these qualities in order to achieve an optimal level of relations. Nevertheless, this very ideal causes the conflicts in individuals to heighten due to excessive untidiness in their own homes and becomes a continuous source of stress.

The research on the many families of the Bulgarian Turks from Yonuzlar Village who were settled into the immigrant housing project in Pursaklar Ankara and who had settled down into rental flats of the apartments in Istanbul, has showed that the home and the home environment highly affected their personal health and well-being and was a more important factor in their lives than their work (Tiftik, 1997). Those immigrants who had managed to purchase their own homes had also gained attachment to their homes, and were also striving to develop a sense of home identity, appropriation, and home continuity conceptualisations. The opportunity to own housing in neighborhood increased their senses of self-identity and the fact that this same group was able to settle into a district with their former neighbors with whom they share culture and a past has increased their sense of unity. It has also been observed that this first group had a better sense of well-being and health when compared to the immigrant group who reside in rental housing and who are distant from former friends and neighbors. Those immigrants living in rental units experience a greater measure of feelings of exclusion and impermanence as they have not been able to establish the relationships towards their housing modes that housing owners experience. They reported suffering from psychological disturbances since their immigration and said that many had received treatment for both psychological and physical disorders. It was observed that these people who do not have a garden have attempted to recreate a garden and greenery on their balconies and in their homes.

Since millions keep emigrating to the cities in the hope of finding jobs and just because of the allure of the city life, massive housing still stands a solution in many countries and keeps being constructed. It has been seen in the researches (Dülgeroğlu, et al.,1994) that the users are preferably inclined to live in low, especially two-storey buildings with a garden as much as in high buildings deemed a symbol for status. However many problems also arise in the construction of the low buildings due to the high cost of the transport and communications networks and drinking water and sewer systems. For this reason, it is suggested that the rural areas be developed and the second and third degree cities become centres again to prevent the emigration to big cities (Oliver, 1982; Hough,1990). Many of the established urban villages in the big cities on world are gaining identities of their own. Bringing together urban and rural values in management of urban places can be solution for preventing loss of houses/ cities identity and ensuring well-being.

Conclusion

This investigation points stresses that housing is a broad concept and one that is not limited to that of physical structure or environment. The investigation also points to the need for provision of housing to groups of this nature which prevents the residents from feeling isolated, foreign to the setting, and repressed and which allows the residents to develop feelings of neighborly relations, home-identity, and rootedness. Ideal housing would provide the users with a sense of well-being, satisfaction, and security within the setting. The housing would also be flexible enough to permit the users to express their own identities and continue their former life styles. Those who will be the users of such housing should be allowed meaningful participation and input during the design phase.

Technological novelties, increase in population, rapid urbanisation, diversification of lifestyles and values and the globalisation that destroy cultural differences in our environment. The human being must be the focus of our research. The need to find meaning and satisfaction in housing that promotes well-being must be the concern of housing research. Disciplines such as architecture, city planning, sociology, psychology, anthropology and geography also participate in research offering us a multi-disciplinary perspective. Factors with culture may be studied to achieve a better understanding of the expectations of individuals in their relation to house the way in which individuals cope with stress and alienation. In this sense, the house and its urban environment may be examined: firstly, we can approach the phenomena of the house and residence from the viewpoint of urban organisation, and secondly, from the viewpoint of the house and residence. Funding for universities and institutions engaged in housing research must come from Government and their findings must be corporate in all future well being.

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Notes

[i] The Turkish version name Gazimagusa will be used throughout the text.

[ii] The history of Gazimagusa dates back to the first century AD and the city has developed in seven periods: the early periods of foundation (648-1192 AD), the Lusignan (1192-1489), the Venetian (1489-1960), the Ottoman (1571-1878), the British (1878-1960), 1960-1974, and the period after the war in 1974. (Solsten, E. *Cyprus: A Country Study*, Library of Congress, Washington, 1993).

[iii] For a detailed review of historic development of Gazimagusa, see Dağlı, Önal, Doratlı, "Gazimagusa Şehrinin Kentsel Gelişiminin Sürdürülebilirliğine Yönelik Çözüm Önerileri", *Gazimagusa Sempozyumu 98 / Proceedings*, Doğu Akdeniz Üniversitesi, Gazimagusa, 1998.

[iv] This disintegration has been verified by the students' mental maps of Gazimagusa as well. In Urban Design Course at the Department of Architecture of EMU coordinated by the author, drawing mental maps as a tool to represent the image of a city (Lynch 1961) has been the first assignment in each semester. In these maps, the great majority of the students did not include the significant elements of the Walled City; they showed its surrounding fortifications only.

[v] In the Asagi Maras, a district developed between 1957-1974, the proximity to Maras, the uninhabited district with an uncertain future, has been the primary reason for the absence of new housing developments and new additions to the existing buildings.

[vi] Salamis Road has been shown as the major path in the mental maps of all students.

[vii] This aspect creates a contrast between the street in the Cypriot town and the street in the traditional Anatolian town, where the daily life does not spill into the street owing to the privacy reasons.

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Figure Captions

Importance of public art in creating more livable urban public spaces

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Abstract

One of the most important and also priority deserving necessities in creating more livable settlements is to build more livable public spaces. It should always be remembered that having public spaces with aesthetical high quality must be a basic right for the inhabitants of an urban area.

Art appears to be a very important tool in designing urban public spaces, for it can support the cultural development within the frame of needs and possibilities of the society. With this tool, human activities can be supported emotionally, resulting in cultural advancement and satisfaction. It is observed that in the cities of developed countries, studies within the context of public art are held with great importance in creating public spaces. Art works like these not only support aesthetics of public space but also make people feel psychologically relaxed and culturally motivated.

The concept public art, encountered transformations especially during the 20th century in parallel to the transformation stages of societies and found its important place during periods of transformations / variations of public spaces.

Spatial development / transformation periods of towns cannot be isolated from the social, cultural, economical development / transformation periods of society, but, in a way, towns even appear to be a reflection in physical environment of these changes of society. In this paper, the concept of public art shall be studied with respect to several aspects, various examples of public art works shall be criticized and recommendations will be made in order to increase the livable qualities of public spaces in the cities of our country.

1. Introduction

As it can easily be understood from the heading, two basic concepts, in interaction with each other, are constituting the subject of this study: Urban public space and public art. Results of effective gathering of the two or in a different expression, new psychological, social and physical formations arising out of this effective gathering, can be very important indicators of life quality of a town.

The concept is especially important for the cities of developing countries. For the cities of our country as an example, for many people, public space appears to be the basic environment for social and cultural development and probably the unique place to face art objects. On the other hand to create livable public spaces or to catch success in that sense is really difficult, because especially in developing countries like us, understanding its complicated, multifaceted structure is something rare to encounter

Public art should contribute to city life and, use and enjoyment of people in public places. Public art is most effective when it is incorporated, as a design strategy, into the planning of public spaces from the outset and acts as a catalyst for generating activity.

In this study, the importance of an encounter shall be dealt with, an encounter between contemporary art and the public urban space. Therefore, public and private sector groups like city agencies, community groups and private developers have to be mentioned while defining how public art contributes to an urban public space project, meets the public needs, and makes urban public spaces much active and more successful.

2. Creating livable public urban spaces

The first thing to be done should be to evaluate the priorities / needs for either increasing the life quality of existing indoor or outdoor public spaces like open places, parks, streets, pedestrian zones, or constructing new public spaces.

The beginning point should be making a very detailed analysis of the requirements of the potential users of that space. These requirements will definitely be linked to the social and economical conditions of the potential users. In addition to this, in all communities there are people who can provide an historical perception and a valuable approach of functioning of an area of the town. They have an understanding of the critical issues for the town and a sense of things that have a meaning to people. Having the information that these people can bring at the beginning of the design process will result in a great assist in creating a sense of ownership of the community. Community ownership in any project produces great benefit to both the project sponsor and to the community.

Secondly, partners are very critical to the future success and image of a public space improvement project. The mentioned partners can be private firms, agencies, local institutions, non-government organizations, schools, museums etc.

Another important point for creating a successfully livable public place is "having a vision". This vision should bring the hints or ideas of what kinds of activities might be happening in the space. This vision should bring a view for

making the space comfortable and have a good image. With this vision the creator should be able to make the space an important place where people want to be. Again, it will be this "vision", which shall establish a sense of pride in the people who live and work in the neighboring area.

Another important condition to have a successful process and to reach a successful result is continuous observation. We can all learn a lot from others' successes and failures. By observing how people are using (or not using) public spaces and finding out what they like and don't like about them, it is possible to assess what makes these public spaces successful or not. By assessing these observations, it will be possible to determine the types of activities that are missing and also the things that would be better to incorporate. This is important also for designing or locating the city furniture and art objects. When the spaces are built, continuing to observe them will teach even more about how to evolve and manage them over time.

Experiments and trials to find the best practice is another way to reach a successful result. A successful public space is a complex whole that incorporates social, cultural, physical dimensions as well. Therefore to reach the best result in the first trial is not possible in most of the cases. The best practice to be followed could be to make experimental short-term improvements that can be tested and refined over many years. Elements such as public art, outdoor cafes, and striping crosswalks and pedestrian havens, community gardens and murals are examples of improvements that can be accomplished in a short time.

One other important factor of success is to provide an optimum level of integration between the user, space and function. This way the interaction among these elements can increase. In a public space, the choice and arrangement of different elements in relation to each other may have a kind of synergy effect (or not). For example, if a bench, a wastebasket and a telephone are placed with no link to each other, each may receive a very limited use; but when they are arranged together along with other facilities such as a coffee cart, they will naturally bring people together.

Although finance appears to be the main problem point in any project, making the initial steps without overemphasizing the finance issue is also an important factor in reaching successful results. This statement can apply in a number of ways. Once you have put in the basic infrastructure of the public spaces, the elements that are added, like vendors, cafes, flowers, art objects and seating will make it work. In order to decrease the costs, certain legal arrangements are also possible. As an example, the art works in the modern commercial center of Paris, La Defense, were financed by 1 % law. The law states that 1 % of total construction cost of each individual construction has to be given to a special fond which finances the art works to be placed in the pedestrian zone. Art works of over 100 contemporary artists, selected and located through a project, provide an emotional satisfaction to the visitors of the pedestrian zone of La Defense and turn the place, in a sense, to an art gallery.

Lastly, it has to be emphasized that starting point should be to "create" a space, not to design. If your goal is to create a place, a design will not be enough. To make an under-performing space into a vital place, physical elements must be introduced that would make people welcome and comfortable. Seating and new landscaping, management changes in the pedestrian circulation pattern, developing more effective relationships between the surrounding retail and the activities going in the public spaces, could all be elements that add vitality to public places. The goal is to create a place that has strong sense of community and a comfortable image, as well as setting and activities and uses that collectively add up to something more than the sum of its simple parts.

3. Need for art in public spaces

"Artworks located in public places and facilities and paid for by regional funds" constitute public art. In most of the western cities' public spaces, the artwork includes outdoor and indoor sculptures of various materials, painting murals, tile designs, architectural elements, pavement designs, neon / fiber-optic designs, landscape and sound art. Public art can come in any form that incorporates artistic design, including such unlikely elements as tree gates, bus stops, benches and retaining walls, etc.

Again in many of the western settlements, a reasonable percentage of construction costs from regional capital improvement projects is allocated for design and the creation of art, and its long-term maintenance. In the creation of new public art, every effort is made to integrate the artistic amenities into the mission of the facility where it is located in and to include historical and community needs and perceptions into the design.

Public Art enhances the urban design and improves the visual environment for all residents. Public spaces enriched with public art are more welcoming and pleasing for residents and visitors.

Public Art strengthens civic identity and increases community pride. Residents, newcomers and visitors appreciate the livability and beauty that public art adds to shared spaces where they work, visit, commute and recreate. Public art initiates community dialog.

Public art memorializes the past, expresses shared values and concerns for the future. Public art created through a public process in the context of a time and location by its nature becomes a historical record of the community.

It is also necessary to emphasize the importance of temporary art installations. Temporary art installations can provide communities with the means to positively impact their immediate surroundings. Art on construction fences and scaffolding, for example, can serve as a communal canvas and place for community-based cultural expression. A locally sponsored scaffold art program could generate public artwork that reflects and has meaning to the community in which it is placed. It offers exhibition opportunities for local artists and in the same time enables communities to become actively involved in identifying and encouraging their own emerging artists.

In our country, lack of policies supporting art in general is obvious. In this context, while considering the number of famous artists in western countries producing art works for public spaces, this lack of supporting policies becomes so understandable.

In Europe and in the United States, in most of the towns, projects to integrate public art to public spaces and thus to improve the quality of life are coming into realization. In most of these projects models are being developed to achieve the collaboration of people, artist and public administrations.

As an example, in New York, New York City of Board Education relied upon public art as a vehicle for mobilizing population of concerned parents, students, and local residents around new public schools. Since 1989, the Board of Education's Public Art for Public Schools and Sites for students programs has installed over 100 public art works. Collaborating with artists, neighborhood children have designed and fabricated art for playgrounds, cafeterias, hallways, lobbies, and entranceways of these community institutions. In this way, while getting access to arts education, these children got experience in creating and conceptualizing permanent public art installations. At Maxwell High School, students learned mosaic technique and created tile murals based on textile themes for their cafeteria; and students at the Wadleigh Secondary School worked with an artist to develop designs for courtyard paving patterns.

Participatory public art projects, such as these, can provide communities with means to positively impact their environment and the opportunity to develop a sense of pride and ownership over their parks, streets, and public institutions. Here, the artist serves as a collaborator, interpreter, visionary, teacher and adviser.

4. Public art works from a selected area

Within the context of the subject, sampling by illustration of some impressive/striking public art works from different towns of the world would add visual richness to the theoretical explanations mentioned above. Due to the limited space allocated for publication, samples were selected from only one city. The selected location is the pedestrian zone of La Defense Commercial Center of Paris, a place offering really privileged diversity and prosperity of public art comparing with other places of the world. Selected dia-positives are the public art samples of famous contemporary artists which are located in the main pedestrian platform, inner courtyards of lower sections, entries of underground, etc. *(Due to space limitations, the selected dia-positives could not be incorporated into the main text. During the presentation of the paper, a visual slide show will take place. Below, you will find information on the creators of the public art works that will take place in the slide show and the meaning and functionality that they add to the place. Those having further interest on the subject may get in touch with the author to get copies of dia-positives.)*; (Şenlier, 1993)

Dia 1: Juan Miro's "two fantasy figures" These huge figures (11m. and 12m. high) which takes place in the heart of the area with their stunning color, mock the nigourus architectural environment around them. They are made of painted polyester resin, reinforced with an internal metal structure.

Dia 2: Alexander Calder's "wire sculpture". In 1976 his large red stabile was installed at La Defense. This sculpture, which recalls the "Spider", illustrates the determination of those responsible for the development of La Defense to place works by internationally renowned artists in the innovative environment of this district. Made of steel, it weighs 75 tons and stands 15metres high.

Dia 3: Mitoraj's the "Great Toscano", installed in 1983 at the foot of the FIAT tower block on a pavement of Baltic granite, is a bronze bust which evokes some antique giant. Igor Mitoraj has endeavored, through this large-scale representation of a human figure to recall the notions of memory and duration, both vital to this recently built district, which has not yet created its own history.

Dia 4: Yacov Agam's The Esplanade Fountain (1977) consists of a basin 26m. x 86m. and a 72m. long overflow-shoot weighing 86 tons, made of anamalled mosaics specially produced in Venice. The 66 fountains, falling from a height of 15m., are electronically controlled. A computer-controlled musical program may accompany them.

Dia 5: Devern's vent stock decoration. For many years Deverne has been creating sculptures, which integrate with architecture, such as the steel reliefs of Antwerb and Tokyo. In 1986 EPAD commissioned Deverne to decorate vent staks situated in the avenue Andre Pothin, La Defense 4, for which he built a glazed stoneware mosaic.

Dia 6: Cloude Lhost's "Flight". Lhost has chosen patnated bronze. This bird installed in the Commercial Center 4 Temps – at the intersection of the skating-rink and the rue des Arcades (level2), is according to its creator an invitation to take a walk.

Dia 7: Vincent Guiro's wall engraving. In 1972 the Esso Company and La Defense Public Development Corporation commissioned from him an engraved wall for La Defense. The finished work is an engraving on light-colored cement, 160 m. long. Guiro's design runs like writing over a rough material, which he brings to life by engraving it.

Dia 8: Clarus decoration for the ventilation shaft. For the "Midday- Midnight" Pond, he has decorated a ventilation shaft, set in an environment of artificial rocks painted in trompe-I'ceil. The theme of the work is the representation of the trajectory of the moon and the sun through one day.

Dia 9: Barias's "The Defense of Paris". In 1878, the Seine Department Council decided to hold a competition for a sculpture as a monument commemorating the Defense of Paris in 1870. The project proposed by Louis-Ernst Barrias was chosen. The work inaugurated in 1883 at the Courbevoie Rond-Point is an allegorical group in bronze representing the city of Paris, a young guardsman and a girl symbolizing the innocent civilian population. The sculpture was moved

to permit the construction of the new La Defense district. In 1983, the year of its centenary, "The Defense of Paris" was restored to its place of the heart of the district to which it has given its name.

Dia 10: Selinger's "Dance". He has worked for over 20 years directly hewing stone: marble, granite and sandstone. "Dance" is made of moulded white concrete and was installed in 1983. Four figures are repeated on the 35 flower-stands that mark the boundary of the square situated below the Esplanade. This work will attain its fullest significance when the greenery has developed in its own way to create an interplay with the faces and the clasped hands.

Dia 11: Cloud Torricini's "The frog which became as big as ox" is a bronze drinking fountain you can really drink from. Easily identifiable by anyone, it is of striking proportions. This is a sculpture to be on familiar terms with, one that needs to be touched to embbelish it with the patina of time.

Dia 12: Bernar Venet's "Indefinite Double Lines" the 14 m. high painted steel sculpture erected in 1988 in the Michelet Quarter is one of a series of works thereby named since, according to the point of view, the lines expand or contract not defining either space or volume.

Dia 13: Deverne's "The Grand Mosaique" of approximately 3000 square meters is situated in the heart of the central area in the "Les Miroirs" group of buildings. Deverne's Mosaic is a delightful extension of and amplification of the plastic effect of the four cylindrical volumes designed by the Architect: a handsome way of showing that air vents, lift doors or parking lots can be transformed by the magic of creative artists.

Dia 14: Mario Bussato's "Fontaine du Dialogue". EPAD commissioned him to sculpt this 1.85metres high creation for the Square Vivaldi in La Defense 1. This fountain consists of two people talking, supported by a column decorated with carved motifs; it is built of bronze using the "cire perdue" or lost wax process and patinated in gold leaf (installed in December 1989)

Dia 15: Takis's study for La Defense realizes over a mirror of water 2.600 m. square, 49 multi colored lights, each set at the top of flexible metal roads between 3.50m and 9m high. These luminous signals, set in line with the continuation of the historic central axis of Paris are visible both from the Esplanade at La Defense and from Neully. Silently twiking and swaying slowly, they contribute by day and by night to the vibrations created in this privileged part of La Defense.

Dia 16: De Miller's "Sleepwalker" made of bronze and steel, balancing on a sphere poised on the ridge of a cubic volume whish houses vertical passage-ways in the middle of the Place de I'Iris creates a strange, poetic element amidst the tower blocks of Le defense. This work was installed in 1983.

Dia 17: Fabio Rietti's mural for a corridor. For the underground pedestrian access corridor to the RER, Place de La Defense, Rietti had the idea of an anamorphous mural 60 meters long by 2.50 meters wide, in glass paste. Depending on the spot from where the passer-by looks at it, this trompe-I'ceil represents either the artist's paint brush painting a kiss and a young girl running, or a flight of birds.

Dia 18: Fabio Rieti's marble mosaic. In 1985 for the "Medallion", an oval platform in the Place de La Defense, Rieti realized a marble mosaic representing a face visible from above.

Dia 19: Guy Rachel Grataloup's mosaic. In 1988, he created an 850 m2 ceramic mosaic for La Defense that decorates a chimney located on the esplanade at the foot of the Total Tower. Beginning with projected, blown up and codified sketches, he covers them with colors in order to bring into play the conflict between structure and color. The drawing then loses part of its meaning and the color takes on a meaning of its own.

Dia 20: Julio Silva's "Lady Moon". For "lady moon" installed in 1977, he chose a single block of Carrara marble, 4.50m. x 1.20m., which stands out like a white exclamation mark at the foot of the black towers. Four meters high, its elegant precense comes as a surprise amongst the tower blocks and its fine grain attracts eye.

Dia 21: Philolaos's "Mechanical Bird". His sculpture at La Defense (1972) is made of stainless steel. The interplay of its metal facets makes the light from the sky sparkle as a signal indicating the entrance to one of the busiest throughways cutting across the district.

Dia 22: Louis Leygue's "Corolla Fountain". This work made of copper, consists of tiers of dishes down which water cascades. This sculpture, placed at the foot of the tower blocks, brings movement in both sound and form to the "Place des Corolles" to which it has given its name.

5. Conclusion

Though the concept of public art in public spaces is underway through many projects/applications in many towns of the world for improving the quality of life, it is possible to state that the applications of this concept are still in experimental phase.

Under today's existing conditions, beyond sociology, town planning or spatial arrangement, public art in public spaces has primarily been the creation of few artists who were willing to take considerable risk. A risk factor is arising from the fact that artists are being required to handle increasingly large-scale areas. A further risk is inherent to the artists' relationship to the public, which is both complex and restricting, because once the work has been executed, it stands unmovable, definitive and, in a sense imposed on a city's inhabitants. Finally there is also an institutional risk. The artist finds himself working with developers / town planners on the one hand, and architects and engineers on the other, but his own situation is still inadequately defined. No legislation, no regulation, no standard exists by which to determine the artist's position in the process of creation and execution. Everything, at the present stage, depends on the good will of all persons involved.

On the other hand, owning well-equipped public spaces, having a high quality of life, is a basic right to all inhabitants of a town. Public art applications obviously appear to be a very effective tool to reach this aim.

Therefore, all the above explained missing points and the necessities to reach the goal bring an urgent need to develop detailed regulations and legislation for the application both on theoretical and practical basis. While assessing the quality of life in the public spaces of our towns, the importance of the subject becomes more understandable.

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Culture centers in metropolitan cities: populist palaces of art in Europe or isolated shells for art in Turkey

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Abstract
Social and political changes after the world wars had caused the emergence of new discussions and debates in art and architecture in the 20th century. As a result of these discussions in the depressive environment of post-war period, make people from all strata of the societies cultured became an important ambition in cultural policies of European States and America. This attempt is called as "cultural democratisation movement". The main aim of "cultural democratisation" is to liberate art and cultural life from a hegemony of a class or privileged groups and to close the gap between art and public life.

As a result of this ideal, there emerged a new kind of cultural institution, culture centers, in Europe and America. The main aim of these centers is to provide public space for social gathering and cultural interaction. This populist attempt behind the culture centers have affected their architectural understandings. They become the populist palaces of art with their attractive architectural solutions and additional leisure activities in their programmes. They become the center of attraction points in the cities that they placed. However, this is not the case for the ones in Turkey, culture centers are often seen as isolated shells housing the products of art not only by the visitors but also by the inhabitants of the cities. This paper aims to analyse the reasons behind this phenomenon and search about the reasons of isolation of culture centers in metropolitan cities of Turkey. In this context, the effects of different architectural understandings on the public success of culture centers are studied comparatively with some special cases.

1. Introduction

Until the 20th century, cultural buildings such as museums or theatres, concert halls etc have always been seen as sophisticated palaces of art due to the gap between art and daily life. Culture centers as a new cultural building typology appeared after the world wars, at beginning of 20th century, in order to cease the alienation of art from public life. These buildings function as centers where exhibitions for fine arts and minor arts, and events in the case of performing arts are held. As a difference from the museums and performing arts centers, their philosophy is based on social interaction and exchange rather on collection or on sophistication of the artefacts.

Especially after the 1970s, culture centers in metropolitan cities in the world have appeared as prestigious buildings and become the centers of attraction in the eye of both the inhabitants and the visitors of the cities that they placed. Many people come and see not only the contents of these buildings, or to participate the activities inside the building but to see the building itself. However, this is not the case for the ones in Turkey, culture centers are often seen as isolated buildings in the city scapes. This paper aims to analyse the reasons behind their isolation and current debates about the architecture of culture centers in the world and in Turkey.

The paper is composed of four parts. In the first part, the social reasons behind the appearance of culture centers at the beginning of 20th century is discussed. The second part deals with the current debates about the effects of populist attempts on the architecture of culture centers to construct a conceptual framework about the transformation of cultural buildings from the temple of the arts to cultural shopping malls. The third part analyses the relation between the public success of culture centers and their spatial organisations and programmes with some special cases from the world. In the light of this framework, in the fourth part, current understandings about the architecture of culture centers in Turkey and the reasons behind their isolation from public life is discussed with three special cases: Ankara, Istanbul and Izmir Atatürk Culture Centers. The study concludes with a discussion about how the different approaches to the architecture of culture centers affect the public success of these buildings.

2. "Cultural democratisation" movement and the appearance of culture centers

The social, political and economical results of the world wars characterised the post-war period by the "Great Depression". In order to overcome these problems a reconstruction period was begun. This reconstruction was not only concerned with the social and economical areas, but also included culture. This was also the period of cold-war which meant that, it was not enough for the states to show their power with their high technology weapons. They were eager to demonstrate that they were respectful to human rights, that they valued their artists and were interested in their citizens belong the all strata of the society being "cultured" (Janz, 1997).

In this environment, according to Colquhoun (1981) all modern states feel responsibility for the development of their citizen's culture. It was believed that the societies are judged by the "quality of their civilisations" and art has great role on improving the "quality of life". Whereas until the twentieth century, art has been seen as one of the main

concerns of high culture. Artistic activities have always been seen as aristocratic and sophisticated activities and were in the hegemony of the privileged classes, aristocrats and intellectuals. These activities were far beyond the daily life of the people (Lane, 1978). However, as Zukin (1982) explains, "increasingly since the end of World War II, the arts have moved from being a marginal and often elitist concern to being a central social symbol". The gap between the art and public life, or between high culture and mass culture, began to be closed down (Zukin, 1982). Art and artistic activities became accessible to anybody who wanted and began to be liberated from the hegemony of a class or privileged groups.

Behind these new understandings about art, there was not only intellectual discussions about the gap between high culture and mass culture, and also strong political ambitions of the European states and America. Zukin explains that phenomenon, as follows: "in general top-level leaders in business and the states saw the arts as a way of re-establishing cultural and political hegemony" (Zukin, 1982). The growth of state support for the arts contributed to the state power in the international arena. The support for the arts justified the strong state as a defender of general human aims and aspirations rather than as a destroyer of freedom and civilisation. All these efforts on closing the gap between art and public life are called by Lane (1978) as "cultural democratisation movement", while Featherstone (1996) titles such attempts as "the aesthetisation of daily life".

Cultural democratisation movement affected the understandings about the cultural buildings. Before the appearance of this new consciousness, for centuries cultural buildings, like museums, opera houses theatres etc. have seen as solemn and sacred sites and appeared as sophisticated palaces of arts in the city scapes. As a result of cultural democratisation movement, some new cultural institutions were appeared in Europe and America like "Culture Houses" in America, "Maison de la Culture" in France, "Sokol" in Czechoslovakia, "Halkevi" in Turkey etc.. (Çeçen, 1990). These institutions appeared to stop the alienation of the products of art from public life and make them accessible to people from the different strata of the societies. They were spread through even small cities and towns of countries with an aim to inform people about their culture; to teach them how to appreciate the works of art; in brief, to teach them how to become cultured. These buildings function as centers where exhibitions and/or performances are held for different branches of fine arts, both plastic and performing, as well as educational activities are held about various branches of minor arts, including handicrafts etc.. Their goal is to provide public space for social gathering and cultural interaction with their multi-functional halls, in-door and out-door areas.

Cultural democratisation movement encouraged a new type of public, which until then, had not dared to go near a museum or a theatre. In addition to this, by means of mass media, art and cultural facilities come closer to the public. Tourists, school-children, educated or non-educated people become eager to see and participate artistic activities. However, as art and public life come closer, the understandings about art and architecture for art begin to change.

3. The effects of cultural democratisation movement on art and architecture of culture centers

According to Marcuse, as the gap between art and daily life closed down, art have begun to lose its sophisticated meaning and artistic products turn into commodities. He explains this transformation, as follows:

> Now this essential gap between the arts and the order of the day, kept open in the artistic alienation, is progressively closed by the advancing technological society. And with its closing, the Great Refusal is in turn refused; the "other dimension" is absorbed in to the prevailing state of affairs. The works of alienation are themselves incorporated into this society and circulate as part and parcel of the equipment which adorns and psychoanalyzes the prevailing state of affairs. Thus they become commercials -they sell comfort, or excite (Marcuse, 1964).

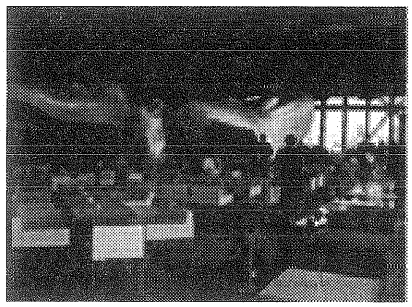
It is seen that as a result of the accessibility of art, artistic products begin to offer such kind of comfort and excite to their spectators. Almost everyone feel the fine arts at his fingertips, by just pushing a button on the internet web sites or by stepping into his drugstore or by buying the reproductions of the masterpieces from shops in every corner of the streets. They turn into commodities which offer excite and attraction to their dealers.

This also affects the understandings about the architecture of the culture center buildings. As a result of this transformation about art and access to art, the image of cultural buildings like temple of the arts have left their place to cultural shopping malls. The noble architectural structures for receiving the public, grand stairways and old style rotondas, are replaced by transparent structures, even colourful duct pipes on the facades, or roller skating children on the huge entrance ramps etc. This new type of cultural building is different from the museums or theatres of the past centuries, because its philosophy is based on social interaction and consumption rather than on collection and sophistication of the artefacts (Vural, 1999).

In this paper, that kinds of cultural buildings are called as "cultural shopping malls" (Ghirardo, 1996). In the following part, the architecture of these centers are analysed under two subtitles; their activity programmes and spatial organisations.

4. Culture centers as cultural shopping malls in the world

By means of this new design strategies, the activity programmes of culture centers have widened by the addition of range of facilities from cinemas, concerts, auditoriums, multi-purpose halls, even restaurants (Fig. 1) and souvenir shops. The main aim is to arouse people's interest about these buildings. Just like in the shopping malls, people can find variety of activities not only the artistic ones, but also leisure and entertainment.



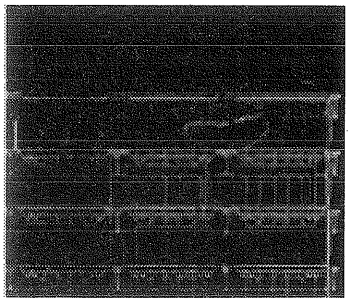


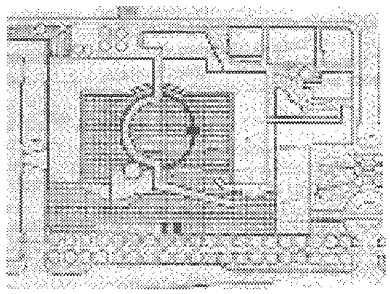
Figure 1:View and section. The roof-top restaurant in Pompidou Center (http://wooster.hut.fi/..) (http://www.archrecord.com/PROJECTS/SEPT00)

Not only the addition of leisure activites are enough to provide continuity of attraction to these buildings. New exhibition and performance strategies also make these buildings mega shows. This can be related with the changing conceptions of art with the dissolution of higher culture. The concept of art begins to change from an aesthetic activity to a philosophical search of life. As a result of this transformation contemporary art break down the traditional boundaries around them both physically and mentally (Kaprov, 1998). Artists want to go beyond the boundaries of the canvas and the hegemony of the water colors, oil paints for painting, or the hegemony of the clay, marble or bronze for sculpture or the known presentations for the performing arts, theatres, operas etc.. (Kaprov, 1998). So spectators of these products of art want explanations and spectacular arrangements (Molfino, 1994). In this mega-show, architecture has also an important place; the architecture of culture centers have also begun to break down the boundaries of traditional spatial arrangements of museums or opera houses. Therefore there emerged new kinds of spatial arrangements and new discussions about the architecture of cultural buildings. .

In this rapidly changing environment, it can be impossible to talk about certain spatial organisation schemes of cultural buildings, like the rotondas, or exhibition rooms of museums. There can be the various interpretations about the spatial organisations of cultural shopping malls, generally, their spatial organisations suggest "a city in microcosmos" (Baker, 1992). The choice for this spatial organisation is both due to combine leisure and commercial activities to the artistic activities and to create attractive and lively environments. Although, their architectural languages are varied according to different tendencies, two architectural elements are significant in the spatial organisation in culture centers: adventurous routes and center of attraction points.

These adventurous routes generally link the city and the building or in other words link the public life and artistic activity both physically and visually: like sickle- shaped ramp of Staatsgalerie (Baker, 1992); diagonal escalator system on the main facade of Pompidou Center (Banham, 1977); the promenade of Jean Marie Tjibaou Centre which connects the whole activities (Mcinstry, 1998); and last, like the inner street in Shonandai Culture Center (Hasegawa, 1991). Generally, as the main theme of this microcosmic city organisation, these routes connects the focus of attraction places to the other activities. These center of attraction places can appear as either open-air piazzas or indoor halls: like the central rotunda of Staatsgalerie (Fig. 2); piazza of the Pompidou Center (Fig 3); inner court of Tjibaou Center (Fig. 4); or the inner garden of the Shonandai Center.

All these attractive architectural solutions, new exhibition strategies, additional leisure activities make cultural buildings as center of attraction in the eye of both inhabitants and the visitors of the cities that they placed. However, the examples of the culture centers in Turkey don't have that kind of public success. Generally, they appeared as isolated monuments in the city scapes. In that study, Ataturk Culture Centers in three metropolitan cities of Turkey are chosen to analyse the reasons behind the isolation of cultural buildings in metropolitan cities in Turkey.



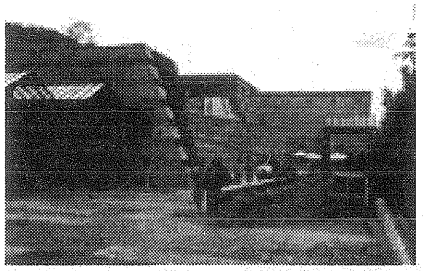


Figure2: Plan and view. Staatsgalerie. (Colquhoun, 1984) (http:// www.staatsgalerie.de)

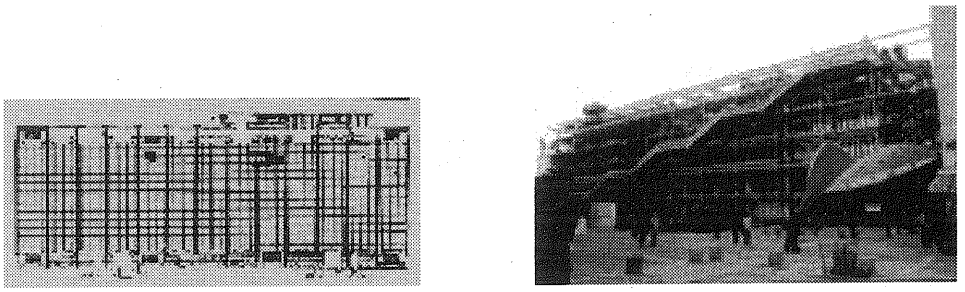


Figure3: Plan and view. Pompidou Center. (Granit, 1994)
(http://www.cnac-gp.fr/english/infos/infos_org_les_amis.htm)

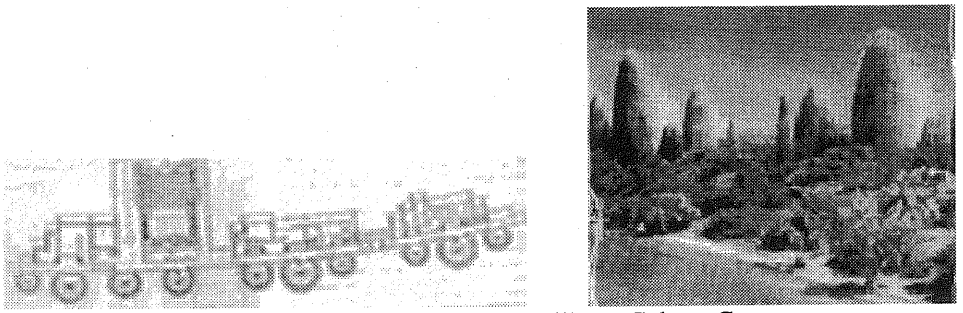


Figure4: Plan and view. Jean Mrie Tjibaou Culture Center..
(Derman,1999) (http://www.abc.net.au/ra/carvingout/issues/tjibaou.htm)

5. Culture centers as isolated palaces of art in Turkey

There are many reasons behind the isolation of culture centers in Turkey, like social factors, wrong cultural policies etc.. Besides these factors, the shortcomings in their architectural understandings has also great role. It is seen that in Turkish case, generally there are no additional leisure activities, like restaurants or cafes or commercial activities retail shops etc.. in the programmes of the culture centers in order to attract people besides the artistic activities. In addition to that the relationship between city life and the life inside the building is generally weak due to the architectural shortcomings. In the following part, the architecture of three important culture center are analysed in order to discuss these shortcomings.

5.1. Ankara Atatürk Culture Center

Ankara Atatürk Culture Center (AACC), designed by Filiz and Çoskun Erkal, is placed in the capital city of Turkey, Ankara (Fig. 5). This center was built as part of the policy of Ankara Municipality, aiming to make Hippodrome area, which is a huge useless area, an urban park to vitalise the cultural activities in urban life of Ankara. With that aim, municipality administration decided to built a cultural complex in this area (Özbay, 1989). Ankara Atatürk Culture Center was the main part of the complex aiming both to rise the interest on the cultural activities and to symbolise the importance given to the improvement of Turkish culture.

This pyramidical building complex is composed of two main building parts. The first part, The Republican Period Museum as the main theme of the programme, is placed in the central core of the building complex. The second part envelopes this first building mass, including exhibition halls, library, studios and workshops for cultural studies. This part has inclined solid surfaces which give the tomb-like appearance to the AACC building (Erkal &Erkal, 1994).

AACC is placed in the huge empty area of Hippodrome and 300m far from the street, a large ceremonial alley links the building to the city life. The term city life may not be the correct choice because the road in front of the AACC side of Hippodrome is a busy traffic road and on the other side of it, there is a sports complex. In addition to this, there are no related cultural facilities around the site. So, as Özbay mentions, this site selection and introverted design of the center contradicts with the main theme of a culture center which is expected to provide cultural interaction and gathering (Özbay, 1989).

In the huge open space of the Hippodrome area, this center resembles a monument rather than a friendly environment of a culture center. In addition to these negative features about its physical appearance and its site selection, another reason for its isolation from the city life is explained by Özbay with the lack of additional social and leisure activities in the programme of the AACC like cafeterias, restaurants shops, on contrary to the programmes of many museums throughout the world (Özbay, 1989).

AACC building resembles a lonely fortress in the huge open area of Hippodrome. In addition this, that image is strengthen with introverted space organisations and massive solid expressions of the facades. With the effects of these negative features, this cultural building becomes an isolated monument in the city scape.

5.2 Istanbul Ataturk Culture Center

Istanbul Atatürk Culture Center is placed in Istanbul, in Turkey (Fig. 6). The aim of the center was explained by its designer Hayati Tabanlýoðlu, as: "to present and to propagate fine arts, of local and international origin, and in particular those belonging to the stage by bringing them to the acquaintance of a wide audience" (Tabanlioglu, 1979). It is placed, in Taksim Square, in the junction point of the road coming from the Dolmabahçe Palace and Bosphorous; roads coming from the business districts around, Sýraselviler and Tarlabasi; and the alley, called Istiklal Caddesi which is one of the most important commercial and cultural axis of Istanbul. Istanbul ACC building includes a grand hall, a concert hall, an intimate theatre, a children's cinema, an art gallery and rehearsal halls.

The design and construction process of Istanbul ACC building was very problematic and continued nearly 31 years. First it was designed as an opera building; the first project for "The Istanbul Opera" was designed by Rüknettin Güney. The construction of the building was begun in 1946. In1956, Hayati Tabanlioglu was assigned to examine the design of the Güney's project on Istanbul Opera House. At that time the rough structure of the building was prepared according to the Güney's project, but Tabanlýoðlu found that Güney's project could not fulfil the requirements of the intended aim and that of the program of Opera House. So, Tabanlioglu redesigned the project, but, as he said, the existing rough structure had a restricting factor on the redesignation of the project. Although, once the Center was designed as Ýstanbul Opera House in 1946, it was opened to the public under the name of "Istanbul Atatürk Culture Center" in 1977 (Tabanlioglu, 1979).

This building is a rectangular-prism which is composed of two massive solid walls on two side, and a transparent facade facing to Taksim Square. The single entity of the multi-storied block surrounds the tower of the grand hall's main stage and includes the rooms and offices for the artists, directors and staff, together with the workshops, storerooms and technical installations. The main entrances of the grand hall and concert halls are situated on the Taksim Square and there is an independent entrance to the intimate theatre, children's cinema and art gallery from left and right sides of the building..

In spite of the massiveness of AACC, Istanbul ACC is appeared as a transparent block. The main facade of the building is fully glazed in order to reflect the inside activities to the outside. All the foyers of the halls and art gallery is placed behind that facade of the building in order to keep the relations building and city.

5.3. Izmir Atatürk Culture Center:

Izmir Atatürk Culture Center is placed in the third important metropolitan city in Turkey, Izmir (Fig. 7). It is designed by Muhlis Türkmen and Inal Göral in 1974 (Hamuroglu, 1994). This center was built as an art center belonging to Eagean University, but due to its location in the city center, it had begun to be used by the mases of Izmir.

This center is placed in city center near the shore of the Eagean Sea. Its roof structure symbolises the waves of the Eagean Sea. But, it is symbolical quality and its architectural language are much more poorer than the other two Atatürk Culture Centers. In addition to these faults in its exterior appearance, according to Hamuroglu, the inner space organisation is also very unsuccessful and far beyond fulfilling the needs of the artistic activities that it places (Hamuroglu, 1994).

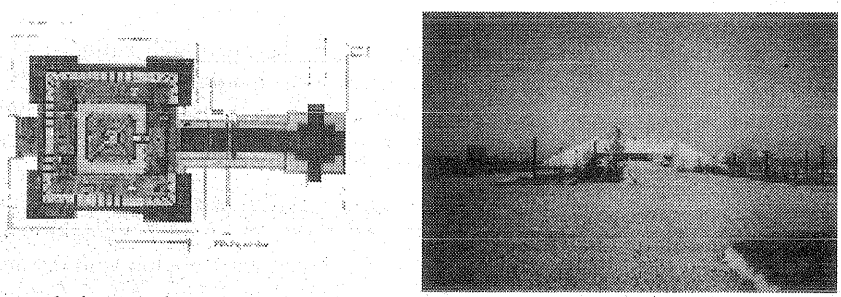


Figure 5. Plan and view. Ankara Atatürk Culture Center (Erkal &Erkal, 1994) (photo by: Tülin Vural)

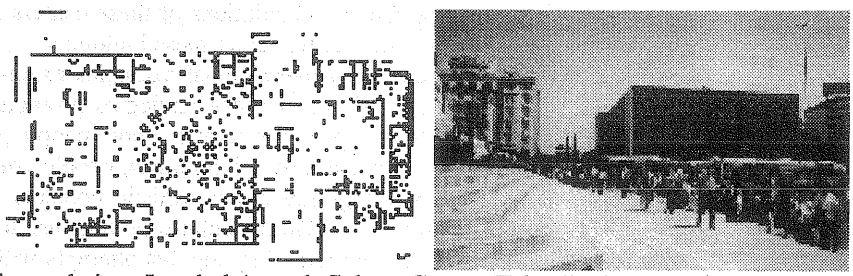


Figure 6. Plan and view. Istanbul Atatürk Culture Center (Tabanlioglu, 1979) (photo by: Tülin Vural)

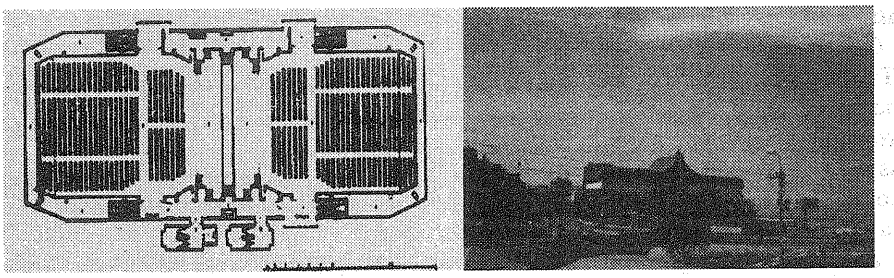


Figure 7. Plan and view. Izmir Atatürk Culture Center (Hamuroglu, 1994) (photo by: Tülin Vural)

5.4.Comparisons about the spatial understandings of Atatürk Culture Centers in Turkey with the examples from the world

Generally in these three Turkish cases, there are no adventoruous routes or central main axis to connect all the activities, or to offer visitors journey to perceive the inner life of the buildings. in these ACC buildings, all the activities are separated each others and these activities are whole in themselves. For example in Istanbul ACC performing arts halls and their foyers are separated from exhibition halls both physically and visually and even their entrances are separated. In AACC contemporary and temporary exhibition halls are connected physically each other with only entrance hall. These two activities are separated with a weak inner courtyard. In Izmir ACC, spectators of the performances could not even to reach comfortably to the halls due to the problems in circulation. In these three cases, there's no connecting main axis between the different activities which provide the visitors to sense the inner life of the building, like the ramp of Staatsgalerie or escalator of Pompidou Center, etc....

In addition to that, in these three examples there are not an indoor or outdoor centre of attraction place. Although AACC placed in a huge open space, there's no center of attraction place either in front of or behind the building for people come together and socially interact besides the artistic activities., like the lively environment of Pompidou Center's piazza or Staatsgaleri's rotonda. Also, there is no inner courtyard for the visitors to perceive the inner life of this highly introverted building. The other cases Istanbul ACC and Izmir ACC are more advantageous about their site selections than the previous one. Istanbul ACC is placed in the commercial and cultural center of Istanbul. However, this building could not also provide a successful relationship between the public life of the city and artistic life inside. Even though the plaza in front of the building is a lively meeting place, this liveliness could not diffuse inside building due to the activities such as cloakroom and foyer, in ground floor. Izmir ACC is also placed in city center, but there's no outdoor plaza in front of it, in addition to that the circulation of the masses before and after the performing art activities does not successfully solved.

6. Conclusion and Discussion

Throughout the study, it is seen that the efforts on closing the gap between high culture and mass culture or art and public life affected the understandings about the architecture of cultural buildings. As a result of cultural democratisation movement, aiming to make more people as part of the artistic and cultural life, cultural buildings become cultural shopping malls which offer excite and leisure besides their artistic contents. These buildings generally become the center of attraction in the cities that they placed.

In spite of this, in Turkey, generally culture centers appear as isolated monuments in city scapes. Behind their isolation there are various reasons, like the understandings about art and life in our traditional society, wrong cultural policies, etc.:..In this paper, author tries to analyse the reasons behind their isolation with the architectural shortcomings in culture center buildings in Turkey with three cases, Ankara, Istanbul and Izmir Atatürk Culture Centers. It is seen that mostly, culture centers in Turkey have the image of fortresses with their introverted space understandings and massive entities.. In addition to that with the lack of the leisure activities in their programs, they become the dead places when there is not an artistic activity that they house. Also, the architectural solutions of these centers are far beyond to offer such kind of an attraction or excite to their visitors or to promote them to enter these buildings.

.In conclusion, another phenomenon should be discussed. In international examples examined in that paper, it is seen that attractive architectural solutions, new exhibition and performance strategies promote more people to visit culture centers. In other words, they fulfil the aim behind their appearance to make more people join the activities inside of these centers, in a questionable way. It is questionable, because most of the times, people come to see the attractive architectural solutions or spatial organisations of these buildings rather than artistic contents inside the building. In relation to that phenomenon some questions come to mind are that: Do the culture centers turn to shopping malls where the products of art and of architecture are marketed? How these increasing populist attempts will affect the architecture of cultural buildings?

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An urban design approach to the concept of community centers in the revitalization of public life in Turkish cities

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Abstract
The contemporary privatization of life and decentralization of services have seriously damaged the notion of community. The technological developments in information, communication and transportation facilities, specifically the increasing use of computer and Internet, have eased the everyday life of the individuals but on the other hand, have seriously damaged the face-to-face contact among the members of community.

It is obvious that, the built environment plays a central and supportive role in meeting the physiological and psychological needs of an individual. However, today our cities are really in lack of focal points and centers where people can gather in their leisure times. In successful housing developments of economically developed countries, the quality of the settlement is enhanced by a wide range of community facilities, offered in a centrally located Community Center. In these countries, these uses serve as a potential for focus and heart in the community, where the leisure times of the individuals gain importance by getting involved.

The paper is primarily based on the acceptance of Community Center as the most effective method of reviving the local life in Turkish cities and it aims to draw attention to the declining sense of community and the disappearing concept of local life in Turkish cities as a result of the deficiency of specially designed centers that maintain a social interaction among the members of community. It will focus on the missions of these centers as well as the suggestion of a set of design criteria concerned with the selection of site and determination of activities, which will take place in Turkish Community Centers.

1. The Concept of Community

The concept of community has a long and well-documented history within sociology and although there are competing interpretations of the term, it usually refers to the existence of a particular set of social relationships that occur in a specific geographical area. According to the Encyclopedia of Social Sciences, community designates a geographical area with definite legal boundaries, occupied by residents engaged in interrelated economic activities and constitutes a politically self-governing unit (Seligman and Johnson, 1957). This type of definition was primarily derived from ideas of structure: a geographical area and a system of interrelated economic institutions.

As Park and Burgess stated in their book *The City*, community is not only a collection of people, but it is a collection of institutions. Not people but institutions are final and decisive in distinguishing the community from other social constellations (Park and Burgess, 1974). Some also argue that community has no agreed-upon meaning, but that it usually refers to a group;

- "sharing a physical space,
- sharing a common trait,
- bound together by shared identity and common culture and typified by a high degree of social cohesion" . (Porterfield and Hall, 1994).

The term "community" has a variety of connotations but as a concept, it is possible to interpret it as a sense of belonging a way of life and diversity with a common purpose. Essentially, individuals can have a psychological sense of community in a variety of contexts. They can have such a sense about a geographically defined territory like their neighborhood, or about a spatial or extended space community, for example their church, job, professional group, or those committed to a certain life-style. Researchers refer to the former experience as a community of place and to the latter as a community of interest (Nasar and Julian, 1995).

Usually it is "common interest" that binds people together under a concept of community. This common interest must be maintained through some sort of internal communication. In livable urban settlements, the design of the physical environment gives equal chance to the development of such types of communication in terms of creating specially designed centers. In these settlements usually the piazza, the café and the bar serve for meeting and socializing purposes, market squares for exchange, town halls, parliaments for political assembly, churches, temples, mosques for religious assembly, and finally theatres, museums for cultural purposes.

Through out the history, there have been notable changes in the meaning of community. People's relationship with each other and with their environment fluctuated and adopted to change due to the changes in general structure. The decline in the sense of community inevitably affected the local life in cities negatively. The priority has been given to automobile rather than to the human being. Hence the interaction among the members of community has disappeared relative to the time-distance relationship between housing, working and shopping areas. As Rivlin states, "when we

examine life today we find a broadened range of movement and the local area is no longer a focus for most people" (Rivlin, 1987).

The internal communication among the citizens was easier in traditional urban settlements as in those times communities were small and isolated and thus the degree of face-to-face interaction among people was higher. In the successful communities of the past, there were specific uses in the heart of the community that served as elements unifying people. In those kinds of settlements, social entity displayed a stronger character. In the origin, the characteristic of these unifying elements shows great variations depending on different cultures, different geographical locations and different countries. In Turkey, these unifying elements were Turkish baths and neighborhood bazaars in the past and coffeehouses in today's urban pattern while in Great Britain the unifying element is the public house or as in common words the pub.

Relevant to this, there are "Community Organizations" in developed countries aiming to discover, to organize and to make available the local community's resources, particularly its human resources for the local community. These organizations can be classified into three groups according to their interest areas:

- "Ecological Organization
- Economic Organization
- Cultural and Political Organization" (Park and Burgess, 1974).

The final group -Cultural and Political Organization- is the one which community center associations are mainly concerned with. These associations seek to organize the leisure-time and recreation activities of a community.

As we enter a new century, it is obvious that, computing, networking and virtual reality technologies are approaching the level of maturity while inevitably leading to the existence of a new set of economic and social needs in the cities. These needs reshape the physical and social structure of the cities and change the urban development landscape. At this point, paying attention to the time-distance relationship between the housing, employment, shopping and recreation areas, is vital if we are to achieve any realistic sense of community. The cities and communities are now in need of a finer texture much more than ever and allowing more opportunity for the interaction among diverse people by creating nodes as focal points will be an important step in providing a solution to the existing problems.

The Urban Design's concern here should be to create pleasant environments by making small scale designs in cities that attract people of all ages while enhancing the face-to-face interaction among the members of community. Urban designers should play a central role in the revitalization process of local life in cities with their ability in evoking an image on the community that is recognized and realized by creating specially designed centers. Variety in terms of offered activities may be a key point to produce a stimulating and attractive environment. Consequently, Community Centers in terms of these nodes, gain importance with their ability in providing a socially appropriate, conflict free environment and in giving opportunity to the users to response their necessities while helping to set social contacts between each other.

2. The Concept of Community Centers

Social theorists believe that many urban problems are blamed on a declining sense of community. They also blame industrialization, large-scale bureaucracies, the loss of local autonomy and our culture of mobility, convenience, and privacy for the decline in the sense of community (Nasar and Julian, 1995). In successful examples of housing developments and neighborhoods, the quality is enhanced by proper amount and location of educational, recreational, social and cultural facilities. It is important that the neighborhood should provide for the family's basic needs and that the development should not be isolated from its neighbors either physically or psychologically. Neighborhoods that appear to be stable and desirable are considered to owe a range of community facilities for recreation and leisure. In order to create a sense of community among citizens, there should be enclosed spaces in the heart of the neighborhood that allow the social interaction among people while responding the social and cultural necessities. In this connection, Community Centers gain importance with their ability to provide a variety of activities and uses in a desirable way while encouraging the interaction between the members of community.

The problem of organizing the community under a roof has been a common problem for nearly all societies. The most popular method used was the direct approach, which sought to organize the community by reconstructing the neighborhood through activities and programs, in which all people were to participate. The distinctive characteristic of this type of community organization lies in its direct concern with the people themselves. In this sense, Community Centers play an important role in providing activity space for both young and old members of a community. These centers serve as a kind of meeting place where people come together to entertain, to play, to see and to be seen by others and to work together for the improvement of the individual, family and community. People attend these centers for social, recreational and cultural activities regardless of age, gender, race, religion and class. They feel equally welcome especially when these places offer an atmosphere of neighborliness and neutrality notwithstanding the people's diverse opinions and interests.

Sure there are certain formations underlying the Community Center movement in other countries and in Turkey. The concept of these centers has grown out of a social philosophy concerned with the promotion of community solidarity and the development of a sound community life. In the origin, the social impulses were also effective in the establishment process. It is known today that, "the impulses which caused the establishment of community centers are similar to those which caused the establishment of social and university settlements in England from 1884 and the United States from 1886. Whereas these centers have originally resulted from the concern of business and professional groups to do something for people living in congested working class neighborhoods" (The Encyclopedia Americana, 1958).

Most of the countries consider community centers as the most economical method of providing a variety of social services for people of different age and gender. In an isolated community or in an underdeveloped area, one community center can do the work, which would otherwise require the establishment of several more specialized agencies. This is most probably, the reason of why these centers are being established both in the newer suburban communities of highly urbanized countries and in the villages of less developed countries all over the world.

In the origin, Turkish society has met the similar implementations of Community Centers in the early 1930s as "Halkevleri". These uses offered numerous activities and classes in various branches and served as a unifying element in the society during their heydays between 1932 and 1951. They brought a social and cultural reform to the daily lives of the residents and served as a source of enlightenment for many years. However, the dominant political side that they have identified was the most effective reason of their abrogation. In today's urban pattern, we face numerous communal organizations that address to specific user groups. But, it is obvious that Turkish cities are in lack of focal points that act as a leader in promoting the sense of community while providing a place where all the members of community gather through high quality educational, social, cultural and recreational programs. It is, therefore, possible to say that Community Center is perhaps not a new but an emerging concept for Turkish cities.

3. Missions of Community Centers as Social Organizations

It is essential to know the basic missions of the Community Centers that make them popular among the members of community and the types of activities that take place in these centers in order to develop a sound discernment for the suggestion of design criteria. To achieve these, Internet and literature surveys are made and thirty-six Community Centers are examined worldwide, most of which were found in Internet and the rest from the periodicals. It must be mentioned that, it is highly difficult to make an analysis among these centers based on a common ground, since the information gathered does not include standardized data.

The main missions of these centers denote once again how they are approbated as the unifying element in the community that gather people under a roof while providing a variety of social services in a most economical way. In order to have a brief idea, the main missions of Community Centers, which have been established abroad, are stated as follows:

- To meet the social, emotional and community needs of the residents.
- To give possibility to the decreasing sense of community caused by contemporary life.
- To provide the potential for a focus and heart.
- To serve low and moderate-income families through educational, recreational, cultural, social and community service endeavors.
- To highlight the image of people from different religions (Chinese, Italian, Jewish, etc.) in an area.
- To provide a place where children, teenagers and families can get together.
- To be a leader in promoting a sense of community, personal and family growth, physical fitness and enjoyment through high quality affordable programs.
- To create a community of culture and concern and to cut across the barriers that divide people like race, religion and social status.
- To provide facilities and organizational sponsorship for community education and community cultural events for the residents.
- To advocate for solutions to problems that affect low and moderate income families (Dalgakıran, 1999).

The widespread opinion in world's developed countries successfully stresses the importance of these centers in any community. In this statement the goal is stated as: *"Getting involved and make something positive happen. That's what the community center is all about"*

4. Typical Activities Available in Community Centers

The studies in economically developed countries have shown that a Community Center could be a major factor in lowering the crime rate in certain areas. Indeed the activities offered in these centers play a unifying role and act as a social catalyst in the community that is formed by members of different race, religion, gender, interest and social standings. Originally, it is possible to classify the activities offered in Community Centers into two, as the typical activities and special facilities. In the thirty-six centers examined worldwide, twenty-one kinds of typical activities are determined and shown in Table 1 as below.

In the origin, it is not possible to limit the activities offered in Community Centers with the ones stated in Table 1. As well as typical activities, some of these centers offer special facilities, which reflect the local and cultural habits of the citizens and are subject to change according to the varying social and cultural structure of the community. These facilities are usually shaped by the demands of the residents. Climatic factors are also effective in shaping the determination of special facilities. In warm-climate regions, tennis courts, golf, picnic tables and shelters are offered whereas in cold-climate regions, these facilities are replaced by indoor sports, winter garden and so on. In the origin the determination of special facilities is generally shaped according to the interest and ability area of the residents. The 24 types of special facilities offered within the examined centers are stated in Table 2.

Table 1: Typical Activities Offered in Community Centers

TYPICAL ACTIVITIES	
• Meeting/Conference Room	• Recreational Activities
• Workshops/Classes	• Offices
• Health Club/Fitness Center	• Playground Area
• Nursery/Day Care	• Outdoor Sports
• Gymnasium	• After and Before School Programs
• Multi-Purpose Room	• Library
• Commercial Kitchen	• Emergency Food / Cloth Assistance
• Swimming Pool	• Exhibition Space
• Indoor Sports	• Auditorium
• Counseling / Job Search Assistance / Legal Services for Adults	• Festivals / Concerts
	• Women's/Youth Association Rooms

(Source: Dalgakıran, 1999)

Table 2. Special Facilities Offered in Community Centers

SPECIAL FACILITIES	
• Tennis	• Horseshoes
• Swimming Pool	• Gymnastics, Tumbling
• Sewing	• Gym Activities, Open Gym
• Senior Adult Recreation	• Golf
• Playground	• Cheerleading, Dance Team
• Picnic Tables	• Ceramics
• Picnic Shelters	• Bridge
• Mothers Morning Out	• Bar-b-cue Grills
• Martial Arts	• Ball Fields
• Junior High Athletics	• Arts and Crafts
• Jogging Path, Vita Course	• Art Instruction, Painting
• Horticultural Attraction	• Aerobics, Exercise

(Source: Dalgakıran, 1999)

5. Design Criteria Development

In the physical development plans of Turkish cities, there exist specific public service areas reserved for educational and cultural institutions, health services, recreational areas and religious precincts. In the origin, these concerns have primarily been required by law (Act no: 3194) for the sound development of the community. However Community Centers, being an emerging concept for the Turkish cities, do not have specially reserved areas for their establishment. Underlying this is undoubtedly the deficiency of knowledge concerned with their role in the healthy development of a community both physically and psychologically. With the creation of specially designed Community Centers appropriate to social and cultural habits of Turkish citizens and appropriate to the physical layout of Turkish cities, the citizens will also be given an opportunity to participate in a supportive social system.

5.1. Site Selection

Essentially, site selection phase of the design process plays an important role in enhancing the use of the Community Center by the members of community. Since these centers are regarded as the potential for a focus, they should be located in the heart of the community, where the accessibility to and from the residential areas is easy and comfortable. Relevantly, the location of buildings formerly used as "Halkevi" may be a reference for the site selection of Community Centers in our cities. In this sense, the developed site selection criteria are as follows:

1. Pollution : Site should be located in a least polluted area,

2. Topography : Site should be located where the topographical features do not complicate the construction process and the use of the center by special user groups such as the disabled,

3. Climatic Conformity : Site should be located so that the negative effect of local microclimatic factors is less experienced.

4. Location : Site should be located in the prestigious precinct of the community, where everyone desires to be,

5. Pedestrian Accessibility	:	Site should be located on routes, where the pedestrian flow shows a dense characteristics,
6. Vehicular Accessibility	:	There should be easy and comfortable alternative accessibility modes to and from the residential areas,
7. Safety and Security	:	The surrounding environment should offer a high degree of safety and security for the day and night use of especially women and children,
8. Conformity of Uses	:	The surrounding environment should not include incompatible uses such as, cemetery or prison which may effect the ambience negatively,
9. Proximity to Educational Institutions	:	Site should be located close to educational institutions as they reflect the optimum walking distance to and from residential areas,
10. Close Proximity to Park	:	Site should be located adjacent to a park and playfield,
11. Visual Perception	:	Site should be closely connected to vehicular and pedestrian paths, so that non-users experience the Community Center as much as the users,
12. User Variety	:	The location of the site should address various types of user groups through the different hours of the day,
13. Site Geometry	:	The geometric shape of the site should not restrict or harden the possible arrangements for user groups,
14. Size	:	For the year-round use of the Community Center, the site should be large enough to involve outdoor facilities as well as indoor facilities,
15. Land-ownership	:	The possibility of expropriation should be considered when selecting the site in the built environment (Dalgakıran, 1999).

5.2. Selection of Activities and Facilities

The selection of activities and special facilities, which will be offered in Community Centers, plays an important role in enhancing the use of the center by all the members of community regardless of age and gender. Essentially, most of the Community Centers established abroad are dedicated to the enrichment of family and individual living and the perpetuation of the local and cultural heritage. Relevantly, in such countries participants play an active role in determining the design program, architectural image and urban design character of the center.

The activities and facilities involved in the design program of Community Centers can be classified into two as Must and Optional activities. 'Must activities' are indoor-based and reflect the main missions of Community Centers in a best way, by providing a meeting ground for diverse community activities where people meet to discuss community issues and should be supported by outdoor facilities in order to enhance the usability of the area throughout the year by different types of user groups. According to this:

Table 3. Must Activities

ACTIVITY TYPE		PURPOSE OF ACTIVITY
• Meeting/Conference Room	:	It will serve as a common ground for the gathering of people for several purposes under a roof.
• Workshops/Classes	:	They will improve the practical skills and abilities of the participants in a variety of fields from arts to crafts as a part of the leisure-time activities.
• Nursery/Day Care	:	It will help the parents enjoy the Community Center while their infants are well looked after by trained staff in a safe and secure place.
• Gymnasium/Indoor Sports/Health Club	:	It will enhance the healthy development of the individuals both physiologically and psychologically through a wide range of programs. These activities will include free weights, select weights and cardiovascular equipment like stepping machines and stationary bikes as well as courts for basketball, volleyball and so on.
• Multi-Purpose Room	:	It will be flexible and dividable into subspaces according to the demand and will allow for several purposes such as performances, banquets, parties and charity meetings.
• Commercial Kitchen	:	It will be available for serving food for meetings, receptions, banquets and parties.
• Swimming Pool	:	It will satisfy the demand of the residents specifically

		where the activity of swimming is not possible as a result of the geographical location of the settlement.
• After and Before School Programs	:	It will include after and before school tutorial program for the students who have academic difficulties. Such activities will enhance the usability of the Center by different user groups, through the different hours of the day under the supervision of volunteers and the center staff.
• Exhibition Space	:	It will serve as an art gallery where the works of workshops within the center are exhibited. Such an activity will enhance the interest in artistic objects by providing the appropriate physical setting.
• Library and Reading Room	:	It will improve the intellectual skills of the people while providing a calm and relaxing atmosphere.

(Source: Dalgakıran, 1999)

A Community Center design should be able to attract people with its outdoor facilities as well as the indoor activities. Thus outdoor-based "Optional Activities" should be determined in regard to the recreation tendencies of the residents The center should be reinforced with a wide range of outdoor activities in order to make it a focus for fun and recreation as well as a center for education and culture.

Table 4. Optional Activities

ACTIVITY TYPE		PURPOSE OF ACTIVITY
• Basketball-Volleyball and Tennis Courts	:	Sport has been a unifying element among people for years. In order to enhance the usability, courts should be located within the site appropriate to the demand and interest areas of people. Hence, it will be possible to organize community-wide basketball, volleyball and/or tennis tournaments. These attempts will undoubtedly enhance the social interaction among different types of user groups. Locker rooms for men and women should also be designed within the center.
• Walking-Jogging Track	:	It will satisfy the demand for walking and jogging through the pleasantly designed community park accompanied with the Community Center.
• Multi-Purpose Playing Field	:	A multi-purpose playing field should be designed within the site, allowing for different types of local games take place.
• Sand Area with Play Equipment	:	Sand is an important element in the improvement process of a child's creativity. The types of play equipment and their production materials also play an important role in determining the popularity of the playground. Play equipments produced of soft, plastic materials, minimize the probability of being hurt and such concern will enhance the usability of the Center by parents with their children.
• Outdoor Amphitheatre	:	In warm climate settlements, such facility will allow for various displays, community meetings and organizations that take place especially in hot summer evenings. This will revive the local life of the citizens and enhance the face-to-face contact among the members of community.
• Picnic Tables and Shelters	:	These facilities will enhance the usability of the area as a part of the community recreation pattern. Such a facility will allow the users enjoy the natural environment while having the chance to see others and share something in common in a joyful environment.

(Source: Dalgakıran, 1999)

Consequently, the activities that may optionally be included in the design program of a Community Center are subject to vary according to the differing climatic factors, preferences, necessities and population of the settlements in Turkey.

Conclusions

It is known that, participation in a supportive social system provides the individual affection, support and identity. People need to be with others and thus, being a member of a specific group or organization help the individual survive in a healthy way. The absence of such appropriate physical settings in the community, inevitably accelerates the antisocial behavioral patterns among the members of community such as drug taking, vandalism, criminal tendencies and so on. In this respect, Community Centers will serve as a potential for focus and heart in the community, where the leisure-times of the individuals gain importance by getting involved.

In order to develop a sensitive approach to the suggestion of design criteria and in order to achieve a higher quality in the designed Community Center user groups, behavior patterns and needs should also be examined. Since these centers involve many services and uses for the members of community regardless of race, religion, gender, age, interest and ability, they address to a wide range of user groups. In this respect, balancing each user groups' needs and demands in the project area, plays a central role in succeeding a socially appropriate, conflict-free Community Center design.

The suggested design criteria for Community Centers are mainly concerned with the selection of site and determination of must and optional activities. The design criteria suggested within the paper are subject to vary according to the differing physical and climatic factors, social and cultural preferences and necessities and the demographic structure of the settlements in Turkey. Attempts to create a typical plan for Community Centers, will neither response the real need of the society, nor display a harmonious characteristic with the physical, social and cultural structure of the settlement. And such a plan may easily have the probability of being unaccepted and unused by the members of community.

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Habitating the high-rise:A proposal for an alternative urban residential structure*

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Abstract
At the end of the 20th century, city is found to be the most refined and cultivated model of human coexistance where the majority of the world's population live. There is **dwelling**, once thought to be poetical over the earth and under the sky... and **housing** which comes to be a functionalist, anti-urban concept with its over simplification of chaos and conflicts of the city into sleeping and watching TV.

The society that builts the city of today, is mobile, and pluralist. And this new society is made up of a new man, a global nomad who sees his position transitory. The new man favors the amenities of the city and lives in the city. So, housing in the city is a main question of multiple variables in terms of its technical, constructional, typological, and social definitions.

In the example of the Turkish house, the hierarchies of the private to public parts and their connection through community spaces, the presence of an immediate relation with the exterior, together with an either direct connection or through another artificial ground is given importance. The traditional Turkish house is thought for a possibility of an archetype transformed and expanded to to the urban scale of the high-rise housing. The house initiates the possibility of creating a horizontal relation of the living and the ground, through the artificial ground spaces and in creation of a sense of community. The aim of the project is to develop a new system for habitation in a high rise scheme, which has had results ranging from dissatisfaction to disaster, but which is still a legacy to be a system of housing in the urban culture of density and tradition of city so far. The new high rise residential system will afford the same kind of amenities, livability and a sense of neighbourhood that are found in the low-rise traditonal Turkish housing districts.

Dwelling is only a part of the total structure of a habitation... Every urban settlement is livable and ecological, if dwelling is a decisive part of its structure... So dwelling is made possible on earth...

Introduction

The **habitat** of an animal or plant is the natural environment in which it normally lives or grows.

Habitation is the human activity of living somewhere. A habitation is a place where people live (Collins Cobuild English Language Dictionary, 1987).

Dwelling is poetical for Heidegger, over the earth and under the sky... and there is **housing** which comes to be a functionalist, anti-urban concept with its over simplification of the chaos and conflicts of the city into sleeping and watching TV in the end (Kollhoff,1997. p 101).

As the built environment reflects the economic, technological and social characteristics of a country, the house as its basic livable unit, reflects the characteristics of its people and their life styles. The history of dwelling types shows change and variety in relation to the developments in available technology, within the changing structures of life as the conditions of living change in the course of time. New balances are set according to the changes, and life styles and the house begin to adjust each other.

City, housing, habitation

As we came closer to the end of 20th century, **city** is found to be the most refined and cultivated model of human coexistence, and owing to these facts and many more, again cities are where the majority of the world's population live (ibid., p 101). The factors of climate, civilization and culture that produced different habitations on earth are loosing their significance with the advance of the technology. The society that builds the city of today is mobile, and pluralist. Ethnicity, religion, sex and race are today insignificant indicators of social segmentation. And this new society is made up of a new man, a global nomad who sees his position transitory... Nomadicism is the new life-style we live. The new man changes his house, job, country, spouse, and his body... The new man favours the amenities of the city and lives in the city.

So **housing** in the city, is a main question of multiple variables in terms of its technical, constructional, typological, and social definitions.

The issue of high-rise housing

Housing first became to be a major problem, together with the development of cities in what can be called, Modern times. But it was the First World War with its vast destruction to make it a headline. **Mass production and standardized type** in housing are introduced to the new kind of city, and then the high rises. Architects' post war strategies on housing, namely the **high-rises**, were later highly criticized, even to the degree of being called a disaster, to be inhuman environments.

But still the legacy of high-rise continues to be a system of housing in the urban culture of density and tradition of city, which kind of benefits to the single people, couples and small families of today, to the highly individualised person called the "urban man" (Arreger, 1967. p.32). What made the high-rise housing projects fail so far, was that, beyond being housing, a dwelling, they failed to be an "urban building" (Kohlhoff, 1997. p.101).

"The high-rise housing projects we come across are rarely modern," says Ciriani (Devillers, 1989. p.11). "They remain subject to good old classical tradition: superimposition of carrying walls, vertical repetition... Conventional skyscrapers do not enter into dialogue; they neither give nor take. They are simply big... a magnificent pile"
There lies the second conflict between the high-rise and the housing. Within the dominant volume of the tower, the intimate, "the residential scale" gets harder to achieve. The housing, which actually wants to be "a hive of human habitation" and give "a tangible presence to people" (Arnheim,1977. p.274), falls apart from its destination. It becomes nothing but a simple stacking of housing units adding up to another impermeable, inaccessible wall in the city.

The social consequences of this kind of totally unrelated living from each other, distant from the ground, encapsulated into private interior living spaces have ranged from dissatisfaction to disaster. Transitional spaces, and private territories that are the simplest, basic and desirable properties of the human low rise housing schemes are the first things to be sacrificed when it comes to the high-rise housing. Neither the balconies count for a relation with exterior the way one's own garden does, and nor the deepened and deserted inner courtyards. They are not transitional spaces in a public to private space hierarch, or a natural and social environment.

Besides the non-existence of a social cohesion possibility, one other problem of high-rise housings has always been the detachment of the interior from the exterior land space, which is heightened more in feeling with the elevator. The elevator taking the person off from the ground and injecting him into some anonymous hallway before he hides in his a-part-ment, is the main element of disconnection from the exterior world. The experience of in-between hierarchical space is totally eliminated. The view one gets from his apartment is also instead of making him feel connected to some landscape, increases the feeling of disconnection (Greenbie, 1981. p.58, 118).

The poetical dwelling; over the earth and under the sky... where the inhabitants are in reconciliation with their surrounding, somehow can not be associated with this kind of compartmentalized housing. The feeling of the good old house, which is in close relationship with the ground and the other houses, giving that sense of identifiable neighbourhood and community is not being satisfied with the high-rise housing. The kind of amenities like, sense of community, child supervision, security, livability, and responsiveness to context are generally found possible in a low-rise scheme.

In fact, dwelling becomes a **habitation**, when enriched by an urban complexity of functions, a sense of place and community. Dwelling is only a part of the total structure of a habitation.

Every urban settlement is livable and ecological, if dwelling is a decisive part of its structure; so dwelling is made possible on earth (Kollhoff, 1997. p. 101).

Typological work, prototypic edifice

Colquhaun, in his critique of Modern Movement, talks about the notion of **type** as being analogous to language, and says that through the persistence of earlier forms a system can convey meaning. The transformations of past solutions can be a means of acknowledging the role of precedent in design (Nesbitt, 1997. p.248). Although this approach can be thought to be the **denial of the absolute originality of each artwork**, architecture's different condition than arts such as painting, its being open to simultaneous collective experience puts the issue of aura in a different position. In practice, architecture has a more dependence on **prototype** and **reproducibility,** which is inherent –somehow- especially in housing. Widely standardized living requirements, the need for large number of housing, and the similarity of their purpose demands industrial production and even prefabrication (Arreger, 1967. p.27).

In this respect, architecture might appear to be moving towards the role of a supplementary activity (Nicolin, 1997. p.35). But the factor of designer's personal imprint makes the difference on the research into typologies and design. In the distinction between the originality of the work and the type, there lies the area where the parts are articulated and shaped, that the whole is diversified.

For a modern architect, '**typological work**" is inseparable from formal work and its progression passes necessarily by abstraction... says Henri Ciriani –a French architect. He describes his work as to transform the scale of the 'villa building', which is the root of the archetype of housing, and to create the horizontal relation of the house and the ground, through the artificial ground spaces.

So, the typological work would be pushed ahead to create the **prototypic** edifice which is unlike the trend of defining the prototype by their materials, and construction techniques, to return to the basis of architecture: **Space and form**, and to the character of architecture as a **world making art**. The prototype mentioned here is as a design/thinking system of spaces to offer possibility of changes and alternatives, not with formal or material determinations, but with open-ended proposals and concerns about habitation and community life.

While developing a new system for a habitable high-rise housing, Ciriani's method is worth borrowing. In this case, the traditional Turkish house is taken as a base for a possibility of archetype to be transformed and expanded to a much larger scale than it is to that of urban scale. With the study of the traditional low rise housing schemes and the traditional wooden Turkish house, information about the recurrent themes in typological studies are gathered. This information backs up the prototype, which defines the basic code of the new foreseen habitation.

Turkish house

The traditional Turkish house can be an example to the archetype of villa building, which Ciriani finds the horizontally extended spaces idea in. Horizontal relation with the ground and presence of immediate environment is main characteristics of Turkish house. The elements of Cumba and Hayat, stretching and expanding towards the exterior, point to the desire to make a close contact with the outside.

The research on the typologies of houses, through an historical analysis, will give clues about the development of the principal of formation around the main organizing transitional space, the **sofa**.

The tent

The tent is the nomadic origin of the Turkish house. A family lives in one tent and all the necessary elements like the fireplace, bed, storage and seating takes place within the same space. When the children get married, a separate tent is given to them. Since the extended family lives together, an in-between space where both the tents come together is

formed to create the main activity space of the family. The same principal is directly translated to the formation of the house, after they started to the settled living. The relationship between the rooms and the sofa in the house is the same as that of the individual tents and their common area (Küçükerman, 1985. p.66).

The room

The rooms, each of which belong to the smaller units of the extended family just like it was in the nomadic originated tent, are totally capable of containing their own functions of working, living, sleeping, cooking, cleaning and heating. Due to this complex functions of a single room, cupboards play an interesting role to provide the fireplace to cook and heat, storage spaces for everyday life and even in the earlier examples, provide washing and bathing facilities in the part of the cupboard called gusulhane (bathroom).

Each room conceived and used as an independent unit, opens in to the hall called sofa and come together around the sofa to create the larger community space, which opens to a semi-closed balcony or courtyard, which is called life (hayat). This in-between space accommodates some auxiliary functions of storage, and cooking again. In the traditional Turkish house, we can observe the hierarchies of the private to public parts and how they are connected to each other through the community spaces. The presence of an immediate relation with the exterior, together with an either direct connection or through another artificial ground is given main concern.

Study of the prototype

The traditional Turkish house, with its organizing principals, transformed and expanded to a much larger scale than it is, to that of the urban scale, can be an example for the creation of a structure and a sense of community, in search of an archetype for the prototype to be developed. The technique of inserting of adaptable high-rise prototypes, developed through the features of the house can produce a higher quality of life in the city, contributing to both public and private realms.

Research takes for its premise, the positive living pattern of the house and the low rise housing scheme, which is in close relation with its immediate surrounding and with the other houses. The introduction and elaboration of the positive features of the Turkish house into the basic housing tradition of the city is experimented.

The aim of the project is to develop a new system for habitation in a high-rise scheme. The new high rise residential system will afford the same kind of amenities, livability and a sense of neighbourhood, that are indicated as possible in a low rise housing scheme (community, child supervision, security, maintenance, liveability, responsiveness to context) generally. The re-thinking of the high rise housing in the urban context, brings in the issues of programmatic diversity also. In fact, dwelling becomes a habitation, when enriched by an urban complexity of functions, a sense of place and community.

The traditional wooden Turkish House is thought for a possibility of an archetype transformed and expanded to a much larger scale than it is, to the urban scale of the high-rise housing. The house initiates the possibility of creating a horizontal relation of the living and the ground, through the artificial ground spaces and creation of a sense of community, which has either not been a practice or, has not been successful in the examples of high rise housings we come across. Through the cross mapping of the traditional Turkish house and the high rise, a system for a prototype will be developed.

High-rise habitation proposal

The prototype system developed through the use of the features of house in direct relation with the ground, in this case, the traditional Turkish house is studied in a site out of its archetype's cultural context, in New York City. "...New York's incredible energy related to its programmatic diversity and juxtaposition..." (Holl, 1992. p.46) as Steven Holl says- will be a suitable background to the hybrid qualities of the project.

The prototype can be tailored according to the qualities like the density, height and land use characteristics of the chosen urban site. The site is in Greenwich Village, New York where there is a low-rise low-density traditional context. The positive aspects, which could be brought to the private and public realms of New York City by the implication of some features drawn from the low-rise housing schemes and the villa-house itself is exercised.

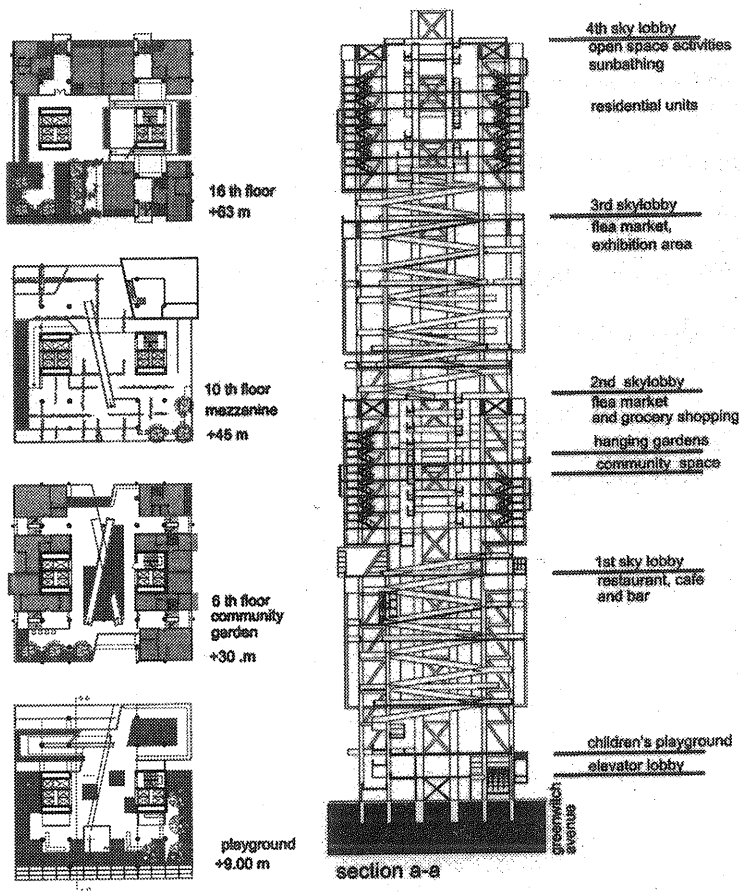
Program and final design

The project requires the development of a vertical land use plan. The proposal is a design for a system, made up of smaller systems in a hierarchy from public to smaller community and then to the private levels in trying to achieve the **residential scale.**

The program of the building includes 4 residential districts of each ten floors high, together with the supporting urban activities and recreational areas, and a ramp as the dominant circulation element, which connects the entirety of the structure functioning as a vertical street. The ramp while ensuring the easy transition between levels, avoids the inevitable physical compartmentation of floors inherit in the high-rises of today.

Due to social aims of the project; it should be able to address to the different groups of people. 220 slots for the infill of prefabricated **residential units** are provided with a variety of possible combinations of studio types, one bedroom, two bedrooms and duplex units, for singles, shared occupancy, couples, and small families. The units thought with a possibility of home-business hybrid usage are given to the initiative of the user.

The residential units have levels of grouping which gives the different scales of sense of community, according to their **levels of accessibility**. In the primary access level, high-speed transit elevators serve the entire structure every ten floors, and then the local district elevators, a ramp structure giving access to everyone of two floors and exterior stairs serving each floor as the last level of accessibility to the residential units. This hierarchy of accessibility maintains the **social and physical structure** of the prototype.



Residential units, recreational areas, public and commercial areas line up, develop and take shape around the pedestrian friendly **vertical street-park** system as the main organizing transitional space, the sofa **of the house** that connects the entire structure. Interaction and communication is essential as in the streets of horizontal traditional housing districts. The building, which is aimed to be a real urban building, is connected from the ground level environment, up to the third dimension with the continuity of the ramp, park and public spaces. Vegetation is important which develops around the ramp system providing the public amenities of the total structure.

Four sky-lobbies are provided to accommodate the public urban facilities for the use of the city also, while also functioning as the transfer lobbies from the express elevators, to the local circulation and transportation of the residential district it is connected to. The programs for the sky-lobbies include a playground, a flea market, café-restaurant, convenience grocery store, security, library and an open park at the uppermost floor. The public spaces of the sky-lobbies on the 10^{th}, 20^{th}, 30^{th} and 40^{th} floors are oriented to preferable views.

The ramp helps to create the public spaces in the more private parts of the building, within the residential unit districts also. Smaller scale open spaces and community gardens scattered all around the residential neighbourhood, make the community spaces to maintain a social cohesion. Thus surrounding residences get the opportunity to have an **immediate environment** close to their scale, which has been a central issue in the development of the prototype with the ideas of **artificial ground places** and horizontally **extended spaces** borrowed from the low rise housing schemes and the traditional house. Instead of sealing the interior environment from the external environment, occupants are encouraged to experience it to overcome the feeling of disconnection.

The structure of the building, which is supported mainly from the inner partial tube, is braced with transfer structures every 10 floors which corresponds to the floor under the sky-lobbies and provide the mechanical and electrical services floors. The secondary structure supporting the residential units, are hung to these transfer structures with hangers and prefabricated residential units are inserted in to the grid that the secondary structure provides.

This building developed as a prototype indicates to a total system of high-rise housing developed around a ramp, which helps both to create the social organization of the units of the residential parts with introduction of transitional spaces, providing different levels of private territories, and provides connection between the different functions of the building.

Every urban settlement is livable and ecological, if dwelling is a decisive part of its structure.

So dwelling is made possible on earth...

* The paper is based on the thesis project by Dürnev Atılgan with advisor David Rockwood, for the degree of Master of Architecture in School of Architecture, Pratt Institute, NY, USA, May 1999.

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The civilisation wealth as main factor for sustainable development and social co-existence
'The case of Black Sea Cities'

Parysatis Papadopoulou-Symeonidou

Summary

The need for sustainable development as a prerequisite for social co-existence, but as a main problem for the participation of all nations to the global society as well, is today more than ever self-evident.
The multiformity of space and society, the social dispatities and the link of development policies towards equal living conditions constitute the factors which put under question the political decisions for '*sustainable development*' whithin the global society. This term, not defined as needed, must be examined in relation to the civilisation riches, in the present case to the architectural wealth and its relation to the history and form of towns on the Black Sea coastal areas. It concerns the main factors for the development of societies with many common features, as well as for the contribution to the evolution of methods for the environmental, economic and social equilibrium through the use and assurance of the civilisation riches.
Many buildings and many cities are considered as scheduled in the contemporary society. However, the use of such riches in their environment as an entity, from geographical, social and cultural point of view, asks for policies and measures for co-action in this field.
In this direction Trabzon must play a main role for the co-ordination of the differentiated choices in this field. Questions for the formulation of aspects and policies, but for the evaluation of methods as well, will be mentioned and analysed in this report. They contribute to the application of common policies by all countries around Black Sea, towards a *sustainable co-existence* of their populations on the basis of the relation '*social-cultural values*'.

Introduction
Many countries border the Black Sea. They constitute states each with a different status, however, with a histoty of civilization that binds their societies for centuries. The relation '*social-cultural values*' through the preservation of civilization values must constitute the determining factor for actions and policies for the convergence of societies. If the cities around a sea which unites them manage to apply measures of common acceptance for preserving architectural wealth, -possibly of urban entireties as well- then the first step has been taken towards the direction of *sustainable development.*
The term directs primarily to the causes that led to the problems associated with high densities, high operation costs, mainly of the cities, high cost of living, destruction of cultural infrastructure, etc. At the center of these causes is the economic factor, the profit motive through the concentration of populations and activities. It is not disputed, however, that exactly this concentration -consequently the destruction of old forms and structures of the urban environment- by the transgression of the marginal sizes led in most of the cases, together with the destruction of civilization values, to underdevelopment as well.
Thus, the inverse action must commence from the cities. This means balancing their development and operation. Architecture and town planning must be integrated in the policy of social development, or architecture and town planning must offer the main orientation for political decisions.

Social-developmental dimension of cities
Within the framework of views and positions mentioned above, the example of the Black Sea cities is indicative; besides it is the area nearest to us, a sea that unites and does not divide. This closed sea asks for means and ways for preserving balances in all fields -the disturbance of the ecosystem's balance is well known-.
In this case the bigger cities as to their population size are taken into account. They are cities with comparable sizes or data recorded in international statistics. Recorded are the Central Municipalities, namely the cities without their suburban areas, which in many cases assume the form of large polulation concentrations. (Cities of Turkey, Georgia, Russia, Ukraine, Romania Bulgaria and Greece are selected as case study)
The following contribute to the clarity of the analysis components, the evaluation and the methodology which is developed:
1. Data of the cities (presentation of data in maps and diagrams) of the Black Sea according to today's population sizes and economic scope -on the basis of the size of the Gross Social Product (GSP) which also ascribes the income- but with references to the diachronic nature of their presence.
2. Comparison data of Trabzon and Thessaloniki which refer to buildings of civilization. Though these buildings are not preserved today, their memory strengthens the view that the heritage of civilization can balance off negative aspects of modern society within the globalization process.

The first case (point 1) gives the distribution of cities on the basis of the two criteria: *population* and *economic scope*. Through the distribution in the area of the coastal zone, which constitutes a unified vital area, the social inequalities

become obvious. The ring formed by the cities must balance off these differences, through a system of distribution and redistribution of funds according to the needs of the cities in the field of civilization; it concerns new needs or the maintenance of monuments, historical and modern.
Thus the question of the relation of historical and cultural infrastructure of the cities and their urban uses must be put under control. This relation goes through the evaluation of the population size of the cities. Namely, if the population growth does not mean an increase of wealth, it acts to the detriment of the cities' civilization values.
The two criteria of population and income (as already mentioned) end in comparable indices which can provide the basis for common actions, following the recording of the needs in the field of civilization by all cities.
In this case the indices ascribe:
a) The existing situation which is also proportionate with the problems of many countries of the Black Sea after the collapse of the Soviet Union, and
b) The immediate prospect for a unified policy of the Black Sea cities in order to respond to their common historical past.
The concept of sustainable development goes through the balance of urban uses and needs, mainly through the balance of the cities' '*born capacity*' of economic strength. It concerns an indispensable viewpoint which tries to eliminate the negative competition in a culturally unified area.

The second case (point 2) gives the opportunity of comparing civilization values which fostered different political-historical conditions in different cities. The example of the two cities, Trabzon and Thessaloniki, is indicative. The architectural wealth does no longer exist. One can, however, ascertain through historical values preserved in written sources and photographic material, that the concept for aesthetics and architectural structure led to social convergence and balance within the space.
The selection of Thessaloniki, besides the fact that the city in as far as its geography and position on the globe are concerned, has many common features with Trabzon, also supports the view that equilibrium in society goes through civilization values operating complimentarily and not antagonistically. This relation is comprehended with the use of photographic material which, at the same time, contributes to the view already supported, namely the preservation -in as far as today's development allows it- of civilization for a sustainable development.

Final position/view

Through this data Trabzon's role becomes obvious. The city attracts cultural balance to the east and in this way the city contributes to the elevation and utilization of civilization data leading to the convergence of societies. Without a doubt this term assumes a broader dimention within the framework of such a treatment of civilization. It concerns the every day situation in all its expressions for the respect of individualities which bring local societies closer instead of setting them apart, for the respect of monuments of history.
In this direction priorities should exist in political decisions for regulations to the urban environment which today constitutes the key factor in the field of decision making within the framework of globalization. In these decisions, the role of architects, town planners, but of other similar scientific fields as well, must be decisive. It concers the answer to the following two questions:
- Which cities with what social and cultural needs must be supported on a scale of rating poverty?
- Which cities with what social and cultural supremacy must support the former on a scale of rating economic superiority?

An attempt is made to approach the answer by maps and diagrams with data, as it was mentioned. It concerns factors worthy of speculation within the framework of the efforts for participation of all those involved in questions of civilization, art and society, all those who participate in the decision making in a society with global profile.

20th Century Architectural Modernization Experiences of the Socialist Peripherical Example, Azerbaijan/Baku

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Abstract
In 20th Century Socialist Ideology, described as "the economical/political ideas, aiming the transfer of production devices to state ownership", has determined physical environment for the great part of the world. Because in 20th Century, the reel format of Socialism, Socialist Soviet Union creates its own periphery like the West and one of the most important representatives of its inside periphery is Azerbaijan. The Soviets Center determines architectural formation special to Azerbaijan, after the 1918 Independence and 1920 occupation staying under the sovereignty of the Soviet Union. Due to this direct transfer, Oil Barons Period, long Socialist Period, Socialist sub periods of 20th Century Azerbaijan/Baku architecture can be examined with some parameters, identifying Socialist Soviet experience. General parameters identifying Socialist Soviets, coming from Modernization, summarized as secularization, futurism, rationality, industrialization, surplus economy, internationalism, homogeneity, criticism and specific ones, coming from Socialist ideology, summarized as refusage of private ownership special to bourgeois class, usage the surplus value equitably, forming the society without classes, in attaining this kind of society, being proletarian centered; state centered governing, collective living, provide to gain some important extractions about Azerbaijan/Baku Architecture. With these extractions, some problems/opportunities, experienced in this peripherical country can be detailed. So the aim of this study is to reach these problems/opportunities that is to say some cultural referred inferences.

1. Introduction

In 20th Century Socialist Ideology really has determined physical environment for the great part of the world, because the reel format of Socialism, Socialist Soviet Union creates its own periphery like the West. In this periphery, several problems/opportunities are experienced and after Socialism these problems/opportunities still present some important information for overcoming today's crisis. Even this information seems to be able to used for the societies, having their political independence but still being in the periphery of the West. In this context it is necessary to start trying Socialist ideology.

2. As a Concept and a Concrete Experience Socialist Ideology

2. 1. As a Concept Socialist Ideology - Meaning, History

Socialism, which stigmatizes on 20th Century as the dialectical opponent of Capitalist ideology, means roughly "the economical, political ideas, aiming the transfer of production devices to state ownership and aiming the system without private ownership and social classes" (Sosyalizm, 1981). As known that, these economical, political ideas get its some main references from the French philosophers of 18th Century that is to say from the Enlightenment movement, accepted as one of the starters of the "Modernity".

And then, as underlined by F. Engels, Utopists of the 19th Century provide some serious assistance to Socialist thinking. Engels declares that Saint-Simon, taking the economic inequalities on the center; C. Fourier, interested on social inequalities and designing communal life unities called "Falanster"; R. Owen, criticizing the concepts of religion and private ownership, supporting the proletarians despite his own great capital and building New Lanark communal life area; aim to make widespread the main Socialist values like truth, reason, and justice (Engels). Besides Engels and the great thinker K. Marx improve the Socialist and then Communist ideology in the way of Utopists, putting it on a serious theoretical foundation. Unemployment and poverty, formed by the Capitalist system, which starts to live a new stage with the industrialization, strengthening after the Enlightenment Period, become extremely sharp in 19th Century and so motivate the Marxist thinking effectively. Marx supposes that in the industrialized European countries Capitalism would destroy itself, proletarian dictatorship would be built and after the dictatorial Socialist period pure Communism would be started to live. In this way, instead of private ownership special to bourgeois class; a just sharing, arranged in respect of the needs of whole society would be formed, also state would govern this order in the name of the proletarian until building a real society without classes.

2. 2. As a Concrete Experience Socialist Ideology - Soviet Socialism

However, as known all these suppositions special to Marx ,get real not in Europe but in another country, Russia that started to industrialize a little bit before. In Czar Russia, walking from the feudal order to industrialized economy with some puny steps, problems of the West increase more heavily; inequalities between the farmers and landowners, proletarians and bourgeois, soldiers and officers get sharper (Tanilli, 1999). Bolshevik oppositionists, who aim to remove these mentioned economical and social inequalities, strengthen in time and get the government with the revolution realized in October 1917.

Socialist government, built by Lenin starts to apply its policies from the beginning. First declaring that different societies, which live inside the Russian borders and which were pressed with the policy of "making them Russian" in times of Czar, have the right of determining their future; this government approaches to remove some social and cultural inequalities. Also in economical extent, it speeds the development based on equal sharing up with its activities of nationalizing and making collective which aim to repair the effects of the 1st World War and then of Red-White Russian National War. But for some serious reflections appear especially in rural area, new economical policies (NEP) are started to apply; on the other hand with Stalin who leads the government after the early death of Lenin, old system comes back.

With the 1st, 2nd, 3rd Development Plans Stalin gets "the activities of the industrialization in urban and making collective in rural" beyond the control of some radical rules, completely determined by the government, based on equality but in time starting to show their despotic qualities. In the context of these plans first, the policies which give priority to hardware industrialization, becoming urbanized and on this extent form so many great industrial settlements in the closest peripherical regions of Russia such as Azerbaijan and Ukraine, having many rich underground sources, are applied. Then, other industries, transportation and in a limited extent activity of improving the qualities of the consumer goods are prevailed. Population becomes urban rapidly in the way, proposed by industrial based Modernity; because anyway the aim is mechanizing even the rural and making even the farmers becoming farming proletarians. "Kolhoz" farmers work as the proletarians in the fields whose borders were cancelled and which were made collective and nationalized. In time, new great satellite cities or new settlements, added to old cities form (Tanilli, 1999).

Planned development, during the 2nd World War slowing down but in the postwar period again gaining speed is continued by Khrushchev, leading the government after Stalin; however Khrushchev realizes some limited reforms, aiming to destroy the centralized state structure. Also the Presidents after him again make the centralization so effective until 80's and as known that Soviet Union starts to collapse in the end of 80's (Deutscher, 1991).

In fact, the fact that the policies, determined in Moscow Center, are become widespread in all regions of the inside periphery even in the small settlements, in other words the fact of extremely centralized even totalitarian governing approach is one of the main components of the system in Socialist Soviet Union which has a multinational federative state structure (Tanilli, 1999). Besides another component of the system is the phenomenon of "giving everybody equal educational, cultural, health services with the motivation of the Socialist spirit". This is an important assistance for creating high-educated citizens in the country.

2. 3. Parameters Identifying Socialist Soviet Experience - On Conceptional, Experimental Base

As a result, if both 20th Century Socialist Soviet experience and the source of it, Marxist Socialist thinking, are observed, it seems that some important extractions can be gained. In this context, it can be said that Marxist Socialist thinking which gets its first references from Modernity, strengthening with the Enlightenment movement, reflects many parameters of Modernity such as secularization, futurism, rationality, industrialization, surplus economy, internationalism, homogeneity, criticism. But except these general parameters, the ideals of refusage of private ownership special to bourgeois class; usage the surplus value equitably; forming the society without classes; in attaining this kind of society; being proletarian centered; state centered governing; collective living; are the specific approaches which identify Marxist Socialism from Capitalism.

On the other hand, it seems that all these general and specific parameters are realized but sometimes extended to different levels in Soviet Union. In Soviet experience general parameters can be made concrete like that:

1) Passing over the religion emphasis of the Czar Period
2) Always approaching future with the development plans
3) Presenting rational aims in all plans
4) Putting industry in the center
5) Arranging all activities according to handling the surplus value
6) Imposing typical international policies from the center to all sub unities
7) Forgetting the promise about publics that could have the right of determining their future; returning the homogeneous approach
8) Losing the meaning at the beginning special to critical intellectualism.

Besides in Soviets specific parameters special to Socialism show themselves like that:

1) The activity of making collective in rural; separating and distributing the nationalized houses in urban
2) Earning equal wage for the spent labor in Kolhoz villages and in factories

3) Approaching to get the society without classes in the way of refusage the bourgeois and making everybody proletarians; as a result gaining a kind of justice but also destroying all the cultural/individual differences
4) Rapidly increasing in the proletarian population
5) Especially with Stalin strengthening in the state centered structure, for the centralized state refusage the democracy
6) Motivating the equal sharing with the communal living unities and the all-collective activities but in time completely losing the private/individual space.

3. As an Example from Socialist Inside Periphery Azerbaijan

In the context of Soviet Union experience, examining ways of all these general and specific parameters, identifying Socialism, do not form a phenomenon special to Soviets, because in time like the Capitalist West Soviet Union creates its own periphery and exports its all examining ways to this periphery. Today's Caucasian, Central Asian and Baltic Republics which were inside the borders of the Russian Empire form the inside periphery in other words the closest peripherical circle of the Soviet Union. On the other hand, after the 2nd World War East Germany, Eastern European countries and then different countries in the world become the second and third circles of the periphery of Soviet Center. However it is obvious that in all them, Caucasian, Central Asian and Baltic countries, forming the inside periphery are under the most direct and intensive effect of the Center. It is observed that in the mentioned countries Azerbaijan is a special and important sample, because it is a country in which Socialist Soviet Union increases its industrial activities effectively due to the region's rich oil resources, realizes many transfers from the Center with the first hand and a country despite these direct transfers which tries to save its cultural identity, in this context has some serious connections with Turkey.

According to an anonymous belief, the name special to Azerbaijan, whose experiences in the architectural extent, Modern architectural experiences will be explained in the fourth chapter of the study, derives from the word of "azer", meaning "fire" in the Persian language; fire country Azerbaijan gets its name from the Zoroaster temples whose fires are set with the oil resources (Swietochowski, 1988). Azerbaijan, orderly staying under the sovereignty of Med, Persian, Seljuk, Mogol, Turcoman and Safavid dynasties, living a short independence period based on local princedoms, then being under the sovereignty of Russian Empire, connecting the Iranian affects with the Turkic language and traditions, realizes its second independence trial in 1918. In the period, which the old Western colonies start to gain their independences slowly and nation states appear in the world, 1905 Russian Rebellion causes some serious searches in Azerbaijan too. In the country in which Nationalist and Socialist parties become effective, independence is declared in 1918; however it continues for a very short time; Soviet Union which promises at the beginning about setting free the societies in determining their future, occupies the country in 1920 (Swietochowski, 1988) and Azerbaijan stays under the sovereignty of Socialist Soviets until 1991. As known the relations between Azerbaijan, gaining a complete political independence in 1991, and Turkey improve rapidly in the last decade.

In the Socialist Period of 70 years as a typical inside peripherical sample the country become a region to which Soviet experience is transferred exactly. Oil resources, started to be processed in the beginning of the Century and causage to be formed "Oil Barons Period", are managed effectively in the Soviet Period too. In the country many industrial foundations and industrial based satellite cities are built. Development plans are applied exactly; like in Russia proletarian and urban population increase rapidly. Moscow centered policies are completely transferred to Azerbaijan by the local government officers; in Khrushchev Period the trial of improving the local governments shows its some effects but the mentioned trial does not change the general frame. Russian is the compulsory lesson in the primary, secondary schools and the only educational language in the universities (Tanilli, 1999). Local, regional language continues its existence in the verbal tradition; local cultural values are lived in the limited private area but do not seem in the public stage. All of these and many improvements, whose details couldn't be handled here, show that Soviet Union's examining and application styles of Socialism are repeated on a great extent in Azerbaijan too. The limited differences in appearance could be comment as the compulsive reflections of the original, local identity, which couldn't express itself enough.

4. 20th Century Architectural Modernization Experiences of Socialist Peripherical Example Azerbaijan/Baku

4. 1. General Stages of 20th Century Azerbaijan/Baku Architecture

On the other hand, after the all examinations about Socialist Soviet experience and its reflections on Azerbaijan, one of the most effective representatives of the inside periphery, when the turn comes to the architectural area, 20th Century Azerbaijan architectural research, Azerbaijan architectural Modernization trials, it is seen that again some serious clues could be reached. Naturally, 20th Century Azerbaijan architectural experience is the total applications of a great region; here these applications will be underlined too but it should be told that due to the shortage of the literature especially Baku architecture would be concentrated on. It is thought that although information special to Baku architecture is not valid for all Azerbaijan, this information will show some important clues about the 20th Century architectural approaches of the country.

It can be told that Azerbaijan, in the third chapter underlined as a country which is under the sovereignty of many different dynasties, lives an important architectural period before the Russian control so in Medieval Times. But then

especially in 20th Century Azerbaijan lives its first important period with Oil Barons. In "Oil Barons Period" which describes the end of 19th Century and the beginning of 20th Century, rich oil resources are started to be processed, great investments are realized, the affects of becoming Western are clear and all of these directly reflect on architecture. After Oil Barons Period, with the Socialist Soviet occupation, cutting of the short independence period second important stage, extending from 1920's to 80's, intensively determining 20th Century architectural applications, is started to be lived. And it is observed that after the collapse of Soviet Union, from the politic independence declared in 1991 to nowadays, the third and the last stage in which opening to the abroad and foreign building activities improve rapidly, is lived (Khanlou, 1994).

4. 2. Specific Explanations About Stages of 20th Century Baku Architecture

It is obvious that such a evolution is valid for the capital city Baku too. The "Inner City" in Baku whose past begins in for about 2000 B.C., population reaches to 2 million people today and which states on the south part of Apsheron Peninsula, extending to Caspian Sea, is built in the first period that is to say in Medieval Times. Maiden Tower, Shirvanshahs Palace, Aga Mikayil Bath, etc...are from this period (Topal, 1999).

4. 2. 1. Oil Barons Period

In Oil Barons Period, forming with the beginning to process the oil resources in the Czar Russia, the profile of Baku changes on a great extent; because the largest sources place in Baku; local and foreign investors come to this city; as a result these investors make especially architectural styles transferred from the West concrete on the luxurious residences, office buildings, public places, boulevards and urban arrangements, realized by them (Khanlou, 1998). In the mentioned buildings, arrangements, Neo Classical, German, Italian Renaissance Revival, French Gothic, Art Nouveau styles unite with the usages, coming from Safavid, Persian, Ottoman styles. Dominant styles are the Western ones but ornamental tendency of the East could be read from the products (Blair, 1998a).

On the other hand, in Oil Barons Period, sometimes creating Western pastiche samples on the building scale, the urban profile of Baku changes too. The city, first being a small town, becomes a great, cosmopolite and industrialized urban with the investments, beginning in 1880's. In the city, first clues of the Western Modernist urban planning, show themselves as the opening of great boulevards. The most important of them is the "Seaside Boulevard" whose filling is realized with the fertile soil, taken as a kind of tax from the Russian, Iranian oil ships which come to Baku, in time whose landscape is improved; which starts in the extension of the Inner City, continues along the sea line and on which luxurious residences of the investors are built. On the Seaside Boulevard in time some bathhouses, casinos and cinemas, addressing to the new bourgeois class, are built (Akhundov, 2000). Some of the most important public buildings of Baku from this period are the Academy of Science Museum, Baksovet (City Hall), Friday Mosque, Opera/Ballet Theatre and Socar Building (Blair, 1998a).

4. 2. 2. Socialist Period

As underlined above, Oil Barons Period closes with the 1920 Soviet occupation, following the 1918 independence and Socialist Soviet government, saving its sovereignty for about 70 years, stigmatizes on the Azerbaijan and Baku Architecture. The occupation, realized by the Soviet government, which first declares that it would be respectful to the right of societies for determining their destiny but then abandons this declaration, on a great extent destroys the architectural life, created by the bourgeois class. Moscow centered architectural/urban policies are reflected to the prevailed representative of the inside periphery Azerbaijan and its capital city Baku in the way of setting Socialism effectively.

4. 2. 2. 1. Lenin Period In Baku during the first period in which Lenin is the leader of the government in the Soviet Center and which extends from 1920's to 30's, all private ownerships and luxurious residences, belonging the bourgeois are nationalized and distributed to the proletarian families. Proletarian houses in "Black City", being in the northwest part of the city are increased; governing of the factories are started to be realized completely by the state. However, despite all of these nationalization activities in urban and especially in rural, private ownership in a limited extent still continues its existence; because NEP (New Economy Policies) identify a more flexible system. On the other hand, in this more flexible or soft period, revolutionist Modernist Constructivist tendencies get the place of Neo Classical, etc. styles special to the former period. In other words, new movements, forming in the Center, find its direct reflections in Baku too (Khanlou, 1994).

4. 2. 2. 2. Stalin Period During the period in which Stalin leads the state and which extends from 1930's to 50's, some preferences again change exactly. Stalin forbids Modernist style especially in the public buildings; in Baku to which this decision is transferred directly, in the way of Stalin's emphasis so many monumental Neo Classical buildings are formed. But in the large house blocks Modernist applications are continued (Khanlou, 1994; Topal, 1999). Besides, urban planning, industrial activities, started to be realized in Lenin Period, are improved effectively in Stalin Period. In 30's, 40's and 50's when the system is made more statically, NEP is left, planned development period is begun, and Modern urban planning are strengthened in Baku. Baku Master Plan whose first trial is made in 1924 and is the first study of the Soviets in this area, is revised (Gasimzade,1998); boulevards of the city are increased; old, narrow streets

are widened; the number and scale of the industrial settlements are risen and so the area of the Black City is become larger. Some new public buildings on the Seaside Boulevard which is opened in the Oil Barons Period and whose all residences are nationalized, are realized. All of them are presented to the free of charge usage of the working proletarian class (Khanlou, 1994). Besides, free of charge and shared so collective architectural usage are also intensively lived in rural where the fields are completely made collective.

4. 2. 2. 3. Khrushchev and Post-Khrushchev Period The limited extensions, tried to be formed by Khrushchev who comes to the government after the death of Stalin, show their effects on Baku Architecture too. Khrushchev motivates constructing again Modern buildings, purified from the ornaments. Especially, dwelling shortage of the postwar period is overcome with the large, standardized, social house blocks. Khrushchev, trying to motivate the local governments, provides to be built some "Micro Regions: Suburbia"; in this way, a new satellite city "Sumgayit" is founded in the near outside of Baku anyway whose industrial settlement in the Black City region improve effectively. In Sumgayit a very standardized construction activity is realized too. On the other hand, in this period prefabricated building components are produced (Khanlou, 1998). The officer who governs directly all architectural activities, realized in Khrushchev Period, is the Mayor Alish Lambaranski (Sharifov, 1998).

In addition, centralization in the state governing, after Khrushchev strengthened again, causes a rise of central control on the architectural formation special to both Baku whose master plans are again and again revised and Azerbaijan. This control consists of especially the cities whose population increases on a great extent but on the other hand the villages where the collective sharing is continued, that is to say all of the settlements. It could be said that some prevailed architects of Khrushchev and Post-Khrushchev Periods, giving especially in the cities and Baku, are Mikail Useinov, Sadia Dadashov, Hasanaga Majidov and Anvar Gasimzade (Gasimzade, 1998).

4. 2. 3. Post-collapse and Independence Period

On the other hand, it could be told that after Socialism in 90's, described as the third important period above in the chapter of "General Stages of 20th Century Azerbaijan/Baku Architecture", whole institutions of the Socialist Period explained above are upset; Western Capitalist system is tried to be built. In this context foreign contractors become very effective (Gasimzade, 1998); even this causes a slip from one extreme to the opposite one and nowadays some legal arrangements which will district such a slip, are started to be realized in Azerbaijan which gains its independence in 1991 at the end of Soviets collapse period, and in Baku.

4. 3. Examination of 20th Century Azerbaijan/Baku Architecture in the Context of Parameters Identifying Socialist Soviet Experience

After such a general examination, in other words general explanations, concentrating on the 20th Century Azerbaijan Modern architectural experiences which especially show themselves with the Socialist Period; when the meaning of the mentioned architectural experiences in the context of the general, specific parameters which are made concrete in the second chapter of the study and which describe Socialist Soviet governing, is handled, it is observed that some serious extractions could be reached. The frame, which is built by the architectural formations of Azerbaijan and Baku in the context of the general parameters, coming from Modernization and identifying Soviet experience, can be explained like that:

1) Religious emphasis special to Czar Period starts to decline even in the Oil Barons Period, being the last stage of the Czar Times; although religious buildings (mosques and churches) are still realized, industrial and dwelling based secular buildings take their places rapidly. This improvement continues with the risen rate in Azerbaijan during the Soviet Period; in this period religious space emphasis is definitely not.

2) The approach of planned development, being futurist, is made itself concrete on architectural extent especially with the master plans of Baku, revised in Soviet Period and the planned industrial settlements, placed intensively in Black City.

3) The clues of the rationalist strategies are read in all new planned house buildings whose quantities and qualities are arranged according to the needs of the working proletarians, in the fact of separating and distributing of the nationalized Oil Barons residences, and so in almost all activities.

4) It is seen that in Baku, anyway being an oil industry city, almost the
Whole city and architecture are improved as the industrial based.

5) Producing, always more producing that is to say handling the surplus value become so clear in the industrial settlements of Azerbaijan and Baku that always develop gradually and in the satellite cities such as Sumgayit which aim to produce directly.

6,7) Soviet centered homogeneous approach shows itself with the facts of transferring the radical style tides, lived in Lenin, Stalin, Khrushchev Periods, to Baku exactly; building Sumgayit City in the context of Khrushchev's aim of creating micro regions and not respecting to local values, traditions of Azerbaijan during the mentioned architectural improvements.

8) "The expression of the collectivist emphasis" in the standardized building activities proves that criticism gets weakened.

On the other hand, it is observed that Azerbaijan and Baku Architecture present several important samples also in the context of the specific parameters, identifying Soviet experience:

1) Refusage the private ownership and nationalizing show themselves clearly with the facts of separating, distributing Oil Barons residences to the public in Baku; making only 'being renter' valid in the new houses; making collective fields in the rural step by step; etc....

2) Distributing all the nationalized houses equitably according to the needs; making public buildings, urban areas and Seaside Boulevard free to charge and open to everybody; make concrete the phenomenon of the "equality" on the architectural context.

3) Destroying the bourgeois and the ideal of being without classes are realized on a great extent in the cities with taking the residences, office buildings, factories of Oil Barons from themselves and in the villages with again taking the fields from their owners, distributing them to the farmers. Bourgeois class, losing its architectural existence is destroyed in a radical
way.

4) Proletarian centered system make itself concrete with the activities such as constructing all houses and public buildings according to the population rise and needs of the working classes.

5) The centralized Soviet State which continues governing in the name of the proletarians, is the decision place, applicator and owner of almost all architectural products, landscapes, urban areas in Azerbaijan and Baku too. This is understood exactly from the fact of making typical Neo Classical or Modernist state styles preeminent in the public buildings of Stalin or Khrushchev Period. Azerbaijani society couldn't get the opportunity of making real its own demands, values under the force of all these typical state styles.

6) The extreme form of the collectivist life can always be observed in the houses blocks whose communal spaces are so dominant, private living spaces are quite limited; in the industrial settlements of Black City whose collectivist emphasis is strong and which provide all the social needs in themselves; of course in the villages whose fields are processed in the collectivist way.

5. Conclusion

On the other hand, after all these examinations, some important conclusions can be reached. Especially, in the context of the general parameters, coming from Modernity, 20th Century Azerbaijan/Baku architecture presents this profile: Especially architecture of Oil Barons Period reflects some of these parameters effectively so shares Modernization upper frame with both the world and the Russian Center. However it is not still a complete Modernization period because Russia starts to set the Modern values slowly in those days so does Azerbaijan. The direct transfer from Russia to Azerbaijan cause some serious problems. Transferring of the Revivalist styles without being criticized is the clue of the problems. Besides after the Oil Barons Period, in the long Socialist Architectural Period, all the general parameters are reflected on a great extent. In other words, this period shares again Modernization upper frame too. But despite this, Azerbaijan architecture is not conscious enough because Modernization realizes with a democratically transformation neither in Soviet Center nor in Azerbaijan; it realizes in a totalitarian way. Because of its different cultural values, Azerbaijan seems to have more problems. Having this kind of problems in 20th Century when all the Western Colonies have their independences, try to form their own styles, shows the specialty of Azerbaijan. On the other hand in the Post-collapse Period, general parameters are valid too but Azerbaijan architecture lives a tide from one side to the opposite one so it can be said that gaining independence is not enough, it is necessary to criticize all architectural activities. After the general parameters, in the context of the specific ones, coming from Socialist ideology, 20th Century Azerbaijan/Baku architecture presents a profile like that: It is obvious that in the Oil Barons Period none of these parameters are realized because this Capitalist period doesn't respect the, healthy architectural/urban usages of the working classes. However in the Socialist Period as known all the specific parameters are reflected intensively. In this context, it can be told that the most positive respects of the new Socialist architectural experiences, are the facts that working classes have the equal dwelling right, farmers are rescued of being land slaves, all proletarians use the public buildings equitably. Anyway all of these are the positive beginning points of Socialist thought but they are realized again with totalitarian way in both Soviet Union and Azerbaijan. Because of this way again several heavy problems appear. The facts that private ownership is destroyed, all buildings are transferred to the state ownership; state becomes the only decision marker of architecture, determines even all aesthetical styles; collectivist emphasis is exaggerated that is to say private space is minimized by the state; are the concrete reflections of the mentioned problems. But all these reflections cause more problems in Azerbaijan; because as underlined above Azerbaijan experiences are realized in 20th Century, forming some contrast improvements in the West. Also the reality of strict closeness to the abroad causes that Azerbaijan loses its cultural, architectural connections with its neighbors, Iran and Turkey with which itself has strong historical interactions. In the Post-collapse Period all specific parameters, coming from Socialist ideology, naturally disappear but as mentioned a new tide starts. Consequently, after these examinations, it can be said that today for providing more livable architectural environments in Azerbaijan, even all peripherical countries, it is necessary to improve the positive architectural respects, to leave the negative ones, to make all these not with totalitarian but with democratic way. In other words, it is necessary to realize architectural/urban spaces, not neglecting the value of human labour; to use democratic methods and to add cultural referred values to them so to live local identities in democratic spaces smoothly.

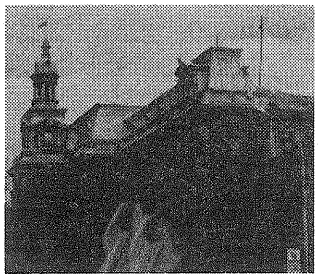

Figure 2: City Council, 1910

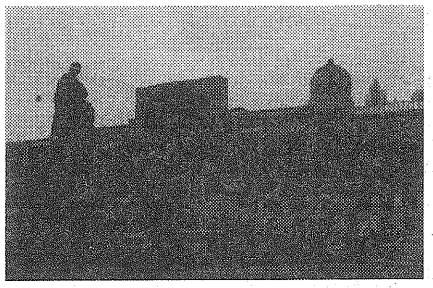

Figure 1: Railway Station, 1914

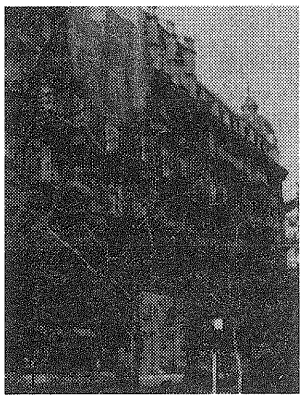

Figure 3: House Block, 1930

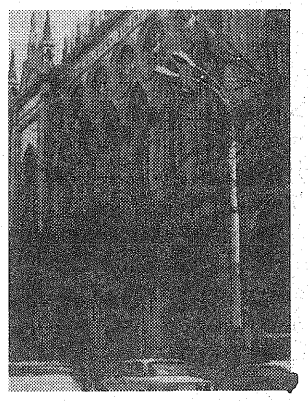

Figure 4: Azerbaijan Academyof Sciences, 1930

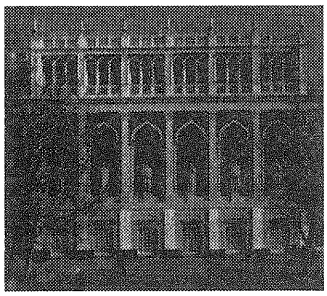

Figure 5: Nizami Museum of Literature, 1930

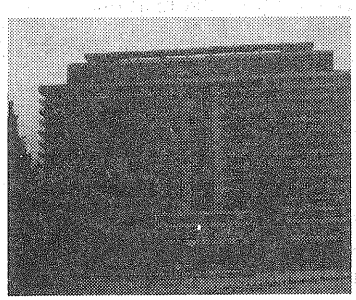

Figure 6: Hotel Azerbaijan, 1972

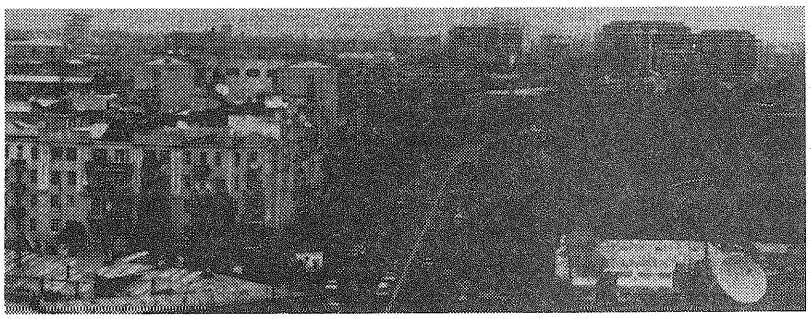

Figure 7: A View From Baku

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- Source of all photographs in the text: Topal, H. Doğu'da Petrolün Yarattığı Bir Başkent, Bakü, *Ege Mimarlık*, vol: 2, pp.4-6, 1999.

Social, Cultural, Spatial Diversity And Complexity In Urban Housing Environment
The City Of Bursa, As An Example

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Abstract

Big cities in Turkey have experienced a fundamental social, cultural and economic transformation in recent decades. The ongoing migration process from rural to urban areas, industrialization and increasing concentration of people in big cities have accelerated socio-cultural and spatial differentiation and diversity, which bring about some continuity and development trends in urban housing environment. This situation concerning housing environment show a dramatic transition procedure from past to future ; tradition to contemporary. In this context , the city of Bursa is a good example to observe and evaluate the physical reflections of a mutual interaction between the architectural heritage of the city and its social structure and dynamism. Cultural synthesis is more in evidence here than in most other Turkish cities. However, today, Bursa's unique historic identity has suffered from rapid and unplanned urbanization .

This paper aims to explore the changes and the continuity in urban housing patterns focusing on mezzo scale. In this context, the spatial and social structure of different housing patterns are studied comparatively. It is mainly based on the research projects carried out by the authors, aimed to identify the effects of socio-cultural and psychological settings on the spatial formation in housing environment. It consists of four sections which includes a brief introduction on continuity and development trends in urban housing environments in Turkey; the theoretical literature on the related concepts in environment-behavior studies with the determination of the conceptual framework of *culture and space interaction system in terms of urban-housing* pattern; the process of urban development in Bursa , examination of the spatial composition of the city and the urban change in the context of cultural processes; discussion on the concept of urban housing and the future of Bursa.

1.Introduction

World has changed in technological, social, economical and political terms within the end of the 20th century and the effects of this change are also being reflected to the 21st century. Transition from the industrial society to the information society as well as the globalization process led to changes in space and spatial organizations; thus, most of the cities around the different regions of the world have been subject to important social and cultural alterations. As a result of this urban transformation process around the world, different physical and social structures emerged in different regions.

The developments in political, economical and technological fields caused a very rapid urbanization in Turkey. However, providing sufficient number of residences that are available with the average income of people as well as constructing the substructure necessary for these residences have not been succeeded, thus, a lack of healthy accommodation problem, which is typical for underdeveloped or developing countries, has arisen. Besides the very high level of migration from rural to urban areas due to the rapid industrialization, Turkey has also been influenced by the migrations from abroad. Squatters, build and sell and construction cooperative societies as well as housing financed by the state have been emerged as the solutions to these problems in this country. None of these presentation forms has been a form to enrich the life quality nor to create good quality environments. "Pull down-rebuild" processes in the city centers led to the demolishing of historical and cultural values, to the permanent density increase, to the loss of green areas as well as to the insufficiency of the social substructure. The urban development in the cities caused a permanent decrease in the life quality, shortcomings in terms of satisfaction of the psycho-social needs and our cities began to loose their identity with their meanings.(Tekeli,1998)

Bursa, the city where the fieldwork of the present study is effected, has encountered all the above mentioned problems as a city which has experienced the rapid industrialization process in Turkey and unfortunately its rich historical structure and important cultural heritage have been damaged. However, in spite of these negative developments, we see that Bursa insists to protect its spatial structure reflecting its historical identity when we examine the city structure and its housing pattern. This case will be explained below on the basis of some theoretical principles. As from this point, we will argue in this comparative study the different urban housing patterns, the diversity in social, cultural and spatial structure in terms of change or continuity. Thus, we aim to bring new solutions to the urbanization and housing problems with a qualitative approach. For this aim, first of all, the components of urban housing pattern in the process of urban development will be examined in a conceptual framework.

2.Urban Housing Pattern in the Process of Urban Development

In this section, the structural analysis of urban housing environments will be presented after having literature/conceptual overview from the different approaches and the interpretations of urban housing environments and the importance of this phenomenon for cities and people.

2.1. A Conceptual Overview

One of the most important attributes of the city is as residence. People live in cities. Where they live, how they live plays an important role in the social order. Who we are is a function of where we are. And where we are is an indicator of how we are. To understand how certain groups are allocated to certain parts of the city it is important to understand the urban housing market. This is the most important mechanism in the social sifting of the city. The housing stock of a city constitutes more than just accommodation; it is a link with the past , a record of history, a silent witness to the periods of city growth and decline. Changes concerning home environments shows a dramatic transition procedure from past to future; tradition to contemporary. These changes also bring about some continuity and development trends in urban-housing environment. In its broader social context, housing is immensely diverse and complex, and intimately interrelated with its socioeconomic, political, and neighborhood environment. Having a lot of interrelationships, the interpretations of the role of housing and of the priorities attached to housing policy differ so widely between and within modern societies (Bourne, 1981). All of these shows that, the immense diversity and complexity of housing within different neighborhoods, cities, and countries, and the difficulties of generalizing from one political system to another are worth to emphasize on.

Short(1996) and Bourne(1981) think that ,spatial pattern of urban housing is a physical expression of the city which is always in the process of change and reflecting local topographic and transport variations , the age and economy of the city and the socio-political system in which that housing is produced and consumed. The urban housing process is pictured in terms of interrelated elements ; production, supply, and demand all of which is affected by economic and political power, and social structure of the city. Housing constitutes the largest space user in the city and has always played an important role in shaping urban regions. The operation of the supply and the demand for housing divides different groups of people to different types of housing in different parts of the city. The result is to produce a rich residential mosaic which can be named as urban housing pattern. It is not a static but dynamic phenomenon due to fluctuations in additions to the stock, demolitions, and conversions. The aging and deterioration of the physical environment, the social and demographic change of the residents, the movement of households into and out of the neighborhood and investment/disinvestment problems are the main reasons of this dynamic structure. However the mismatch between demand and supply for affordable housing affects all the regions especially the center of the city (Short, 1996),(Knox, 1994), (Hartshorn , 1992).

The decentralization of employment and commercial functions, and out-migration of higher income groups to newer peripheral housing change urban housing environment and weaken neighborhood viability. By this way the process of residential decline begins with the transformation of rural land to residential use, and then higher-density apartment construction in inner rings together with population and density increase. The last stage is the renewal of obsolete areas, with the construction of moderate- or low income multiple- family housing or luxury apartments (Hartshorn, 1992).

There is much more diversity in housing conditions among Third World countries than there is in the developed world. Their housing conditions and housing problems are quantitatively and qualitatively very different. Third World countries vary from each other in all fields including housing systems, policies and stocks .The only common denominators are low levels of income, a limited inheritance of quality housing, inadequate investment in residential infrastructure, and continued high levels of urbanization (Bourne,1981). The urban housing market of the third world can be identified in two distinctive social and spatial patterns. While the upper and middle classes are living in well-constructed, even luxuriously designed and landscaped houses, the poor are in the high density slums typically on the periphery, called squatter settlements and typify many cities of the Third World. Some of them are temporary, others are more permanent and better organized; but most are unplanned, with low quality housing, high unemployment, and nonsexist social services. In some areas , these spontaneous residential settlements represent from one-third to one-half of the total population of the metropolitan area (Bourne, 1981), (Hartshorn, 1992).

As it is understood, the urban housing pattern is fracturing the city into distinct areas which are the basis for identifiable communities of shared attitudes. The identification of these communities and their creation and restructuring is a very important topic for housing all over the world (Short,1996). This shows that, it is an important necessity to examine urban housing process not only in spatial but also socio-cultural dimensions.

2.2. The Conceptual Framework

After having literature overview, the structural analysis of urban housing pattern in the process of Urban development will be presented in this section . This analysis will include social, cultural, spatial components of the urban housing environment and their diversity and complexity in the course of time. The theoretical approach of this paper is based on the transactional perspective. As identified before , the city and the home is a complex entity , in the other words ,a transactional whole, that defines and is defined by a range of cultural, socio-demographic, psychological, political and

economic factors .Therefore the approach of the paper to the components of urban housing pattern will be built on this holistic concept comprised of cultural, social and spatial components in a transactional perspective.

It is obvious that the housing pattern in the urbanization process contains the spatial setting which is appropriate to the cultural and social characteristics of the user group and their alterations in time. Layout pattern and spatial organizations of different types of urban housing patterns show differences among each other. In one of her studies Turgut states that, cultural , behavioral, socio-economic and spatial characteristics formed in the process of urbanization can be grouped as structural components composing housing patterns. Cultural components consisting of norms, customs, mores, life-style, family and kinship structure form the "cultural setting"; behavioral processes such as 'personal space', 'territorial behavior', and 'privacy' form the "behavioral setting" ; components of 'dimension', 'location', and 'form' forms the "spatial setting"; characteristics of 'income', 'profession', 'education' form the "socio-economic " setting. In this structural analysis of housing pattern, each sub-system-output form an input for the other sub-system, and together, they form the "housing pattern" (Turgut, 1996) . In the forming process of housing patterns the temporal dimension also gains significance. Changes in cultural, behavioral and environmental components which have these temporal qualities form the housing patterns in historical perspective (Turgut , 2000) .

Time is an important dimension to understand the changes in the meaning of domestic space and its essential dynamism which reflects the use of space and its spatial, socio-cultural and temporal orders. Changes in the ideas and values of people towards their dwellings through the course of their life cycles, and changes in the social and family context which impact on the household and housing pattern are caused by time. These changes that time brings to home constitute diversity and complexity of the housing environment. The formation of the relationship between man and environment over the course of time reflects social and cultural changes being related to the socio-economic structure of society. Cultural values contain remnants of the past, although they are also determined by contemporary technological and economic capabilities. Culture plays a great role in the formation of the home environment, especially when they are transformed over time into social tradition and norms transferable from one generation to the next.

Everyday living in our contemporary society involves a high rate of spatio-temporal change that is reflected in the socio-cultural context, especially between the relations of individual, and the physical environment. Accordingly, there is a plenty amount of studies from a variety of perspectives about transitional periods, roles and events linked to, psychological, socio-cultural and physical change in the individual and environment. Lawrence (1985,1993,1997), Saegert (1985), Duncan(1985), are important researchers who have studies in this context and emphasize the importance of the relation between socio-cultural and the psychological processes and the house.

As a result of these investigations, we can say that, the urban housing patterns which differ so widely between and within countries because of their economic and political systems, geographical differences, social and cultural diversities, need the same kind of studies that account for the spatial, social and cultural components in international and national contexts. Although the urban housing patterns differ within neighborhoods, cities and countries-both in developed and underdeveloped-, they all have a common thing that; they are ,with all of their characteristics for human beings and have to meet the psychological, social and cultural needs of them.

3.Urban Housing Pattern in the Process of Urban Development The City of Bursa as an Example

The research field of this study, Bursa, is one of the most important Anatolian cities which comprise of the oldest and most authentic examples of our monumental and civil architecture and which combines rich tradition, culture, history and nature at the same time. This is a city shaped by a rich cultural heritage. In the south of the Eastern Marmara, Bursa has been one of the oldest settlements in Anatolia, due to its geographical location, agricultural convenience of its natural structure and its importance from military point of view.

Landscape of today's Bursa is the product of the combination of diverse civilizations. The societies governing the region during history have left important cultural heritage. Each civilization trying to establish its sovereignty has also been influenced by the existing social-cultural structure of the region. The " cultural synthesis" that forms the city culture Bursa is more dominant than most of the other Anatolian cities. In this context, the most distinguishing characteristic of Bursa is the fact that the in the space, the concrete/physical reflections of the interaction between the spatial organization and dynamics and of the social changes in time can be easily observed and evaluated.

The stages that this magnificent historical city has passed during this process provides important clues in terms of the historical/social aspects of the cultural evolution. When we examine the city from this aspect we see mainly the traces of six period: the Prehistorical Period, Hellenistic Period - including the Aegean migrations and Persian Hegemony - and The Bithynia Kingdom, The Roman Period, The Byzantine Period, The Ottoman Period and The Republican Period.

Since Bursa is subject to internal and external migrations as from 1950's, it is one of the Turkish cities which has the highest population increase rate. This situation caused an increased demand for the fertile agricultural fields. The fact that Bursa is located very near to a world city which is Istanbul and that the trade roads have been organized accordingly has been an important factor in the historical evolution process of this city. Automotive and textile being in the first rank, Bursa is an important industrial city as well as an important international trade center. In the light of these , it is decided to summarize the processes of urban development and urban housing in Bursa.

3.1.The Process of Urban Development in Bursa

We have to study first the geographical location of Bursa in order to understand the urban transformations experienced by this city and the influences thereof. Bursa is located in the south of a fertile plain field, in the north terrace of a mountain skirt. Besides this natural structure, another important determinant character of the geographical location is the close distance between Bursa and Istanbul which conserved its world city properties for centuries. These conditions explain the formation of a pre-industrial city and its transformation to a larger trade center. Bursa became important with silk production in 555 A.D. and has been taken by the Ottomans in 1326. The city has a castle of 800 m lenght in the east-west axis and 500 m width in the north-south axis, an inner castle comprising the palaces of the city governors and an "under castle" part in front of the eastern door which constitutes the main entrance of the city. In the section between the castle and the inner castle there was a residential pattern for neighborhoods and outside of the castle walls, neighborhoods of the three different ethnical groups were settled.
It is observed that the city has experienced three important structural changes by now (Tekeli, 1999).Briefly, these are the following:
- In the second part of the 14th century, the emergence of a marketplace system with a bazaar center and the transformation of same to a dominant focus determining the development dynamics as well as the identity of the city.
- In the second part of the 19th century, the reconstruction experienced under the influence of the Ottoman's modernity. Bursa being influenced by the changes in the political and socio-economical structures of the Ottoman Empire, is accepted as one of the first cities created their modern public spaces after Istanbul and Izmir (Tanyeli, 1999).
- The transformation caused by the urbanization experienced by Turkey after the World War II and especially by the changes due to the qualitative increase in industry observed after 1970's in Bursa (Tekeli,1999). In order to understand clearly the urban transformation that took place in this period, it is also necessary to clarify the developments experienced in housing regions. This process is summarized hereinbelow.

3.2. The Process of Urban Housing in Bursa

Coming to the 21th century, the city was occupying a very large space. The expansion in the East-West direction was 30 km and in the North-South direction was 16-17 km and the population was almost 2 millions, in other words the city has reached the metropolitan dimensions. The economical structure of the city was very dynamic and differentiated. Bursa was reflecting the problems of an industrial city of which the macroform has rapidly expanded. A dimension of the housing region transformation in Bursa is the increased capacity of the city to accommodate a more crowded population realized by puling down the existing city patterns and building rapidly new apartment-buildings instead. The second dimension is the increase of the spatial expansion of the city provided by the opening of the new areas for construction. (Tekeli, 1999) Today, we can mention about the five main housing groups in Bursa, different from each other in terms of typology (Dostoğlu, 2000). These are: Traditional housing ; Apartments;of which construction has started with the modernization movements due to the Republican Period, Squatters; which have been constructed on the forbidden areas in the city periphery by immigrants with their resources and have been developed in time in accordance with their family needs and economical earnings, as a result of the shortcomings in supplying the housing demands because of the internal and external migrations, Social Housing Blocks which are built with the aim of solving the housing problem as from 1950's as an alternative to squatter settlements, and Villas and luxury mass housing blocks which have developed as a result of the increased car ownership and nostalgia for a life with garden and are preferred by high income group in order to leave the stress of urban life.

Unfortunately, in spite of the several construction plans prepared and dierent propositions submitted for the housing problem as from the 1960's, 65% of the housing areas have been established illegally - as is the case with the other big cities-. This situation shows that the planning effected only by market powers is not capable of inspecting the city development and in that sense market fails to solve the important problems of the city (Altaban, 1999).

3.3. Analysis of Urban Housing in Bursa

After summarizing the processes of urban development and urban housing in Bursa, now, the analysis of urban housing pattern of Bursa in the context of the components determined in the conceptual framework of 'culture and space interaction system' will be presented. Data collection techniques such as the use of the archives, personal and group observations, interview , behavioral plan and content analyses constitute the data collection and analysis methodology. The spatial data obtained from the urban housing environment will be evaluated together with social and cultural data by means of " The Analysis of Physical Environment " and " Normative Analysis" and a conclusion will be drawn.

The social, cultural, economic and political evolutions that Bursa had undergone during the course of history are the basic elements which identify the diversity and complexity of urban housing pattern of the city. This identification can be made as follows:

- Traditional Housing Environment
- Apartments
- Squatter Settlements
- Luxury Houses in Suburbs

In Bursa, there are also social housing blocks and luxury mass housing as other housing types, but in this study, they are not considered as urban housing patterns, because of the reasons that; social housing blocks are outside the city and most of them are very far away, what's more their inhabitants are the immigrants coming from Bulgaria and there is only one example of luxury mass housing blocks which are not preferred by many people.

Traditional Housing: Even today, though not very often, neighborhoods having organic patterns, comprising of the traditional Bursa houses constitute a part of the downtown housing structure. Some of these houses being protected in their original forms, some of them have been renewed with first and second degree of restorations. Together with providing the needs of the modern lifestyle, the life in these neighborhoods carries the traces of the spirit of the earlier cultural and social life with its organic pattern, types of the houses and social relations - although the mass of users has changed partially-The spatial reflections of changing socio-economic, cultural and psychological values in the process of urbanization can be clearly observed in these environments . (Fig. 1)

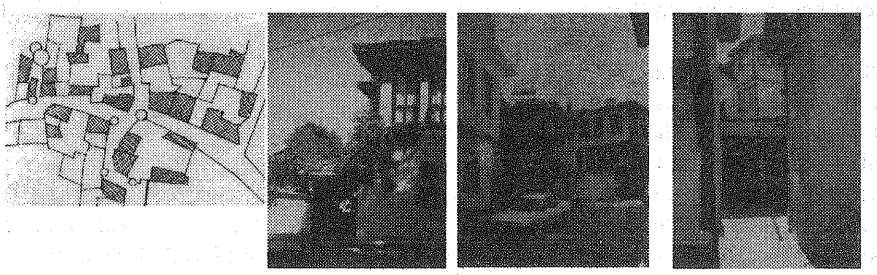

Figure 1: Examples from traditional houses in Bursa

Apartments: Apartments that began to represent another type of the urban housing pattern with modernization of the city can be analyzed in two categories. First, single detached apartments in downtown, with 4-5 stories and constructed with "build and sell" method. Within the second category are the apartment groups, i.e. sites built by the cooperative construction societies on the new housing regions developing along the main transportation arteries. These are generally comprised of the 8-10 storied ,separated apartments The users of both categories being dependent on the prestige of the quarters they are built in, these are generally from medium to high medium income levels. This urban housing pattern reflects the lifestyle of modernization and the restrictions imposed by the rapid urbanization and population increase with their planning types and settlement criteria. It has been observed that the social and cultural changes experienced by the society are reflected to the spatial organization of the living environment. (Fig . 2)

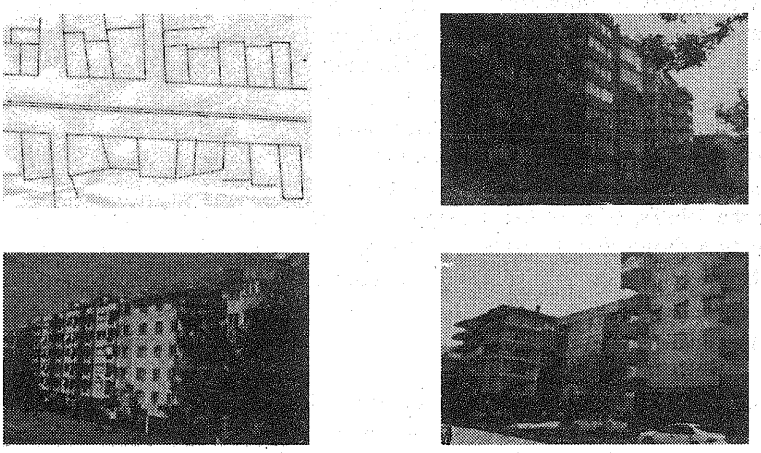

Figure 2: Examples from apartments in Bursa

Squatter Settlements: Unfortunately the squatter settlements accommodating a large share of the city population have to be accepted as a part of the urban housing patterns of Bursa. In the course of time the housing patterns of the squatter settlements have shown a dramatic changing procedure from a temporary shelter to a permanent house reflecting alterations in cultural, behavioral and social dimensions. Although squatter settlements reflect the local culture and social structure of the inhabitants which migrated from divers regions, they also carry the traces of the urbanization process -in economic, social and cultural terms-experienced by this population. These settlements are those environments where the reflection to the spatial structure of the cultural and social transformations experienced by the society can be clearly observed and the diversity and complexity of housing process is very evident .(Fig. 3)

Luxury Houses in Suburbs: In the historical process the urban housing type which has lastly developed, but today rapidly expending on the basis of the demands of the high income groups is the luxury houses gathering in the suburbs near to the city. The reasons for preferring this type of housing are to escape, even in a limited way, from the outcomes of the rapid urbanization and to continue the traditional lifestyle in a modernized way having a garden and family privacy. These houses, providing the opportunity to continue the traditional cultural and social life in the discourse, they reflect the modern culture and social life in their spatial structure and patterns. They can be evaluated as the result of the economic and political changes in the process of urbanization. Although it is
possible to encounter successful examples that may be interpreted as the synthesis of the traditional and modern, the majority are the trials that can not go beyond to be an imitation. (Fig. 4)

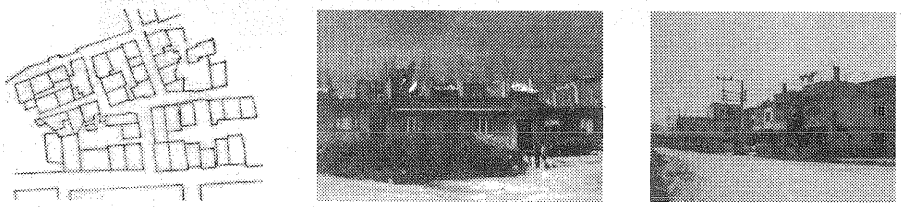

Figure 3 : Examples from squatter settlements in Bursa

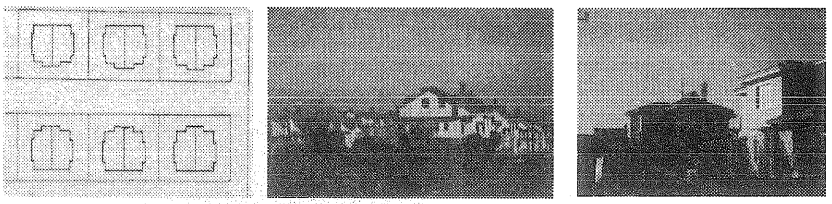

Figure 4 : Examples from villas in Bursa

4.Conclusion

In this paper, the urban housing of Bursa is evaluated in terms of social, cultural, spatial diversity and complexity in the process of urbanization. Based on this analysis on urban housing patterns, it can be stated that, socio-cultural and psychological dimensions have a great effect on the formation process of urban housing environment ,together with the political and economic effects throughout urbanization process.

The analysis of archival documents and observations have shown that , Bursa displays the organizational order of the Ottoman city culture and civilization. What's more, the traditional housing pattern is the document of the culture that formed traditional life-style, with its spatial organization. Unfortunately , this specific urban pattern and the identity of the city is damaged by rapid urbanization, industrialization, migrations and population growth. This changes in time on long term basis brought about the image of today's Bursa with multi-storied apartments and wide roads instead of traditional houses and neighborhoods. However, Bursa had faced up to all of these troubles and have the traces of history ,including the most important examples of monumental and
civil architecture. In summary, Bursa is an important city which involves many beauties, details, diversities and complexities in its history and even in form of today. This characteristics of Bursa has to be always taken into consideration carefully as an important criteria in the future studies of urban and architectural design.

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Built environment and sustainability: People's use of urban parks in Tehran

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Abstract
Sustainable development can help us create healthy communities that can sustain our generation, as well as those that follow us. Within the context of the built environment, sustainable development is especially effective in a tangible way. Research and practical experience over the past few decades have taught us a great deal about the role of the built environment (particularly in the form of green spaces), and the potential to create a sustainable community. Green space, especially in the form of urban parks, can be a sustainable component of the ecology and a community focal point when they are planned not as a system supportive of and accessible to all kinds of living things. Recently the development of green space and urban parks in Tehran's capital of Iran, which is one of the most air polluted cities in the world with a very low ratio of green space to population, has received significant attention from the Iranian government. The purpose of this study was to explore the current use of urban public parks in Tehran by different groups of people within society and to understand the needs and expectation of Tehranis for the future. Data were drawn from in-park survey and out-park survey undertaken in July of 1998 and personal interviews conducted with users aged 12 and over in four of Tehran's parks and facilities such as schools, universities, shopping centres, cinemas, mosques and sport centres. The study involved all type of urban parks. This paper explores Tehran residents, use and activity pattern as well as their aspiration of urban parks.

Key words: Urban parks, Tehran, Park users, Sustaiability

1. Sustainability

There are many ways to define sustainability. A sustainable society is one that can persist over generations, one that is farseeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support. Perhaps the most accepted definition on a world basis is that from the World Commission on Environment and Development (1967) 'sustainable development meets the needs of the present without comprising the ability of future generations to meet their own needs'.

Webster's dictionary defines sustainability as "using a resource so that it is not depleted or permanently damaged." The key words are resource and use. Essentially, sustainability is the effective use of resources--natural, human, and technological--to meet today's community needs while ensuring that these resources are available to meet future needs.

Today, many cities and countries are taking steps to ensure tomorrow's urban centres remain liveable for generations to come. Collective efforts to accomplish this mission are referred to as sustainable development, or sustainability.

1.1 Benefits of Sustainability

Sustainability is good business from the social, economic, and environmental perspectives. When tied to a community's vision, sustainable development can resolve successfully many key issues faced by communities today. Within the context of the built environment, sustainable development is especially effective and in a tangible way.

For example, an urban park can be a sustainable component of the ecology and a community focal point when it is planned not as a parcel but as a system supportive of and accessible to all kinds of living things. It can be a catch basin for storm water runoff, a means to mitigate flooding and pollution, a centrepiece for economic development initiatives, a place of serene beauty and contemplation, and a showcase and habitat for local plant and animal species.

The built environment is the infrastructure, civic and service centres, parks and planned open spaces, neighbourhoods, landmarks, roads and walkways, and all those public and private places that compose the community and constitute a critical frontier. It is necessary to understand the interactive relationship between people and the built environment and to unite these two elements in a way that optimises each. The actual physical medium through which sustainable communities are realised is in fact the built environment.

A sustainable community recognises its relationship to nature and sees nature's systems and components as essential to its well being. It provides access to nature through metropolitan parks, open-space zones, and urban gardens. It understands the sensitive interface between the natural and built environment, developed in a way that will support and complement-not interfere with--nature, and avoids ecological disasters.

This paper will concentrate on the urban public parks as a part of sustainable approach and need for a comprehensive approach to urban public parks in Tehran.

2. Research setting

Tehran is Iran's administrative, economic, and cultural centre as well as the major industrial and transportation centre of the region. The current problems facing the city of Tehran relate to a range of environmental situations associated with this rapid population growth in the last thirty years.

It is clear that the city of Tehran, one of the largest cities in the world, with huge concentrations of people and resources has suffered from many social and environmental problems (Madanipour, 1999). The cost of living, traffic, environmental pollution, housing and overcrowding are the main problems which are mentioned by people who live in Tehran (Anon, 1996).

Among these problems environmental pollution seriously threatens the health of the citizens. " Without substantial efforts to solve these huge problems, the next generation of Tehranis will live in far worse social and environmental conditions" (Madanipour, 1999).

The ratio of existing green space in Tehran is fully determined but different ratios are mentioned by some reports. In 1990 Tehran's municipality stated that the ratio of green space was 1.5 sq. meters per person but it was 2.2 square metre (Soltani, 1990).

The United Nation's 1996 Conference on Human Settlements (Habitat II) stated that "Tehran, ...is by its own admission one of the most polluted cities in the world. The municipality also enforces mandatory emissions inspections in Restricted Traffic Zones. As a result, the green space per person in Tehran increased from 2.5 square metres to 10 square meters." (United Nations, 1996).

Although some report the existing ratio of green space as being 10 and up to 17 square metres per head of population, this includes all green space in the city such as lines of trees in streets, parks, park ways, private gardens and green space in residential complexes. In fact Amackchi believes that the accurate ratio of green space is about 10 square metres because she argues that lines of trees in streets, private gardens and green space in residential areas are not public green space. The most recent study stated that the ratio of green space in Tehran should be at least 35 sq. m per citizen (Amackchi, 1998). From these studies and recommendations about Tehran's green space it is clear that Tehran has a very low level of ratio of green space.

The amount of urban open space per head can be seen for a range of cities around the world by a comparison table. Table 1 indicates how poorly served Tehran is compared with other cities such as Sheffield and London and with the United Nations recommended standard.

This low figure comes as a surprise in light of the importance which Iranian culture has attached to gardens.

Table 1: Open space per head of population

City	square metres of open space per person
Tehran	10
Lima	1.4
London	29
Sheffield	50
United Nations rec. level	30

(Source of data: Barber, 2000)

3. Method

Studies of the relationship between people and parks have been carried out mainly during the last 30 years. In general these researches have been focused around the identification of parks users, their motivation for use and activities in the park. Empirical studies of parks have employed a variety of methods, which have been largely based on traditional social techniques such as questionnaire surveys and observation of behaviour (Costa, 1992).

Such studies are primarily to assist designers and policy makers to create a better design and location of parks and open spaces. The tourism and Recreation Research Unit (1983) provide a comprehensive overview of these studies, with special reference to those, which have guided park management in local authorities in the United Kingdom.

In order to identify the views of users and non-users in this research the survey was divided into an in park survey and out park survey and employed the use of questionnaires.

Separate questionnaires were developed for children, teenagers and adults. It was also considered that housewives and people with disabilities might have specific interests, and so special adult questionnaires were designed for them with additional questions and 404 personal interviews conducted with users aged 12 and over. The questionnaires were designed to be simple and with clear instructions about completion.

4. Data collection, Preparation and analysis

The survey produced data of a mainly quantitative kind, although some open-ended questions were included. Qualitative data (open-ended questions) were used to gather information about respondents likes and dislikes and their main complaints, suggestions and recommendations.

In short the questionnaires were intended to gather information that might provide recommendations which may assist planners, designers or managers in Tehran in the decision making process of urban parks in the future. Information collected from the survey was analysed using the SPSS (Statistical Package for the Social Sciences version 6.0).

This paper is a part of large study that investigates the current provision of urban green spaces particularly in the form of urban public parks and activity patterns of usage and to explore people's demands and aspirations for future Urban Public Park development. The following questions will be discussed in this paper; What is the type and intensity of urban public parks use? What kind of activities do Tehranis pursue when they visit urban public parks? What are the users' behaviour, attitudes and moods?

5. Result

5.1 The use of parks

The survey shows that people in the sample of Tehran are interested in using the parks frequently. More than 70% of people indicated that they visit the parks more than once or twice a month. Just 9% of respondents rarely used or made no use of the parks in the city.

Table 2: Table of frequency of park visit

How often do you usually go to the park?		Frequency	Percent
1	More than 3 days a week	89	22.0
2	Once or twice a week	90	22.3
3	Once or twice a month	106	26.2
4	Less than once a month	82	20.3
5	Rarely or never	37	9.2
	Sum	404	100
	Chi-Square=34.7871	D.F=4.	P<0.001

It is evident that the residents of Tehran in the sample prefer to use large parks or city park rather than others although they have to cover more distance, spend more time travelling and use vehicles to reach them. Nearly two thirds of the respondents (64.9 percent) indicated that they prefer to go to a city park (large park) and 28.2 percent usually visit local parks (neighbourhood parks) and just 4 percent usually use mini-parks. The finding of the study shows:

- More than half of the people go to the park with their family and 27 percent use the parks with their friends.
- More than 45 percent of people go to the park on foot, about 36 percent by car and 16.8 percent by bus.
- About 40 percent of respondents spend up to a quarter of an hour to reach the park, 30 percent between a quarter and a half an hour and about 25 percent between a half an hour and an hour
- More than half of the respondents use the parks at weekends. About 21 percent use the parks during the week.

Two questions of the questionnaire aimed at discovering if respondents usually use the nearest park and if not, why they do not usually use the nearest park. About 56 percent of people indicated that they usually go to the nearest park to their home and about 43 percent of people do not.

Table 3: Table of use of closest park

Is this closest park to your home?		Frequency	Percent
1	Yes	227	56.2
2	No	177	43.8
	Sum	404	100
	Chi-Square 4.7921	D.F. 1	p<0.05

Table 4 shows the reasons that people do not use the nearest park to their home. More 28 percent of respondents indicated that this is because the park has no facilities; about 29 percent that it is too small; about 19 percent that it is too crowded; just 6.7 percent because there are not many people and about 20 percent have other reasons such as it is not attractive, it is not beautiful, it is poorly designed, it is not located in a good place, it has no variation and amusement, it is too repetitive, it is newly built and it is only used by very familiar people.

Table 4: Table of reason for not use the closest park

If not why you do not usually use the nearest park?	Frequency	Percent
1 No facilities	48	27.6
2 Too small	51	28.3
3 Too crowded	34	18.9
4 Can not see any people	12	6.7
5 Other	35	19.4
Sum	180	100.0
Chi-Square 27.6154	D.F. 4	p<0.001

People most frequently visited either, by vehicle or foot, urban parks which were located within 30 minutes of their homes. The female users mainly visit with family whilst males tend to go alone and with friends. About 40 percent of people cover a distance of more than 3 km to reach the park. More than half of the users go to the park by car, bus or taxi. The distance from home to the park, the means of transport and the access time indicates that urban parks are not near to people's doorsteps. The study shows that people are likely to visit parks, which are located near their home if the parks have suitable facilities, are not too small, are not crowded and are of good design.

5.2 Activity pattern

Table 5 shows that about 27 percent of the respondents indicated that they visit the parks for walking for pleasure, 24 percent for family picnics and nearly 20 percent for meeting friends and relatives. More than 8 percent of respondents go to the park for sport and about 6 percent supervising their children.

Table 5: Table of main activity

What activity do you engage in during your visit to the park?	Frequency	Percent
1 Walking	109	27.0
2 Family picnic	97	24.0
3 Study	21	5.2
4 Meet relative & friends	79	19.6
5 Sport	34	8.4
6 Games & playing	9	2.2
7 People watching	25	6.2
8 Supervising my children	27	6.7
9 Other	3	0.7
Sum	404	100
Chi-Square=280.6683 D.F.=8	p<0.001	

5.3 Desired and prohibited activities

This part of the questionnaire consisted of an open-ended question, which was designed to find out what activities respondents would like to engage in which they are unable to or are not permitted to, at the park. The responses fell into six categories; (the number of respondents has been shown in the brackets)

Sport facilities (150) such as cycling, roller skating, badminton, football, running and jogging, vollcyball, basketball, table tennis, horse riding, swimming, boating, fishing, light sport and sport facilities for women.

Recreational facilities (57) such as more recreational facilities, communal games, fishing from lakes and ponds, computer games, table football, games and playing suitable for children.

Cultural facilities (53) such as galleries and exhibitions, art activities, open air theatre, concerts and music, places for singing, places for study.

General facilities (20) such as prayer rooms, better lighting, safe places for women, facilities for all the family, grassed play area, picnic areas and small market.

Rules and regulations (19) such as sitting, walking and playing on the lawn and grass.

Social matters (28) such as public participation in management and maintenance of parks, association with the opposite gender should be allowed.

The study shows that there is a lack of opportunity for some activities which are indicated by respondents such as sports facilities (cycling, roller skating, badminton, football, running and jogging, volleyball, basketball, table tennis, horse riding, swimming, boating, fishing, light sport and sport facilities for women). This indicated that people want the type of urban parks, which offer not only passive recreational activities but also active pursuits.

5. Conclusions

From the research findings and from the landscape architectural point of view, it can be seen that people are interested in comfortable, convenient and healthy urban green open spaces. They believe that urban parks can allow them to be in contact with nature, to be more relaxed, and have more active and passive opportunities to suit each member of their family. In fact, the survey showed that the community believes that a good park has at least these characteristics:

People prefer to go to their nearest parks regularly, but some of them do not use the parks closet to their homes because those parks are too small and are without facilities. They suggested that parks in residential areas should be established and suitable and safe accessibility to the parks for all age groups and people with disabilities should be considered. For many respondents a good park: **"Is easy to get to and connected to the surrounding community"**

Parks should provide active and passive recreation facilities for all the community. The majority of Tehran's parks encourage visitors to participate in passive, rather than active pursuits, where it seems that parks are attractive for walking, family picnics, meeting friends and relatives and for sports. The survey shows there are some activities which respondents would like to engage in but are unable to or are not permitted to in the park e.g. sports such as boating, volleyball, badminton, skating and cycling and recreational facilities. The unavailable activities, which are indicated by respondents, show that people want the type of urban park, which offers not only passive recreational activities but also active pursuits. That is to say, the parks must be well designed and laid out to accommodate both passive and active pursuits for all people. The desire to undertake these activities differs with respect to age and gender. However a general observation is that: **"A good Park in Tehran provides a range of things to do for all groups of society"**

Safety is one of the main perceived problems in the parks especially for women and in the section for further suggestions people indicated that safety in the parks should be improved. On the other hand Tehran's people in the sample are asking for attractive urban parks and they believe the parks can be made more beautiful and attractive by planting more greenery (trees and flower), establishing water features and drawing inspiration from the traditional Persian garden. It is clear that in the point of their view: **"A good park should be safe, clean, and attractive"**

Almost one third of people believe that parks are good places for meeting friends and relatives and people- watching. Programmes and events are very important in Tehran's parks with the majority of users being interested in concerts and cultural and art programmes in the park. Parks are the best places for some Iranian social activities **"Most importantly, is a place to meet other people and make social contact"**

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The design of shading devices in relation to the window orientations

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Abstract

Windows affect the internal thermal and visual environment. Sunlight entering through the window glass may raise internal temperatures and particularly in the hot season it can cause or increase discomfort. Moreover, it can cause unpleasant glare too. Direct sun glare may be serious problem in buildings such as offices and schools. For most orientations it is possible to design an external shading device which will allow a view of the exterior and adjust light and air movement, at the same time as excluding direct solar radiation.

In this study, an approach for determining the optimum type of shading devices is described, based on the orientation of the window under consideration. In this approach, office buildings in Antalya (Latitude 37°N) are selected as an example and the shadow path diagram for latitude 37°N is used as a design tool.

The main steps of the approach are as follows.

1. Determination of the maximum width of horizontal elements which will allow a view of exterior.
2. Determination of the angle between the vertical shadow elements and the window which will allow a view of the exterior.
3. Determination the optimum type of shading devices for windows faced to different directions.

1. Introduction

Windows have a major effect on the internal thermal environment. Particularly in the hot season solar radiation can cause discomfort because of green house effect. Sun light enters through the window glass and being absorbed by interior surfaces, radiation is reemitted in infrared wavelengths by the surfaces. Glass is opaque to most of these wavelengths, so the energy is trapped within the structure. This causes interior temperatures to rise and is called greenhouse effect. Therefore windows should be protected to prevent the penetration of direct solar radiation at times when temperatures are above the comfort zone.

Windows also play a vital role in relation to the visual environment. Sun light entering through the window glass can cause unpleasant glare too. Glare may result from strong contrasts in light level. To give protection from glare caused by direct sunlight it may be necessary to provide shading devices to exclude direct sunlight, even though temperatures are below the limit at which shading is required to prevent overheating. However direct sun glare is not likely to be a major problem for all buildings but in buildings such as offices and schools it may be serious problem.

For most orientations it is possible to design an external shading device which will allow a view of the exterior and adjust light and air movement, at the same time as excluding direct solar radiation.

2. The various shading device geometries and their shading characteristics

The fixed external shading device options to be considered are horizontal, vertical, both horizontal and vertical.

Horizontal shading devices

Horizontal shading devices are primarily efficient on the south facades of buildings when the sun passes high in the sky opposite the window. (Evans, 1980) Figure 1 shows a horizontal shading device that projects in front of the window. There may be situations where the angles indicated by the shadow angle will result in excessively large projections. In this situation, it's possible to use a number of small louvers rather than one large one to achieve the same shading effect. (Figure 1) (Egan, 1975)

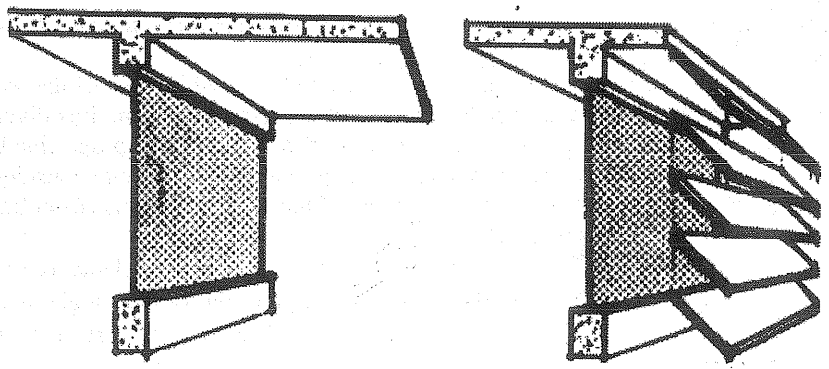

Figure 1: Horizontal shading devices.

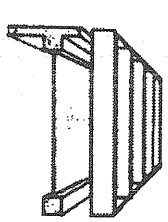

Figure 2: Vertical shading

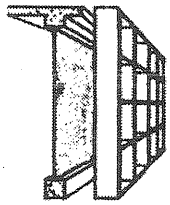

Figure 3: Horizontal and vertical shading devices

Vertical shading devices

Vertical shading devices are generally used on the east and west facades of buildings when the windows receive low angle sun around morning and evening hours. According to the incident angle of sun rays to the building facades, vertically shading devices can be arranged at right angles or an acute angle (Figure 2)(Egan, 1975)Only in some situations, they can block the view of the exterior.

Horizontal and vertical shading devices

Particularly on the southwest facades of buildings both horizontal and vertical shading is required and there is a number of alternative combinations to shade the sun, such as lattice windows and egg-crate louvers (Fig.3) (Egan, 1975) Only, lattice systems or egg-crate louvers are efficient on the southwest facades especially in summer months to prevent overheating. If protection from glare caused by direct sunlight is necessary during the year, these systems may be insufficient for that purpose. Where louvers are used in front of the window it's important that they are light and reflective to avoid absorbing and re-radiating the heat through the window.

3. An approach for determining the optimum type of shading devices.

General rules about design of shading devices which are mentioned above are insufficient for windows facing in different directions at different latitudes. It is necessary to determine the incident angle of solar rays to the building facades for detailed design of shading devices. In this study, an approach for determining the optimum type of shading devices is described, based on the orientation of the window under consideration. In this approach, to determine the incident angle of solar rays to the building facades, The Shadow Curved Lines Method (The "Pole" Shadow Paths) is used as a design tool. (Sirel, 1974) For this application of the approach, office buildings in Antalya (Latitude 37°N) are selected as an example and the shadow path diagram for latitude 37°N is used. For these buildings, the optimum type of shading devices are determined based on the orientations of window in terms of protection from glare caused by direct sunlight during the year. The main steps and the application of this approach as follows.

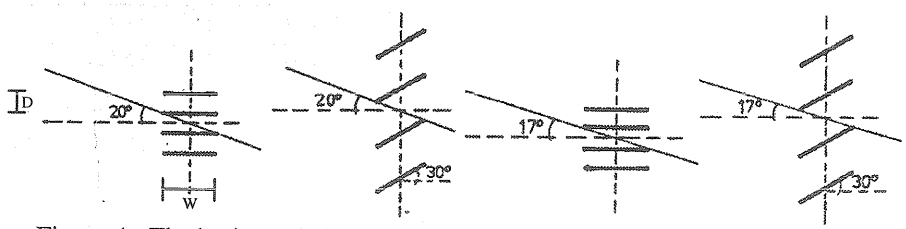

Figure 4: The horizontal elements designed for the vertical angles of 17°and 20°

3.1. Determination of the maximum width of horizontal elements which will allow a view of exterior

Instead of a wide horizontal element, a number of small elements should be used in front of the window to achieve the same shading effect. Generally, if the width of the horizontal element is more than 1.5 m., it is divided into a number of small parts (Figure 4) (Uşak, 1987) In this situation, to allow a view of the exterior, the proportion between the distance of the small elements (D) and the width of the small elements (W) is important. Taking into consideration the storey and window heights of office buildings in general, for different widths of horizontal elements (from 2m. to 5.5m.), vertical shadow angles of the window have been determined (Table 1)

For selected vertical shadow angles (α=17°, 20°) from Table 1, the horizontal elements are designed as small elements (Figure 4). As seen in Figure 4, the horizontal elements designed for the vertical angle of 17° obstruct the view of the exterior. Therefore, the required width of horizontal element (3.27 m.) for the vertical shadow angle of 17° is acceptable as a maximum width. (Figure 5).

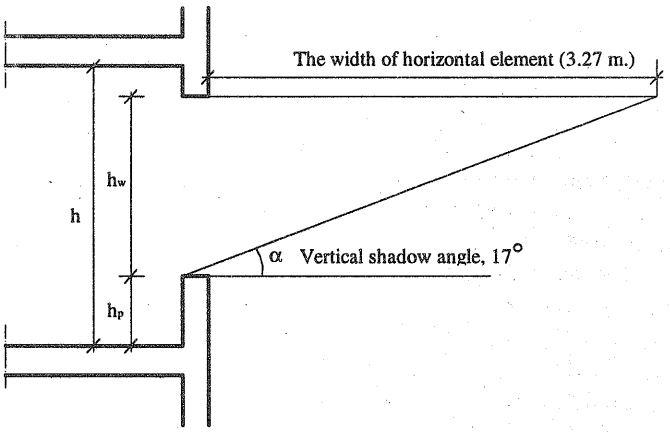

Figure 5: Vertical shadow angle.

Table 1: Vertical shadow angles of the window.

Storey height (m)	The height of parapet (m)	The height of window (m)	The width of horizontal element (m)	Vertical shadow angle α (°)
2.80	0.70	1.80	2.00	38.50
			2.50	33.10
			3.00	28.90
			3.50	25.60
			4.00	22.90
			4.50	20.70
			5.00	18.90
			5.50	17.40
	0.80	1.70	2.00	37.00
			2.50	31.60
			3.00	27.50
			3.50	24.30
			4.00	21.80
			4.50	19.70
			5.00	17.90
			5.50	16.44

3.2. Determination of the angle between the vertical shadow elements and the window which will allow a view of the exterior.

The vertical shadow elements can be arranged at right angles or acute angle in front of the windows. When it is necessary to use the vertical shadow elements with an acute angle, the degree of angle is important to allow a view of the exterior. In this situation, the proportion between distance (D) and the width (W) of vertical elements is determined as D/W=1/1.2 (as shown in figure 6). In addition, the maximum angle of the between vertical small elements and the perpendicular line to the building facades are determined as α=+60° and α=-60° (Figure 6). (Uşak, 1987)

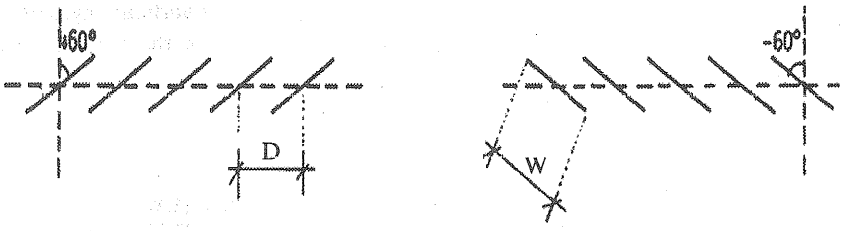

Figure 6: The vertical shadow elements

3.3 Determination the optimum type of shading devices for windows faced to different directions

Using The Shadow Curved Lines Method for Latitude 37°N, the optimum type of shading device is determined for eight different orientations of windows.

The orientations examined are as follows;

- Window oriented 0° to the north (facing east)
- Window oriented 45° to the north (facing southeast)
- Window oriented 90° to the north (facing south)
- Window oriented 135° to the north (facing southwest)
- Window oriented 180° to the north (facing west)
- Window oriented 225° to the north (facing northwest)
- Window oriented 270° to the north (facing north)
- Window oriented 315° to the north (facing northeast)

For each of the office buildings under consideration, normal occupancy between 08:30 and 18:30 is assumed. Shading devices which exclude direct solar radiation are determined using the maximum width of horizontal elements (3.27 m.) and the maximum angle between the vertical elements and perpendicular line to the building facade (±60 °), described previously. When the buildings are in use and sunlight enters through the windows, this is shown as hatched on the shadow path diagram. The type of shading devices that prevent direct sunlight entering through the windows (shown as no hatched or very little hatched area on the shadow path diagram) is determined as the optimum type.

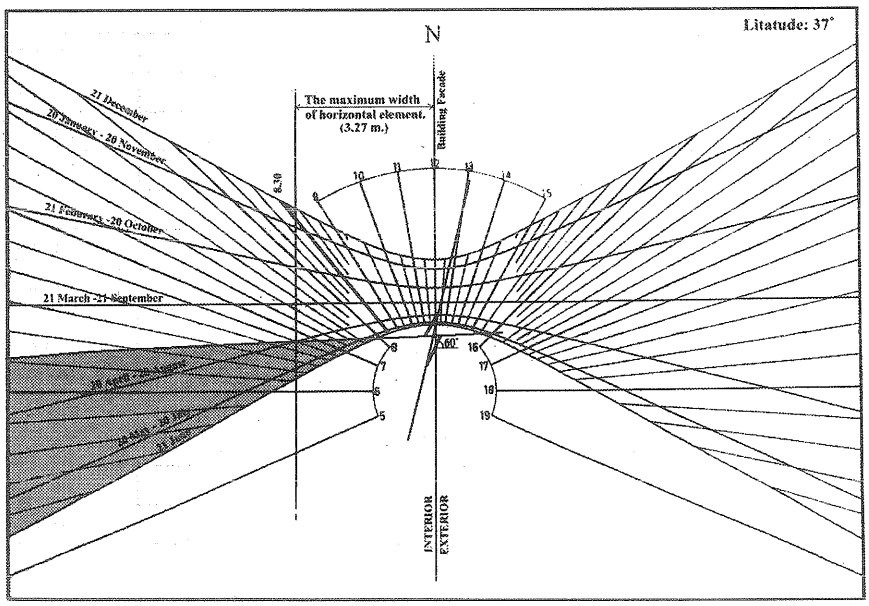

Figure 7: Determination of the optimum type of shading devices for windows facing east .

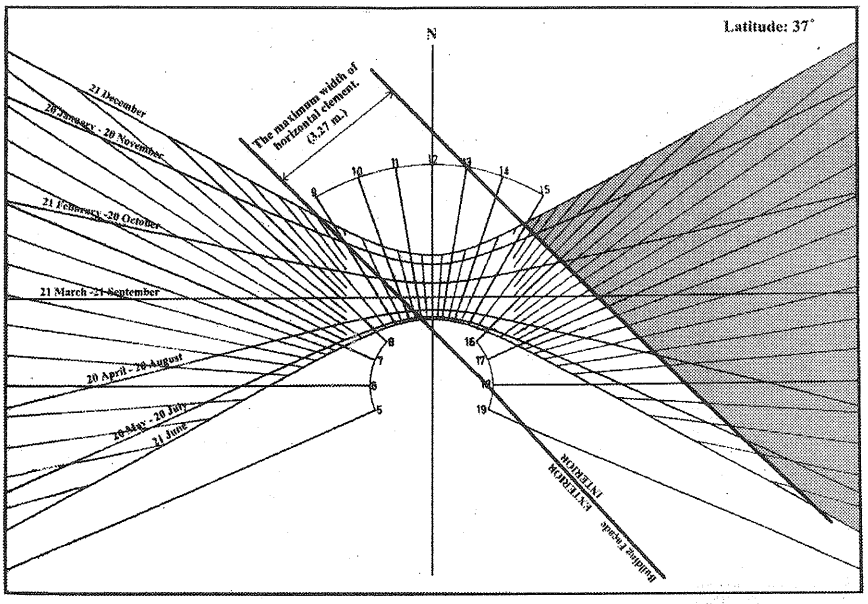

Figure 8: The entering hours of sunlight when the horizontal shading device is used.

As an example, Figure 7 shows, determination of the optimum type of shading devices for windows oriented 0° to the north (facing east). As seen in Figure 7, if the horizontal shading device is used with the vertical shadow angle 17° (the width of the horizontal element being 3.27 m.), sunlight will only enter for a very short time after 8.30 a.m. on winter days about from 6th of December to 6th of January (very little hatched area on the shadow path diagram). This situation is acceptable and the horizontal shading device is suitable for this window orientation. In addition, as shown in figure 7, if the vertical shading devices are used with the degree of angle allows a view of the exterior (the acceptable maximum angle between the vertical elements and perpendicular line to the building façade -60°) sunlight will only enter before 8.00 a.m. on summer days from 20th April to 20th August, (again shown as the hatched area on the shadow path diagram). Hence, vertical shading devices are suitable for this window orientation too.

As another example, Figure 8, 9 and 10 show determination of the optimum type of shading devices for a window oriented 135° to the north (facing southwest). As shown in Figure 8, if the horizontal shading device is used, sunlight will enter through the window most of the afternoon hours during the year. So the horizontal shading to protect from direct solar radiation is insufficient. For this orientation, moving vertical elements are required, since if the vertical elements are used in one direction (as the angle is –60° or 60° between vertical elements and perpendicular to the building facade), they are insufficient to protect from direct solar radiation. Figure 9 and 10 show sun light entering through the window (the hatched areas on the shadow path diagram) when these vertical elements are used. As seen, entering hours of sunlight is different in inverse usage of vertical elements. Therefore it is possible to exclude direct sun light, using moving vertical elements in inverse directions. The determined optimum type of shading devices for windows oriented towards eight different directions is given in Table2.

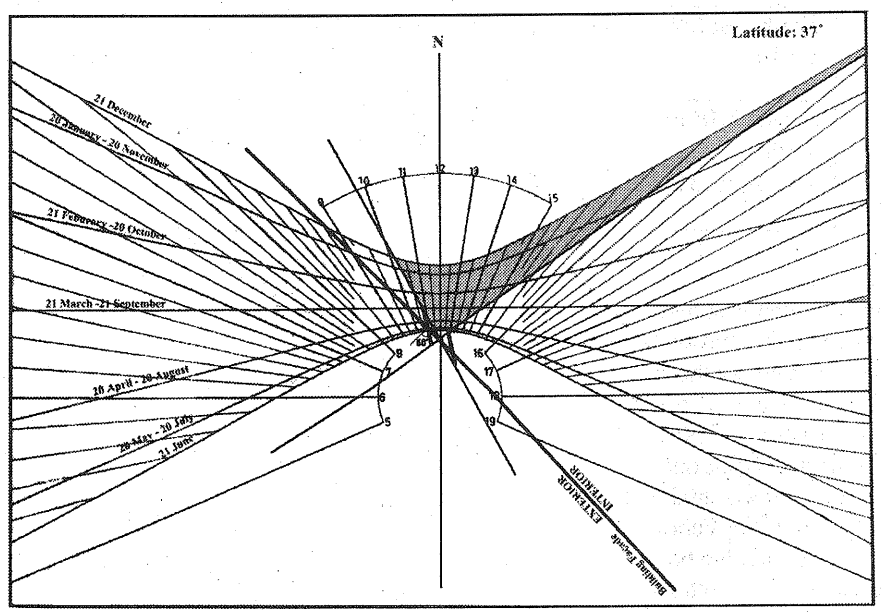

Figure 9: The entering hours of sunlight when the vertical elements are used (-60°).

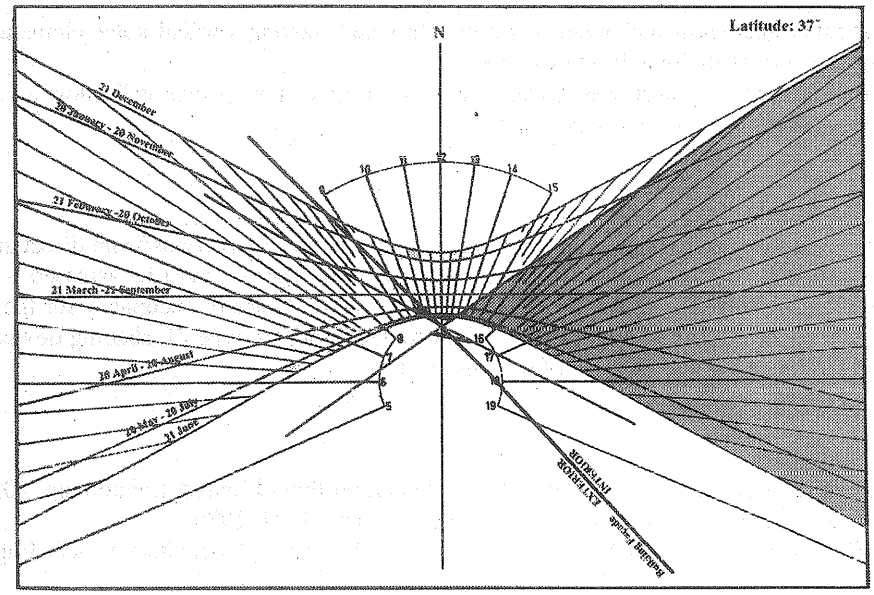

Figure 10: The entering hours of sunlight when the vertical elements are used(+60°).

Table 2: Optimum type of shading devices for windows oriented different direction

The direction of windows	Application result of shading devices.	The optimum type of shading devices.
East (0° to the north)	Horizontal or vertical elements are sufficient.	Horizontal or vertical
Southeast (45° to the north)	Horizontal element is sufficient. Vertical elements are insufficient.	Horizontal
South (90° to the north)	Horizontal element is sufficient. Vertical elements are insufficient.	Horizontal
Southwest (135° to the north)	Horizontal element is insufficient. Moving, vertical elements are required.	Double sided, moving, vertical. (α=-60°,+60°)
West (180° to the north)	Horizontal element is insufficient. Moving, vertical elements are required.	Double sided, moving, vertical. (α=-60°,+60°)
Northwest (225° to the north)	Horizontal element is insufficient. Vertical elements are sufficient.	Vertical
North (270° to the north)	Vertical elements at right angle are sufficient.	Vertical
Northeast (315° to the north)	Horizontal or vertical elements are sufficient.	Horizontal or vertical

As seen in Table 2,

- For windows oriented east and northeast, horizontal or vertical elements can be used. Architects can decide which one of the solutions is appropriate dependent on architectural style.
- For windows oriented southeast and south horizontal elements are sufficient but vertical elements are insufficient. On the southeast facade, if the horizontal element is used, sunlight enters through the window for an acceptably short time about from 20th November to 20th of January on winter days between 8.30 a.m. and 9.00 a.m. The south facade is the most difficult one, for the protection from direct sunlight during the year. On this facade, although the maximum width of horizontal elements which will allow a view of exterior is used the sunlight enters about from 6th of November to 6th of February on winter days after 15.30 p.m. Since protection from direct sunlight throughout the year is not possible, the best acceptable solution is the horizontal element, which is also the optimum solution in the summer months for south facades.

- For windows oriented southwest and west, using double sided moving vertical solar elements, it is possible to protect windows from direct sunlight during the year.
- For windows oriented north and northwest using vertical shading devices (which will allow a view of the exterior) it is possible to protect windows from direct sunlight.

4.Conclusion

This paper suggests an approach for the protection of windows at various orientations from direct sunlight. Firstly, the magnitude of direct sunlight falling on the building facade under consideration must be assessed – whether protection is required only in the hot summer months or for the whole of the year. Times of occupancy for the building must also be assessed. Once the level of protection required has been decided upon, the type of shading device to be fitted to the windows may be selected by following the steps of this approach.

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Energy Efficient Settlement Unit Design to Reduce Urban Air Pollution

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Abstract

The aim of this paper is to introduce a methodology, which enables to reduce urban air pollution and heating energy consumption. In Turkey, residential mechanical heating constitutes the most significant portion of total energy consumption and therefore it is an important item on the agenda of Turkey. At the same time, high rate economic growth has led to sharp increases in demand for heating energy and results in excessive air pollution. A considerably portion of pollutant gases and resultant acids produced in the burning of fossil fuels which are used for heating purposes. Therefore, in order to reduce air pollution in Turkey, firstly mechanical heating energy consumption must be minimized. It is obvious that utilization of energy sources and energy consumption will be minimized if mechanical heating systems are operated at the minimum level. This is possible with the design of settlement units as optimal passive heating systems to maximize solar heat gain.

Site and distance between buildings are the most important design parameters effecting energy consumption in buildings and settlements.

Optimum values for these parameters are determined with consideration to the regional climatic conditions and also the climatic requirements of humans. They define the appropriate locations for settlements. The effectiveness of the outer climatic conditions on the development of the inner environment depends on the values of these parameters, which consequently determine the inner climatic conditions as well as the loads for active heating. Therefore these parameters enable buildings to perform the tasks of passive heating. The design of buildings and settlements for achieving heating energy conservation is possible with the aid of appropriate values suggested for these parameters.

1. Introduction

Air pollution has been rapidly increasing in cities where the population is inflating and the living standards are increasing. Parallel to this development fossil fuel consumption for heating increases and results in excessive air pollution. In the sectoral distribution of energy consumption, residential mechanical heating energy constitutes the most significant portion of total energy consumption of Turkey. At the same time, a considerable portion of pollutant gases and resultant acids produced in the burning of fossil fuels which are used for heating purposes. Therefore, in order to reduce air pollution in Turkey, firstly mechanical heating energy consumption must be minimized. It is obvious that utilization of energy sources and energy consumption will be minimized if mechanical heating systems are operated at the minimum level. This is possible with the design of settlement unit as optimal passive heating systems to maximize solar heat gain. The most important design parameters of passive heating systems in the scale of settlement unit;

- site (appropriate locations for settlement)
- distance between buildings (settlement texture)

The optimum values of the above mentioned design parameters should be determined during the design stage in order to provide energy conservation and to avoid air pollution.

2. Method

The purpose of the method proposed in this paper is to determine optimum values of the design parameters in the scale of settlement unit to reduce urban air pollution caused by energy consumption. Moreover it aims to prepare technical information which can be used during the design process.

The following principles are taken into consideration by choosing the appropriate locations for settlements in other words, the proper land inclination, direction and location (Berköz, et. al.,1991) ,

- Location of land should be determined considering the climatic characteristics of the environment and the climatic needs of human beings
- The land should possess a specific direction and inclination that enables maximum solar radiation gain during the underheated period and minimum gain during the overheated period
- Rational usage of land should be obtained by providing maximum building intensity and the direct solar effects on building faces during the daylight hours with respect to energy conservation and human health at the same time.
- Settlement areas with different functions (industrial, residential, trading, recreation) transmitted from one area to another.

The appropriate distances between buildings should be determined according to the depth of the shaded area. In other to maximize solar radiation effect, the distances between buildings must be equal to the maximum length of the shaded area cast by the neighbouring buildings.

The procedural steps of the method which has been developed by basing on the above mentioned principals, are explained in the following chapters (Berköz, et.al.,1991).

2.1. Regional climatic analysis

Those analyses of the climate comprise the analysis of regional air temperature, atmospheric humidity, solar radiation and wind.

Solar radiation analyses are carried out to determine solar radiation gains for slopes of different inclinations facing different directions, as well as for flat terrain in the region are established. Wind analyses are carried out to determine the direction and velocity of 1st and 2nd degree winds prevailing both in the heating period and in the period when no heating is required.

Through evaluation of the air temperature and humidity data, the heating periods (underheated period) and the periods when no heating is required (overheated period) and the climatic characteristics of the region are determined. Turkey can be divided into 5 different climatic regions according to climatic characteristics. These climatic regions are (Zeren, et. al.,1987);

- **Temperate-humid (pilot city: Istanbul, 40°N)**
- Temperate-dry (pilot city: Ankara, 40°N)
- Cold (pilot city: Erzurum, 40°N)
- Hot-humid (pilot city: Antalya, 36°N)
- Hot-arid (pilot city: Diyarbakır, 38°N)

2.2. Determination of suitability degree of lands for settlement considering solar radiation

At first, inclination analysis should be carried out to determine the flat terrain and to categorize the slopes according to inclination. The example inclination analysis is given in the Figure 1 for an example land.

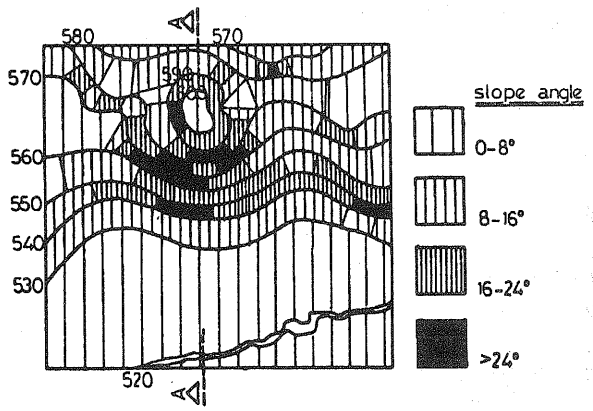


Figure 1. Inclination analysis.

Figure 2 gives the direction sectors suitable for settlements and the boundaries of these direction sectors. As it can be seen in the Figure 2 (Berköz, et. al., 1991),

- S, SSW, SSE, SW, SE designate the 1st degree direction sector suitable for settlement,
- WNW, W, WSW, ENE, E, ESE designate the 2nd degree direction sector suitable for settlement,
- NW; NE designate the 3rd degree direction sector suitable for settlement,
- NNW, N, NNE designate the 4th degree direction sector suitable for settlement.

These mentioned sectors define the 1st, 2nd, 3rd and 4th degree direction sectors suitable for settlement. Relatively;

- S defines 1st degree direction sector,
- W, E defines 2nd degree direction sector,
- NW, NE defines 3rd degree direction sector,
- N defines 4th degree direction sector.

Figure 3 gives the direction sectors for given example land in the Figure 1.

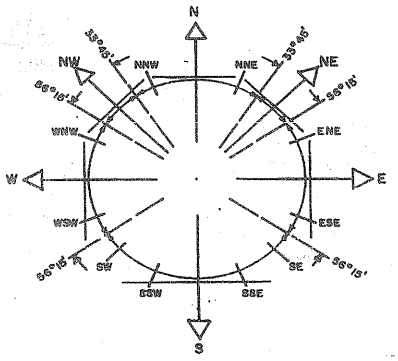


Figure 2:The boundaries 1st, 2nd, 3rd and 4th degree direction sectors.

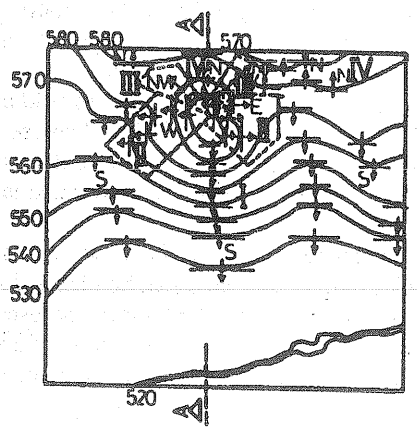


Figure 3: The direction sectors.

2.3. Selection of appropriate settlement regions for settlement units

The following criteria must be applied in the selection of appropriate settlement regions (Oral, Aksit, 2001) :

- The selection of the location must be done according to the climatic characteristics of the region and people's climate-related needs.
- In cold and temperate zones solar heat gains should be maximized from the heating energy conservation point of view.
- A maximum building density should be determined without compromising the optimization of sun exposure and wind effects for the buildings.
- The ability of the wind should be utilized to disperse air pollutants.
- In regions with humid characteristics, the land to be developed must be exposed to winds under the aspect of reducing the harmful effects of air pollution and humidity. Especially wind effects should be maximized in the overheated period.
- Settlement areas with different functions (industrial, residential, commercial, recreational) need to be arranged in such a way as to prevent the wind from transporting air pollution from one area to another, taking the prevailing wind directions and obstacles into account.

Figure 4 gives the appropriate locations for settlement units depending on the climatic regions (Berköz, et. al., 1991). The thermal zone that constitutes the most temperate section of the slope is determined for each individual slope. Thermal zone could also be described as slopes of a region between the lowest elevation, which may be a valley ground, and the highest place, which may be considered as a hill.

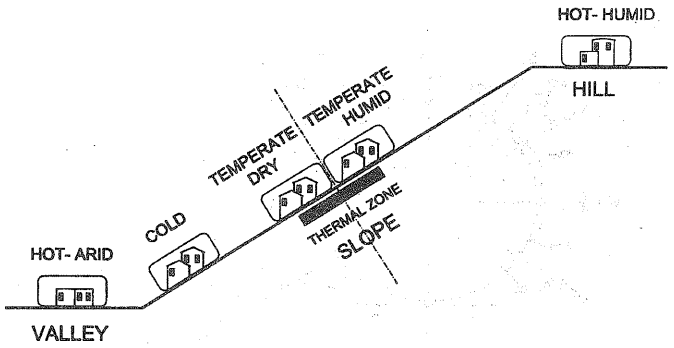


Figure 4:The appropriate locations for settlement units on a theoretical land.

Thermal zones are the most appropriate location for settlement in temperate climatic regions. In temperate-humid climatic regions, wind is required to disperse the unpleasant degree of humidity in the overheated period. In temperate-dry climatic regions, wind does not restore climatic comfort. The relative humidity needs to be increased. That is why in temperate-humid climatic regions the higher points of the thermal zone, and in temperate-dry climatic regions the lower points of the thermal zone are most suitable for settlement.

The solar radiation gains in the underheated period must be maximized in cold climatic regions. Wind is not required in the overheated period in these regions. However, it should be used to disperse air pollution during the underheated period. The location right below the thermal zone is the best place for settlement in cold climatic regions. At those points, exposure to the impact of wind is lower, and, due to the sloped terrain, solar radiation can be made better use of than in flat terrain.

Since in the hot-arid climatic region humidification is needed, the wind does not have a comfort restoring effect in the overheated period. In those regions, the character of the wind can be changed to humid, resulting in humidification by guiding the wind over a humid area, e.g. a lake or forest. Wind should be used to disperse air pollution. The most appropriate location for settlement in hot-arid climatic regions is at the bottom of a valley.

In hot-humid regions wind effects must be maximized to prevent discomfort caused by high humidity. Therefore, hilltops are to be preferred for settlement.

Figure 5 gives the right locations on the land related to thermal zone.

2.4. Determination of the distance between buildings

The pattern of the settlement unit is a design variable significant to climate control. The dimensions of the buildings, distance between buildings and the arrangement of buildings with respect to one another are the physical components of the settlement unit's pattern. In terms of population density, building dimensions and distance between buildings, the settlement unit pattern optimizing solar radiation and wind impact should be chosen in order to provide energy conservation. Buildings may serve as obstacles to solar radiation and wind, depending on the distances between them, their height and their arrangement with respect to one another.

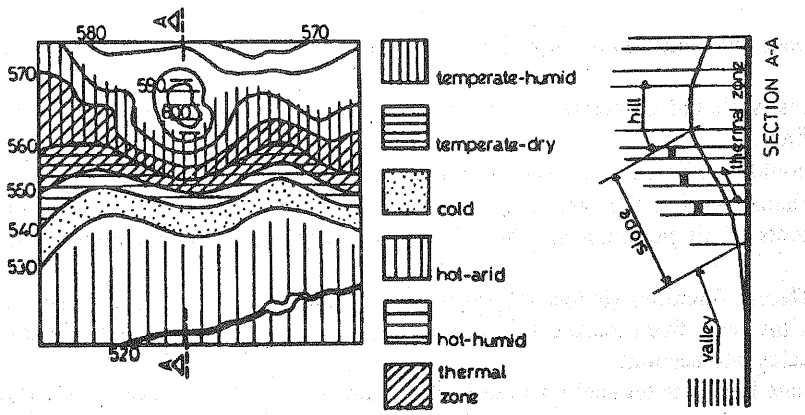


Figure 5: The appropriate locations on the land related to thermal zone.

In order to maximize the heating effect of solar radiation during the underheated period, the distance between buildings must be equal or larger than the depth of shaded areas around the buildings. In other words, for a building's facade not to remain in the shadow, it must be arranged in such a way as not to fall in the areas on which neighbouring buildings cast their shadows. Facades onto which neighbouring buildings cast their shadows will receive only diffuse solar radiation, whereas facades onto which neighbouring buildings do not cast their shadows get full profit of both direct and diffuse solar radiation. When establishing the distance between buildings under the aspect of maximizing the heating effect of solar radiation, the influencing factors are as follows (Ak,1993):

- Regional factors
  - Latitude of the region in question
  - Climate of the region in question
- Land-related factors
  - Position and inclination angle of the land on which the settlement is to be erected

  The inclination angle is an angle pertaining to the surface, specifically the angle between any given part of the land in question and the horizontal plane. It denotes the horizontal location of the land.
- Building-related factors
  - Orientation of the building
  - Building height
- Factors governing the relation of sun and building
  - Profile angle

The angles which describe the position of the sun are azimuth angle and altitude angle.

The angle between the projection of direction of the solar radiation in the horizontal plane and the south is called the azimuth angle of the sun (measured in the horizontal plane). The angle between the solar radiation and its projection in the horizontal plane is called the altitute angle of the sun (measured in the vertical plane) (Figure 6).

The angle, which determines the relation of the sun and building, is profile angle. Profile angle can be determined as the angle between the projection of the solar radiation on the plane of the cross section of any given facade of the building and the horizontal plane (Figure 6). Profile angles are used in drawings of facade cross sections. Therefore, they are also used in determining the depth of areas remaining in the shadow.

Profile angle is determined with the aid of Equation 1 (ASHRAE, 1997).

$$\tan \Omega = \tan \beta / \cos \gamma \qquad [1]$$

β : altitude angle of the sun

γ: surface solar azimuth angle of the sun (The angle between a line normal to the surface of a building and a line from the surface to a point directly beneath the solar radiation -measured in the horizontal plane)(Figure 6)(Benton,Arens,1990).

Figure 6 shows that when the surface solar azimuth is not 0 degrees, one must extend the plane of the wall until one has a plane which passes through the sun and is perpendicular to the extended plane (Benton, Arens, 1990).

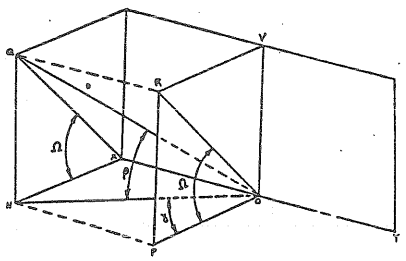
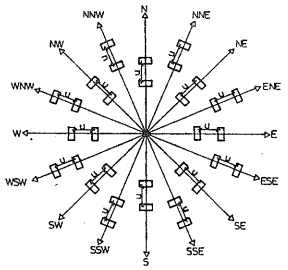


Figure 6: Solar angles (Benton, Arens, 1990).

Profile angles vary according to latitude, direction, and time of day, and have been calculated separately for each latitude, direction, and time of day. If the profile angle is equal to or smaller than the inclination angle of the land, the depth of the shaded area will be infinite. At and around sunrise and sunset, the profile angles are very low, and the length of the shadows increases enormously. Taking also the price of land into consideration, the profile angles at any other hour of day may be used to determine the limiting values for the distance between buildings. Figure 7 gives the required distances between buildings (u values) in dependence of building height from the heating energy conservation point of view (Oral, Aksit, 2001).



Slope	Directions															
	Altitude : 40°N															
Angle	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
0°	-	-	1.3h	1.2h	2.2h	1.8h	1.2h	1.6h	2.0h	1.6h	1.2h	1.8h	2.2h	1.2h	1.3h	-
8°	-	-	1.1h	1.0h	1.7h	1.4h	1.1h	1.3h	1.5h	1.3h	1.1h	1.4h	1.7h	1.0h	1.1h	-
16°	-	-	0.9h	0.9h	1.4h	1.2h	0.9h	1.1h	1.3h	1.1h	0.9h	1.2h	1.4h	0.9h	0.9h	-
24°	-	-	0.8h	0.8h	1.1h	1.0h	0.8h	0.9h	1.0h	0.9h	0.8h	1.0h	1.1h	0.8h	0.8h	-
														Altitude : 38°N		
0°	-	-	1.2h	1.1h	2.1h	1.7h	1.5h	1.5h	1.8h	1.5h	1.5h	1.7h	2.1h	1.1h	1.2h	-
8°	-	-	1.0h	1.0h	1.6h	1.4h	1.3h	1.2h	1.4h	1.2h	1.3h	1.4h	1.6h	1.0h	1.0h	-
16°	-	-	0.9h	0.8h	1.3h	1.1h	1.1h	1.0h	1.2h	1.0h	1.1h	1.1h	1.3h	0.8h	0.9h	-
24°	-	-	0.8h	0.7h	1.1h	1.0h	0.9h	0.9h	1.0h	0.9h	0.9h	1.0h	1.1h	0.7h	0.8h	-
	Altitude : 36°N															
0°	-	-	1.1h	1.0h	1.9h	1.6h	1.4h	1.4h	1.7h	1.4h	1.4h	1.6h	1.9h	1.0h	1.1h	-
8°	-	-	0.9h	0.9h	1.5h	1.3h	1.2h	1.2h	1.3h	1.2h	1.2h	1.3h	1.5h	0.9h	0.9h	-
16°	-	-	0.8h	0.8h	1.2h	1.1h	1.0h	1.0h	1.1h	1.0h	1.0h	1.1h	1.2h	0.8h	0.8h	-
24°	-	-	0.7h	0.7h	1.0h	0.9h	0.9h	0.9h	1.0h	0.9h	0.9h	0.9h	1.0h	0.7h	0.7h	-

Figure 7:The required distance between buildings (u values). (h=building's height)

2.5. Combination of the optimum values of the design parameters determined by the previous steps.

As it can be seen in the Figure 5, the appropriate settlement locations for settlement units are determined for temperate-humid, temperate-dry, cold, hot-humid and hot-arid zones. Among these designated regions, the optimum combinations of the inclination and direction that achieve heating economy depending on the solar radiation gains and supply the maximum building density in respect to rational land usage should be chosen. Figure 8 gives the optimum combinations of the inclination and direction, which achieve the required solar heat gains and appropriate distances between buildings from the heating energy conservation point of view for the example land. Table 1 gives the optimum combinations of the inclination and direction related to the distances between buildings.

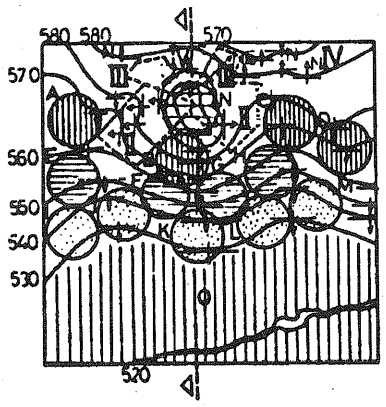


Figure 8: The optimum combinations of the inclination and direction for the example land.

Table 1: Optimum combinations of the inclination and direction related to the distances between buildings.

		Climatic Region	Direction of the Slope	Slope Angle	Distances Between Buildings
	A	Temperate-humid	S	0-8°	1,5h-2,0h
	B		SSW	16-24°,>24°	0,9h-1,1h
	C, D		S	8-16°	1,3h-1,5h
	E	Temperate-dry	SSE	8-16°	1,1h-1,3h
	F		SSW	16-24°,>24°	0,9h-1,1h
	G, H		SSE	16-24°	0,9h-1,1h
	I, L	Cold	SSE	8-16°	1,1h-1,3h
	J, M		SSW	8-16°	1,1h-1,3h
	K		S	8-16°	1,3h-1,5h
	N	Hot-humid	-	0°	1,0h-1,7h
	O	Hot-arid	-	0°	1,1h-1,8h

3. Results

Determination of the optimum values of design parameters in the scale of settlement units enables the following positive results.

- Minimization of the necessity for artificial heating and, in connection with this, minimization of energy/fuel consumption, and prevention of air pollution.
- Prevention of air pollution effects on settlement units with other functions caused by polluting settlement units.
- Optimum utilization of the available land with maximum settlement density, but without compromising human health.

Therefore, in this paper the method is proposed to determine appropriate values of design parameters related to settlement unit in order to reduce urban air pollution caused by heating energy.

As air pollution has been rapidly increasing due to heating energy consumption in Turkey, the design of settlements for achieving energy conservation and reducing air pollution is possible with the use of optimum values suggested for the design parameters related to settlement unit. Moreover the optimum values of these parameters must be included in the regulations related to energy efficient design so that they are accessible to all architects in Turkey.

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An approach in determining the need for window in office spaces

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Abstract

Technology and globalization have been dominant parameters during the formation process of built environments in current architecture. Human needs will be the balancing tool to humanize spaces for more livable environments in the information age. The office environments, which hold the most of our time in our life and the windows that constitute the vital part of the buildings, deserve to be the concern of this paper through the general context. The aim of this paper is to present an understanding about window-need and propose a conceptual model to produce data about window-need for office spaces.

This paper is based on the assumption that contextual and individual variables are vital to determine the needs. Culture, environment, space and activity types are contextual variables. In this respect, the open planned and private offices should be held differently while determining window-need. The quality of task rather than job statue is vital for determining the activity types of office context. The window-need is associated with the sub needs, the importance of which may differ due to above stated variables. These needs may be analyzed within the frame of psychological/psycho-social/subjective and physiological/ physical/objective factors. The basic psychological sub needs are visual privacy, visual contact for the purpose of view and visual information, concentration, stimulation and spaciousness. The physiological needs are natural illumination, ventilation and thermal comfort. Rather than performance criteria as is common for office spaces, the satisfaction and wellbeing of the employee should be the main concern while determining window-need. The method can be to get window preferences and the factors determining these preferences, which represent the critical sub needs due to context. They should be optimized in design process to meet the psychological and physical needs of the employee associated with windows.

1. Understanding the need for window in office spaces

Today, there is more freedom for designers and engineers than the past to design the windows/openings of the offices. The structural and technical limitations and thermal handicaps of the openings have diminished with the developing technology and the accessibility to these technological tools is made possible by globalization. After 1980's, the majority of offices especially for private firms in Turkey were designed as glass boxes, regardless of climatic factors, cultural differences, working principles and user needs. The desire to accept the 1950's prototype of the western architecture is based on the same pragmatic and symbolic reasons of rapid production, getting more space and light to be used inside and representing prestige of the firms.

This study aims to emphasize the critical importance of human requirements in window design and to propose a conceptual model for understanding the need for windows in office environment. In order to develop a model concerned with window-need, it is important to understand the general characteristics and capabilities of windows and to know the importance of those factors for an office environment. Window-need is not independent from those capabilities and the properties of windows represent the sub needs associated with the window-need.

1.1. The functions of windows and its relation with office spaces

Windows are one of the most important elements in architectural design, shaping the outer faces of the buildings. The harmony between solids and voids is the main esthetical concerns for an architect during the design process. They also contribute to human life with their physical and psychological dimensions. Windows are the source of natural light, passive heat and fresh air and besides, they create thermal breaking points in buildings. They are the eyes of the buildings that enable us to contact with the outside and provide view as a visual pleasure. The outside including variety and dynamism, which are welcomed by the windows, affect our mental state and make us to be sure that life is still continuing in the exterior world.

Windows are also the elements that enhance the pleasantness of interiors by adding spacious, dynamic, healthy and livable quality. These qualities inevitably affect our perceptions, feelings and moods within the space.

In this respect, the basic qualities of windows can be summarized as below. According to these, windows are;

- elements characterizing the facades of the buildings
- sources of physical attributes like natural light and air
- elements affecting thermal conditions
- means for providing view and visual connection with the outside world
- elements affecting spatial perception

- elements improving our mood and wellbeing
- elements regulating our privacy requirements

Since the intention of this paper is to discuss the needs of the office users, the window qualities related to interior spaces and the validity of these functions due to current office conditions have been considered important. In this respect, the window properties of being an esthetical element characterizing the exteriors of offices and providing natural air have been put out of the scope of this paper.

1.1.1. Natural light

One of the functions of windows is to provide natural light to interiors. Daylight and sunlight are the types of natural light and somewhat differ from each other. Daylight refers to a controlled diffuse light reflected and refracted within the atmosphere and by the earth's surface, whereas sunlight is the bright patches of light that arrive directly from the sun.

1.1.1.1. Daylight Generally, light enables us to see and percept the things, and perform the activities that take place in space. The functional requirements related to daylight for an office space depend on ensuring visual comfort conditions in terms of quality and quantity of natural light. Daylight ensuring a glare free, restful, comfortable environment and satisfy the necessary amount of daylight appropriate for the task meet the functional requirements of the employee. The variability of natural light does not always ensure the expected functional requirements; therefore, it is important to support natural lighting with controllable artificial lighting systems.

The quality and quantity of daylight are determined by the decisions taken during the design stage and by devices used for shielding or controlling it. The design parameters associated with the quality and quantity of daylight are the size, the form, the orientation, the location and the transmittance capacity of windows. Additionally, form and orientation of the building and properties of the internal surfaces that affect daylight distribution such as shape, color, texture etc. are important variables for the regulation of daylight.

In private offices functional aspects of natural light is still important for illumination but it is not such valid for open planned offices. Even glass curtain walls of open offices do not ensure penetrating the light through the deep spaces of office. Therefore, acceptance of 6 meters of beneficial distance from the light source/window has lost its validity for open offices and artificial lighting sources have been seen as the primary solution to illuminate open offices. Although this solution cannot provide enough amount of daylight especially for the deep places of open planned offices, the presence of daylight was very beneficial for the wellbeing of the employees as it affects the psychological and emotional state of the employee positively.

The psychological importance of daylight is related to its variable, dynamic and natural quality and its contribution to the aesthetics and spaciousness of space. A great many studies about daylight proved that it carries certain psychological meanings for the wellbeing and motivation of the employee. Sundstrom stated that people require variation in visual environment and the variable quality of daylight is an important factor in creating these effects in space (Sundstrom, 1986). The static and uniform environments cause boredom, fatigue, lack of concentration and even a reduction of intellectual capacity. Some experts put forward that variation in daylight is the basic motivation for the installation of windows. Researches indicated that, people prefer daylight in office environments and natural light improves the satisfaction of the people in office spaces. Additionally, according to these researches, workers believed that daylight provided a better quality of illumination than artificial light (Collins, 1975; Markus, 1967).

The factors underlying the people's preferences of daylight to artificial illumination can be explained primarily by the dynamic and changing character of daylight, its attribution to the esthetical qualities of space, its natural quality that makes us to percept the things, textures, colors and the overall quality of space as equal to its original state and the belief that daylight is a better source for illumination when compared to artificial lighting. The preferences and the needs for daylight in office spaces lead the designer to design large windows to get more daylight in. With the technological developments, it becomes possible to eliminate the negative impacts of daylight like glaring by the precautions taken during the design process.

1.1.1.2. Sunlight The functional aspects of the need for sunlight can be related to its thermal and physiological advantages for people. Sunshine is a source for passive heating and it has therapeutic and physiological effects on people. It affects brain stimulation and body orientation and signals the daily rhythms of night and day which determine our mental state (www.fridge.arch.uwa.edu.au). The advantages of being a heat source may be a problem when caused overheating. Overheating increases air-conditioning costs especially in hot climate countries and it may create dissatisfaction among office occupants. Spectrally selective glasses that control heat and light when glass appears clear and the variable transmission glasses that controls sunlight with their variable optical qualities changing due to the climatic conditions are the technological devices improved for overcoming the thermal difficulties of sunlight (www.light-power.org).

The psychological impacts of sunshine in improving mood were examined especially in residential areas. There are only a few studies applied in office environments. Boubekri and his partners have examined the impact of window size and different amounts of sunlight penetration on the mood and degree of satisfaction of the office occupants. The research was performed in an actual office of a typical size. While window size did not significantly affect the emotional state or the degree of satisfaction on subjects, sunlight penetration affected the feeling of relaxation and only small amounts of sunlight penetration promoted positive feelings among office workers (Boubekri, 1991). Markus examined several environmental factors including sunshine for working environments in England. Majority of

occupants preferred sunshine all year. The preference for sunshine penetration may vary according to climatic conditions and function of the space (Collins, 1975) and it is unknown whether sunshine is a dislike or a need for the office spaces of hot climate countries as in our country.

1.1.2 View and visual contact

Another basic, perhaps, the vital function of windows is to construct visual relations with outside and provide view. Windows are the means transmitting information about the view, events, people, weather conditions, time of the day and seasonal variables. As it was previously mentioned, people need change to remove the feelings of boredom and monotony. Outside is an attraction point for the people being inside and includes many surprising and variable things. Therefore, constructing visual relations with outside is an important psychological requirement for the people being inside. Additionally, windows provide view for visual relief and relaxation and perhaps reduce the perceived crowding (Wineman, 1982).

The results of the many researches especially in windowless offices indicated that, workers generally prefer windows for the purpose of visual contact. The presence of window and especially its visual function have some certain psychological dimensions. It was demonstrated by the researches applied in windowless offices that even physical efficiency or the pleasantness of the office environment can not substitute psychological benefits of windows. In Wells study, the majority of people expressed that they desired to look outside even if there was plenty of artificial light available. Additionally, they described their feelings as they were cooped up and isolated from the world and depressed. They desired window for a view and look into the distance and to know about the weather conditions (Sundstrom, 1986). Their feelings indicate us the critical psychological importance of constructing visual connections with outside.

The presence of windows is adequate to contact with the outside somehow, but when providing view is the main concern, it is related to window design profoundly. The size and height, additionally the continuity of windows freed from mullions are critical factors to enhance the content of view. People may need large and extending windows when they are satisfied with the view (Butler&Steuerwald, 1991). Markus emphasized in his study that window content is critical in determining a person's satisfaction with the view and found that the majority of the office workers preferred views of distant city and landscape and proposed that good view should provide a certain amount of dynamic change. Additionally, Ludlow suggested that complexity, variability and surprise determine the characteristics of the preferred view (Wineman, 1982). Subject's distance from the window was determined as an important variable affecting the satisfaction with the view in Markus's study. This may stem from the fact that when a person near the window feels the sensation of being a part of the exterior world, the person seating at a distance from a window see the view as a picture on the wall (Markus,1967).

From the above statements it seems that, environmental quality, in terms of view and micro-space of an employee in the general office context, are important variables for determining window preferences and the satisfaction with the windows. Therefore, environmental conditions should be taken into account while determining the priorities in window design. Additionally, the tasks being performed in office space and the size of the space, which is considerably different in terms of open planned and private offices, seem as important variables for the visual requirements related to windows and may affect window size preferences (Butler&Steuerwald, 1991). Constructing visual relations with outside gains importance especially for the people living or working with routine and sedentary tasks that contain little activity and interaction (Collins, 1975). It is interesting to note that access to window has been related to job statue but not the quality of tasks. Generally workers dealing with routine and boring tasks has been put into the central core of the open planned offices having no window access. However, the quality of task should be the main criterion for determining the need for window. It is important to decide the ideal openings in office spaces both meeting the necessity of visual connection for the wellbeing of the occupants and not distracting their concentration or motivation levels.

1.1.3. Feeling of spaciousness and definition of enclosure

Windows are the elements affecting our perceptions and feelings in space. Scientific researches considering the relation between window and space perception demonstrated that the presence of windows were related to the social-esthetic, mood and size factors in space evaluation and perception scale (Kaye, S.M, 1982). The basic need in space is to assure psychological comfort of the occupants by improving their mood and wellbeing. The term of spaciousness which is defined as the apparent size of the room, is a spatial quality improving the esthetical quality of spaces and creating positive feelings and satisfaction in space (İmamoğlu, 1986).

Spaciousness has been scientifically examined by researchers in experimental spaces and related to the variables of illumination level of interior space, size of room, size of window location of window, shape of room and additionally the furniture arrangement, color and texture of the boundary elements (Demirörs, 1994; Inui&Miyata, 1973; İmamoğlu, 1986). There isn't any study applied in office spaces attempting to find out how employees feel or percept spaciousness while working. Although a relation was found out between the activities performing in space and the subjective assessment of spaciousness, it remains a question how quality of tasks; spatial and individual variables affect the perception of spaciousness in office environments.

Interior space is defined by the boundary elements like walls, floors and ceilings. The feeling of spatial enclosure may be a need for people to feel themselves in interior space and to define their territories. Norberg Schultz stated that definition of enclosure is related to how openings/voids on the wall are designed. The size, form and location of window may affect the definition of enclosure. Especially the corners of space constitute a critical importance. While

the intersection of the solid walls at corners strengthen the definition of space, openings at the corners weaken the feeling of enclosure and open the space out more than the ones on the wall surface (Norberg-Schultz, 1971). Especially the windows designed as large and continuous surfaces create physical transparency by intermixing inside and outside and weakening the enclosure of the space. This means that, the difference between inside and outside disappears and the inside is added to outside or vice versa. While the excessive enclosedness, which is caused by the absence or very limited size of windows, can be the reason of negative feelings like claustrophobia, crampedness and basement feeling; excessive openness, which is excessive transparency, can cause people to be exposed outside and resulted in discomfort in space. Perhaps the territory of people and the appropriation of space are damaged by the dissolving walls. Especially in some office environments, this excessive physical openness may cause overload or distraction and the concentration or motivation levels can be diminished. Therefore, it is a need to understand the perceptions and feelings of people in space related to different types of openings. At this point, it should be emphasized that the need for windows should be handled with the relation of space perception. The positive mood in space can be improved by supplying the desired enclosure and spaciousness feeling in space. The spatial variables like size, form, height, color, texture, furnishing, along with the task types should be assessed while investigating the ideal level of spaciousness and enclosure.

1.1.4 Visual Privacy

Theoretical definitions of privacy include the ideas of retreating from people, controlling over information and regulation of interaction (www.steelcase.com). As Altman stated when achieved privacy is below desired privacy, a condition of crowding occurs; when the former is greater than the latter, a state of isolation comes out. The optimal state of privacy improves the satisfaction and wellbeing of people (Altman, 1976).

The privacy in offices may include territorial, informational, acoustical and visual dimensions. Physical enclosure is an important parameter associated with the perceived privacy in office spaces. When the number of enclosed sides like walls, partitions and panels increased and the more opaque they were, the more privacy is achieved (Sundstrom, 1982). Windows are the elements affecting the quality of enclosure and important mediators for regulating visual interactions between inside and outside. The relation between interior and exterior may be important in terms of primarily visual and to a great extend acoustical dimensions of privacy; but these dimensions in terms of window designs have not been examined thoroughly in office spaces. We do not know how important windows are in the achievement of visual privacy in office spaces. It is important to find out how visual distractions and noises from outside and visual exposure to out affect the level of visual privacy. The outside may include several visual and acoustical distractions for the people working with special tasks and visual exposure to out may evoke the feeling of being observed and dissatisfy the employee. Reflective glass walls that are common for most office buildings, which are opaque to out, seem to solve the privacy problem caused by the exposure to out but the distraction from outside has still been a problem for the achievement of privacy in some working environments.

The need for visual privacy and visual contact constitute the conflicting dimensions of window-need. The importance of these factors may change due to quality of tasks being performed in offices. Contact with other people may be a stimulation source for the people dealing especially with boring, repetitive and monotonous jobs. As the complexity of task increase, the need for privacy may increase too (Sundstrom, 1986). A study of American Productivity & Quality Center Members supports this idea by revealing that people need privacy when they want to concentrate and deal with sensitive issues. It seems that, tasks requiring focused attention and concentration need more privacy. than the tasks depending on interaction and communication (www.steelcase.com). As in the case of social interaction, windows can also be a stimulation or distraction source according to professional activity types included in space. The advantage of visual stimulation provided by the windows may exceed the need for visual privacy for boring jobs and the need for visual privacy may be important than the desire to contact with outside especially for the tasks requiring focused attention. It does not mean that windowlessness can be tolerable for complex and creative tasks. It should be emphasized that people dealing with complex tasks may also need to have a contact with the outside for visual relief and to stimulate their thoughts. The task may vary and the need for visual contact and privacy may change due to even time. Therefore, the important point here that windows should let to regulate the privacy requirements of people by means of tools as louvers. Variable transmission glasses that can change their transparency when desired seem to propose an alternative technological solution when they have a market place in Turkey for future applications.

2. A conceptual model in determining window-need in office spaces

As can be estimated from above discussed functions of windows, it is realized that, window-need is a complicated phenomenon related to a set of sub needs and interacted with specific contextual variables. The basic assumptions of the conceptual model proposed within the scope of this paper is that, the contextual and individual variables are basic variables determining the needs in settings, including window-need for office environments. From general to special, contextual variables represent culture, environment, space and activity types that take place in space.

- While culture is generally considered as an important variable affecting the needs and behaviors in households, it is not the concern of the studies of work environments. However, some needs like visual privacy and visual contact in office environments may be affected from cultural differences and worth to be examined.
- Climatic conditions and the view content of visual environment seem as important environmental variables that may affect window demand.

- The space, which may be defined as a sub context under culture and environment, may affect window-need both with its physical properties (form, size, color, texture) and activity types it contains. The physical properties of offices that affect especially light distribution, the feelings of spaciousness and enclosure are interrelated to the physical and psychological capabilities of windows in space and seem to affect window demand.
- The professional activity types in offices determined by organization of offices and enabled by space organization (open planned, private) seem to affect window-need in office environments. As Collins stated, windows constitute an attraction point especially in restricted and small spaces unavailable for the interaction and may be more vital for these kinds of spaces than the ones open to interaction like open planned offices. Therefore, it is vital to take the types of space organizations into account such as open planned or private offices for the studies examining window-needs. The type of activity can be related to the properties of tasks, that is being performed in office. The quality of tasks requiring complete privacy in terms of concentration like analyzing, processing and creating or necessitating interaction for stimulation and the tasks requiring dynamic or static position while working and the ones being creative and varied or repetitive and monotonous may affect window-need. By paying attention to the changes of current work experience, determination of professional activity types rather than the job statues is vital to understand the whole needs in office environments including windows.
- Since the subjects/individuals are the main concern of all researches examining the relation between individual and environment, it should be controlled within these studies if individual differences like sex and age affect window-need.

Up to this point, the variables that may affect window-need were tried to be stated. In this respect, it is useful to discuss which methodology may be convenient for the studies investigating window-need through office spaces. The majority of studies related to office environments analysis the relation between specific physical properties and performance of the employee and put performance criterion to center to determine the needs of people in workspaces. Instead of performance criterion, it is proposed here to put environmental satisfaction and wellbeing of people in determining the needs of people realistically. It is obvious that, the more satisfactory the environment, the more it will enhance the performance of the employee.

Since people make preferences according to their needs, it is proposed here that the affective responses of employee like determining their preferences and evaluations can be used as main data sources while determining window-need. Many studies in office settings indicated that there is a strong desire for windows among employees (Colins, 1975; Markus, 1967). However, this only presents a descriptive knowledge and makes designers be aware of avoiding to design windowless office environments for more livable office spaces, but this does not help to find out which factors are important in terms of window-needs that should be considered during the design process. In order to find out the nature of window-need and transform it to a usable knowledge for designers, it is important to know the factors that underlie preferences and their importance in determining window preferences.

A model developed by Butler and Biner for window preferences indicates that preferences for windows vary across different spaces as a function of these spaces. This can be related to the different activity types due to the function of the spaces. The majority of subjects preferred clear and medium size windows in one wall for office spaces. The most important factor affecting window preferences was visual contact because of temporal information and people (Butler, D.L, 1989). However, it is not clear how contextual and individual properties determine these preferences since the research is applied by questionnaires to students, out of the office context. When the purpose is to determine the needs realistically addressing its users, it is vital to determine the preferences for windows in real office spaces with real users, in regard to exterior and interior space conditions and professional activity types within the office.

The factors determining window preferences represent the sub needs related to window-need. From the analysis of window functions, the basic sub needs related to the demands for window in office environments can be stated as below,

- The need for an adequate and of good quality daylight
- The need for sunlight
- The need for adequate ventilating
- The need for thermal comfort
- The need for visual privacy
- The need for view and visual contact with the outside
- The need for concentration, away from noises and visual distractions
- The need for stimulation
- The need for spacious and pleasant space improving positive mood

As can be seen from above statements these needs, which may overlap with the functions of windows and may be in contradiction with window demand, are based on physical/physiological and psychological/psycho-social factors. It is possible to classify the need for qualified and sufficient natural light, good ventilation and ideal thermal conditions for comfortable working conditions among physiological needs. On the other hand, the need for visual privacy, view and visual contact, concentration and stimulation and spaciousness for enhancing positive mood in workspace are classified among psychological/psycho-social needs. It seems that the physiological needs are satisfied to a great extend, by means of technological devices as special glasses, glazing and insulation techniques, shading and light enhancing devices and air-conditioning systems. However, psychological needs of windows remain crucial. The inefficiency of physiological demands may cause dissatisfaction in the space and by exceeding other needs; these

physiological needs may be dominant for window demand. Therefore, determination of critical sub needs, which may differ due to context by means of factors associated with those preferences, will designate the important criteria for window design in terms of human factors. It will be convenient for using methods to take preferences of people in a way not deterministically but explanatory and descriptive to guide window design. As the optimization between demands (needs) and sources (windows) creates satisfaction, determination of critical sub needs and the optimization of them by means of window designs will improve the satisfaction and wellbeing of the employee while contributing their performances (see figure 1).

Additionally, the perceptions and evaluations of employee about office environments in terms of psychological and physical factors are valuable for measuring the capabilities of window designs. The perceptions and evaluations of employees about their office environments are the indicators of how much they were satisfied with their windows and should be considered in the researches examining the need for windows.

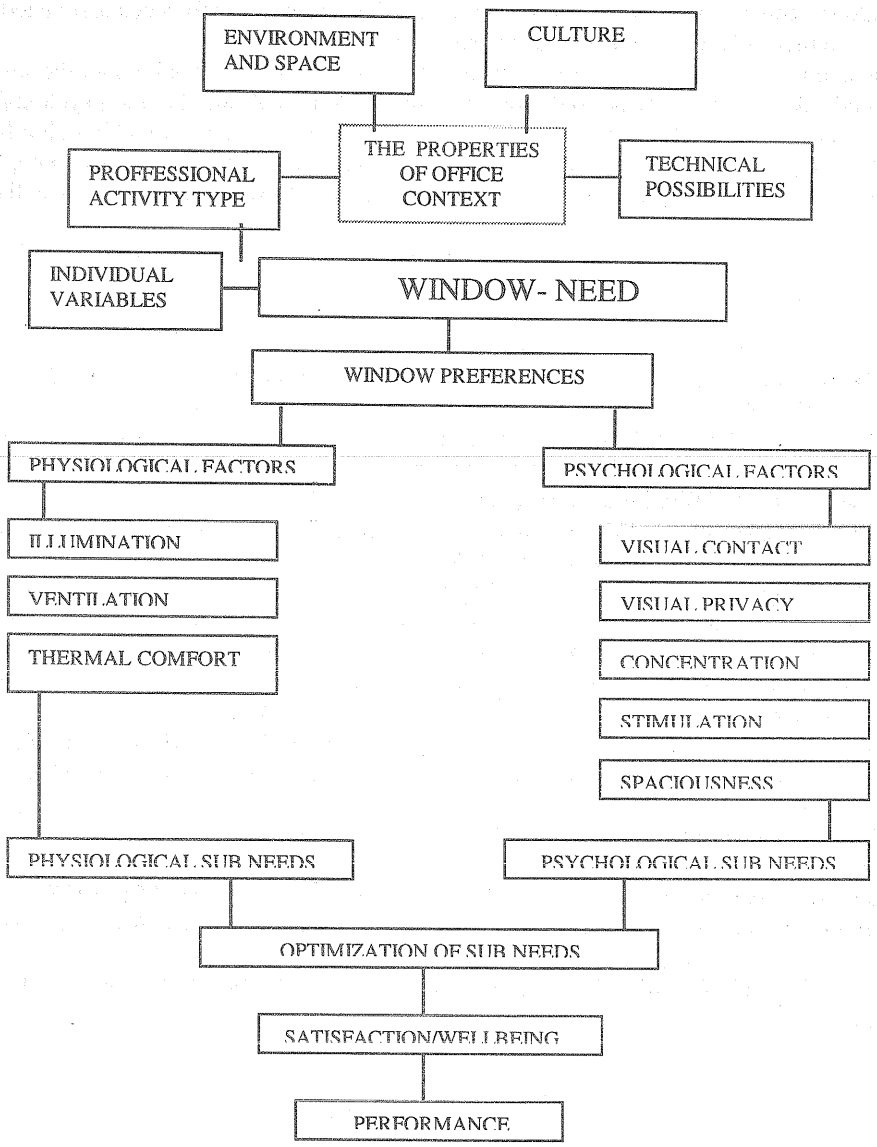

Figure 1: A conceptual model for window-need in office spaces

3. Conclusions and proposals

In the information age, for more livable environments, it is a necessity to develop methodologies to produce datum about the needs of the people that should be taken into account during the design process. Therefore, window design should be considered as a complicated process that human requirements should be assessed as important as the other criteria, like providing energy conservation and enhancing symbolic and aesthetic values of buildings. Contextual and individual variables are important in determining the need for windows. Therefore, human requirements related to windows should be examined considering culture, environment, space, technical possibilities related to window design, activity and the user. This paper has tried to present an understanding about the need for windows in office environments. The presence of windows is vital for workspaces since they satisfy both physiological and psychological

requirements of the employee. However, it is important to find out which critical human needs due to office context are vital in terms of window design. The priorities of both physical/physiological and psychological/psycho-social sub needs may be interrelated with spatial quality (form, size, height, color, texture, etc), space organization (open or private), task type and the quality of the employee (sex, age). The effects of these variables should be examined with the field studies. Environmental satisfaction rather than performance criterion should be the basic aim to find out the needs of the employee associated with window design. Therefore, determining the critical sub needs in regard to office context and then optimizing these needs with window designs will meet the window-need of the employee.

The discussions and proposals within the scope of this paper related to window-need should be interpreted as a part of a broader frame including all needs related to office environments as workspace area, furnishing, technical equipment, etc. Researches concerning human needs should be carried on considering all aspects of physical environments. Satisfaction with the windows does not guaranty the environmental satisfaction but contributes to it as part of the physical space. Additionally, the physical properties of the space interrelate with each other and affect the needs including windows required from office space. Therefore, the determined sub needs associated with the windows should be evaluated with their relation to other physical properties of offices.

Consequently, the main ideas that can be extracted from the scope of this study can be that, the studies examining the needs of people should take into account not only the physiological/physical but also the psychological/psycho-social needs of people. Besides, needs may differ due to individual and the context. Therefore, although it has been seen as an utopia in the globalization process, it is the responsibility of researchers and designers to ensure people to live and work within the spaces that is not uniform but specific to their individual and contextual characteristics in the 21'st century.

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The window applications in Old-town of Gazimağusa in different periods

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Abstract

This paper is a summary of a study on how the windows were used as daylighting apertures; under the climatic conditions of Cyprus by the Lusignans, Venetians, Ottomans and British people in Old-town (Suriçi) of Gazimağusa. Today, only a few dwelling house can be found remained from Lusignan and Venetian periods, but more Ottoman and British dwelling house can be seen.

Design members expect a lot of functions by means of window use. Ventilation for fresh air and natural cooling, view, communications with the outdoors, controlling undesired heat loss and heat gain, sometimes for smelling, as a means of escape in case of emergency, for privacy, security and safety, obtaining physical and psychological effects on the space and source of daylight for interior are the most important and primary functions of windows that can be performed through.

On the following pages it will be seen the effects of the windows used by Lusignans, Venetians, Ottomans and British in dwelling houses of Old-town of Gazimağusa with their shape, size, location, position, orientation and numbers.

Location, Climate and Historical Settlements of Cyprus

Cyprus is an island in Eastern Mediterranean and the latitude is 35¼ north. The climate of the island is hot and dry during the summer and warm with little rain falls during the winter. The average annual temperature is 19¼ C. The hotest month generally is July. The temperature during this month cruises between 37¼ C and 40¼ C (in the shade). The coldest month of the year generally is January whereby daytime temperature cruises around 9¼ C and 12¼ C. In North Cyprus an average of 12 hours of the days during the summer and an average of 5 hours in the winter are sunny.

Human settlements existed on this island as early as 5800 BC in the Neolithic Era or New Stone Age. About the middle of the second millenium BC Cyprus was subjected to foreign domination for the first time. During the long progression from Stone to Bronze, many Neolithic villages were abounded as people moved inland to settle on the great plain (Mesaoria) and in the foothills of the mountains. The cultural advantages, thriving economy, and relative lack of defences invited the attention of more powerful neighbours. The Romans after Egyptian rule soon began construction of new roads, harbours, and public buildings. In the fifth and sixth centuries, the level of prosperity permitted the construction of major cathedrals in the several cities and towns of the island. But Arab wars destroyed and shattered many cities and towns. Later, in 11th and 12th centuries during the Byzantine period new cities were appeared or former villages were grown into cities to replace those destroyed by war.

But; Lusignan period (1192-1489) was a period of great architectural achievment as the Frankish Lords directed the constructions of beautiful castles, palaces, and Latin clergy ordered the building of magnificent cathedrals and monasteries. They used Byzantine and Gothic style elements combined to create a composite architecture whose influenced has extended up to the 20. century. Later the Venetians (1489-1571) lived on the island under fearing of Ottoman empire and fortified the main towns for defense. During the Ottoman period (1571-1878) many Latin churches were converted into mosques and the Orthodox churches were restoreted. During the British rule (1878-1960) much of the architectural heritage of island, (of Gazimağusa especially) was lost when stones were taken from many historical sites to build the Suez Channel. British administration of the island constructed mostly government buildings. Today, in Old-town (Suriçi) of Gazimağusa a few dwelling house can be found remained from Lusignan and Venetian periods, but more Ottoman and British dwelling house can be seen.

Definition and Functions of Window

A small opening had been used by the Stone Age people lived in primitive cave for entrance, view towards the outside, ventilation and for source of light. Later more openings were added for better view, better ventilation and for better daylighting. Today, Meiss (1990, p:3) gives the following definition for the window:

" Sign of human life, wink to the passerby, eye of the building allowing one to gaze at the outside world without being seen, welcomer of the daylight and the sun's ray highlighting surfaces and objects, source of fresh air and sometimes place of exchange of words and smells... but also a break in the wall's structural continuity, and thus place of vulnerability, fragility, thermal sensitivity, leakage."

In addition to Meiss's definition windows may be used as a means of escape in case of emergency if their locations allow. Windows shape and direct the natural light if they are properly sized, shaped and positioned. The privacy, safety

and security considerations are also taken account during the window design. Therefore the shape, size, location, position, orientation and the number of windows are very important criterias for the window design. High window openings provide daylight penetration deep into space but restrict the view of the outside world. The larger or higher window increases the amount of daylight taken into space but causes seasonal heat loss or heat gain. Lower placement of windows allow easy communications with the outdoors but may cause glare problem bacause of high luminance or insufficiently shielded light sources in the field of view. Daylight only from one side of a space often causes glare and shadowing problems. Whenever possible it is much better to use bilateral lighting (windows on two walls) instead of unilateral lighting (window on single wall). This design provides better light distribution and reduces glare. Openings in more than one wall improve not only penetration of daylight but uniformity and reduce harsh shadows. Small windows restrict the penetration of daylight into room and cause poor interior luminance but keep the occupants from curious eyes and provide safety and security. A high narrow window will provide more depth of penetration, but with relatively little distribution of light to each side. According to Krier (1983, p:41) light coming from a ribbon window has a very monotonous and banal effect on space, the square window also. Lechner (1191, p:322) gives similiar suggestion as mentioned above that daylight will be more uniformly distributed in a space, if it is not consantrated in one window and he adds that architects such as Le Corbusier, often used ribbon windows for this reason. Here it is clearly understood that ribbon windows may be bannal; but, for uniformly distribution of daylight in a space, the use of ribbon windows may become a need.

The quality and quantity of daylight received from different orientations are not same. Openings facing north will probably require larger glass areas than other orientations to obtain similiar results. The light coming in through the north window is not direct sunlight. It is usually soft and difussed. If there is no strong sky or reflected light, shading device is not necessary in north. The south side of a building gets sunlight most consistently throughout the day and the year. But there is little problem with glare from the direct sun. Shading devices may be necessary on this orientation. The quantity of north light is rather low but more uniform cooler and the quality is high. Direct sunlight from east or west is more diffucult to control. Lechner (1991, p:155) gives the following rules for east and west windows;

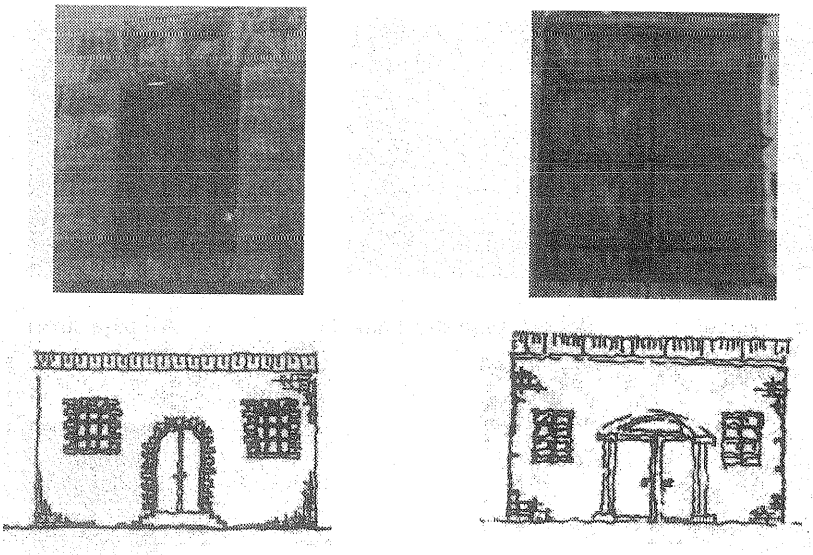
- Use as few east and especially west windows as possible,
- Have windows on east and west facades face north or south,
- If views of the ground and horizon are important then use a horizontal overhang,
- Use movable shading devices for best combination of shading and views,
- The most effective fixed shading device is a combination of horizontal overhangs (louvers) and slanted fins;
  - fin slanted north for all year shading
  - fin slanted south if winter sun is desirable

Window Applications

While Lechner (1991, p: 322) says that window area as a percentage of floor area should rarely exceed 20% because of summer overheating and winter heat losses,it is expressed in"http://www.arce.ukans.edu/bo ok/daylight/daylight.htm" such as, glass area should be approximately equal to 25% of the floor area to optimize the uniformity of illumination in a space. By knowing all these criterias, some windows dimensions and floor areas were measured for the buildings constructed by Lusignans, Venetians, Ottomans and British in Old-town of Gazimağusa. The results are seen at the table 1, below.

Table 1: Data of sellected dwelling houses from Old-town of Gazimağusa

WINDOW WIDTH (cm)	WINDOW HEIGHT (cm)	WINDOW AREA (sq.m)	NUMBER OF WINDOW	CEILING HEIGHT (m)	FLOOR AREA (sq.m)	CONSTR. PERIOD	ADRESS OF THE BUILDING
80	140	1,1200	3	3,40 (S)	24	Ottoman	Suphi ezel street no:3
80	140	1,1200	3	3,40	24	Ottoman	Tabakhane street no:2
80	140	1,1200	1	3,40 (S)	15	Ottoman	Akkule street no:1
80	140	1,1200	3	3,40 (S)	8	Ottoman	Akkule street no:9
80	140	1,1200	2	3,40 (S)	18	Ottoman	Kızıl hamam street no:4
80	140	1,1200	1	3,40 (S)	15	Ottoman	Kızıl hamam street no:6
80	140	1,1200	3	3,40 (S)	18	Ottoman	Kızıl hamam street no:8
80	140	1,1200	3	3,40 (S)	18	Ottoman	Ali paşa street no:29
80	160	1,2800	9	3,40 (S)	39	Ottoman	Erenler street no:9
85	140	1,1900	2	3,90	10	Venetian	Muzaffer ersun str. no 25 a
88	180	1,5840	2	3,90	12	British	Yeni yol street no11
95	150	1,4250	2	4,00	12	British	Abdullah pasha street
97	180	1,7460	2	3,90	12	British	Kemal zeytinoğlu str. no:29
100	120	1,2000	1	3,40 (S)	10	Ottoman	Kızıl hamam street
100	147	1,4700	2	3,90	10	Lusignan	Necip tözün street no 25a
100	180	1,8000	1	3,90	16	British	Kemal zeytinoğlu str. No:29
100	180	1,8000	2	4,30	12	British	Lala mustafa pasha street
100	180	1,8000	3	4,00	15	British	Istiklal street
100	200	2,0000	2	4,00	12	British	Hükümert street no:1
105	180	1,8900	3	4,00	15	British	Yeni yol street no:11
109	185	2,0165	2	4,00	12	British	Yeni yol street no:1
109	185	2,0165	2	4,00	12	British	Kışla street no:13
110	127	1,3970	2	3,50	12	British	Abdullah paşa street no:5
113	206	2,3278	2	4,00	22	British	Namık kemal street no:2
113	206	2,3278	2	4,00	22	British	Namık kemal street no:4
113	206	2,3278	2	3,90	12	British	Naim efendi street no:33
113	206	2,3278	2	3,90	22	British	Sever somoncuoğlu str. no:11
115	110	1,2650	2	3,90	.....	Venetian	Naim efendi street no:33
115	190	2,1850	2	4,00	12	British	Lütfi biberoğlu street no:5
115	190	2,1850	2	4,00	12	British	Lütfi biberoğlu street no:3
116	206	2,3896	2	3,90	15	British	Sever somoncuoğlu str. no:11
160	210	3,3600	2	3,90	35	British	Tabakhane street



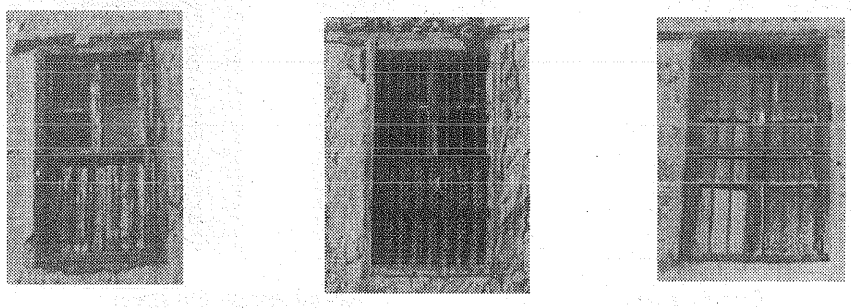
Naim efendi street *Muzaffer Ersun street*

Figure 1: Windows of Venetian houses in Old-town of Gazimağusa

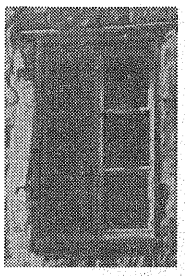
The data seen in table 1 were taken from main space of each building in the given adress. In general as seen in the table there is no standard for window area as a percentage of floor area. In the British buildings this ratio usually exceeds 25%. In Ottoman buildings, it is observed that this ratio is not exceeded with a few exception. But for Lusignan and Venetian buildings the data obtained are not enough yet, for the comment in negative or positive way. Briefly, the daylight can penetrate easly because of the high window area but this causes summer overheating and winter heat losses in British houses. But ceiling height of the British houses is higher than the others.

The medium size windows placed bilaterally are in the center of the wall with the solid shutters as shading devices. Iron bars and also solid shutters provide security (Figure 1). The size and position of the windows allow enough amount of daylight penetration in the buildings of Lusignan and Venetians period.

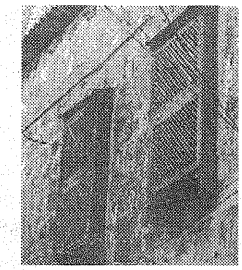
The windows of Ottoman houses are medium size, rectangular shape, vertical placement in the center of the wall. The bilateral position of the windows elliminate glare problem, increases the amount of daylight taken into space provide uniformity of light distribution reduces harsh shadows. Sometimes, small perforated windows where seen in the walls of some buildings between ceiling and normal size windows allow daylight penetration deeper in the space. Iron bars for security and shutters for both shading and security are seen extensively. For the privacy, lower half of the windows are usually screened with wooden grill as seen in Erenler street, Kışla street and Bahrem pasha street (Figure 2).



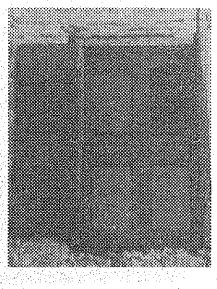
Erenler street no:9 Kışla street Abdullah paşa street



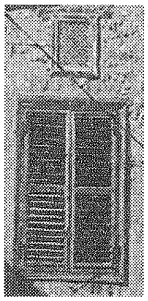
Ali Paşa Street no:29



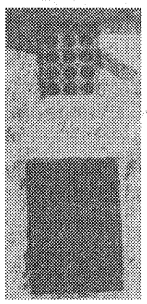
Behrem paşa street akkule



Ali paşa street



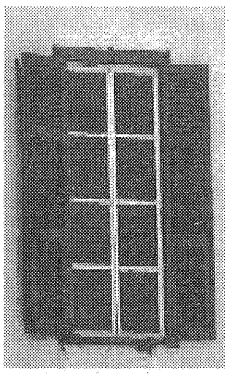
Erenler street no:9



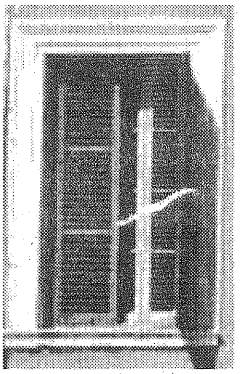
Hükümet street

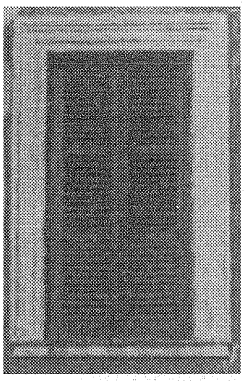
Figure 2: Windows of Ottoman houses in Old-town of Gazimağusa

The windows of British houses are large and big (Figure 3). The increased amount of daylight can penetrate through, into space. Vertical placement of big size, rectangular shape windows provide also daylight penetration deep into space. The ceiling is higher than the others in British houses but the seasonal heat losses and heat gains appear as main problem because of the ratio between window area and floor area. The position, location and the size of the windows provide easy communication with the outdoors. Usually split shutters are seen as shading devices.

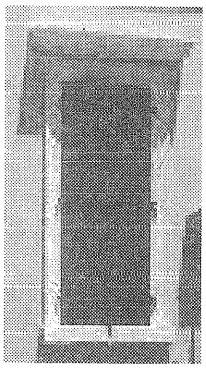


Çamlık street

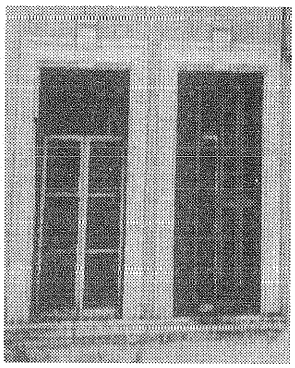




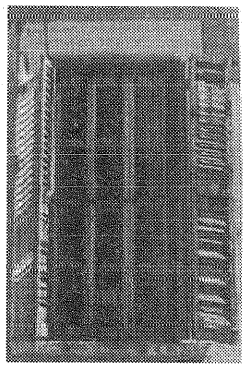
Kemal zeytinoğlu street



Polat Paşa boulvard



Hükümet street



Hükümet street

Figure 3: Windows of British houses in Old-town of Gazimağusa

Conclusion

In terms of the window area and floor area ratio neither for Lusignan and Venetian nor Ottoman and British periods can be given a standard percentage. But in British house it can be seen it is higher than 20% which is stated by Lechner. Shutters are extensively used in all periods as shading devices but they are seen not only in south but also in north orientation. This situation can explain that the shutters are used not only for shading but also for security purpose. The sizes of the windows are seen same in all faces of the building without regarding the strong sunlight from south and diffuse daylight from north. No external shading devices other than shutters were observed.

More details will be given in the study which is still going on under the title of "Daylighting use in Northern Cyprus architecture" and will be presented at the International Lighting Congress in İstanbul, September 2001.

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Contribution of Agricultural Recreation to the Rural Development Process; A Case Study on Kalecik-Ankara

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Abstract

New approaches for recreational activities are becoming a united whole with agricultural activities. At the present time, this new outcome of recreation introduces solution tools for the socio-cultural and economic needs of the communities by producing common solutions for the expectations of urban and rural population. In this frame, while different recreation and healthy life alternatives are presented for the urban life, rural economic and social activities could be increased. These are all brought sustainability and human resource development as a major tool for rural development.
In the light of above-mentioned approaches, the relations between agricultural recreation and rural development are examined in the case of Kalecik-Ankara. Kalecik district's selection criteria's are;

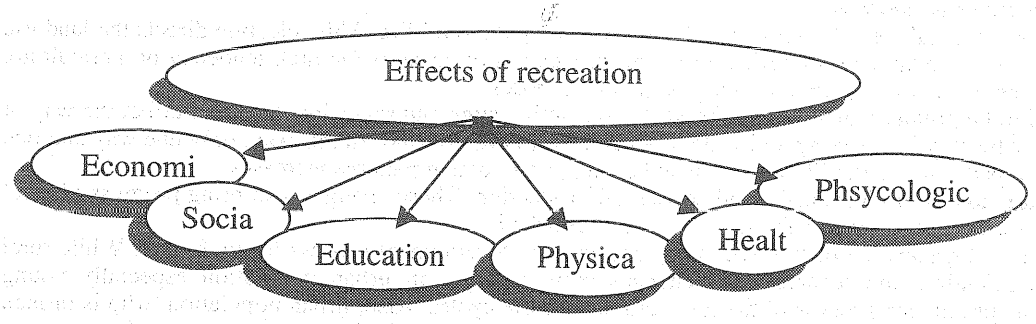
- Its distance from Ankara city (68 km-daily or weekend use zone)
- Weak industrial development
- Its location by the Kızılırmak river
- Dominant agricultural culture
- Wide agricultural production varieties
- World famous grape variety, Kalecik Karası, production area
- Temperate climate conditions in the Middle Anatolian Terrestrial Climate
- Nature friendly land use studies is supported by local government
- Vocational school under Ankara University umbrella

Briefly, in this study, recreational needs and expectations of Ankara metropolitan population and socio-economic structure with natural resource potential of Kalecik district are taken in to account with the aim of discussing contribution of agricultural recreation activities to the rural development process of Kalecik.

Recreation and Agricultural Recreation Concepts

Recreation is a term, which contains various activities and has different interpretation by profession groups, societies and disciplines. Recreation term comes from Latin language and the dictionary meaning of it is "to evaluate the spare time except for sleeping, working" or "physical or spiritual refreshment". The main character of this term is that the action done gives the emotions like participating, wish, resting, pleasure, entertainment and satisfaction (Yurtseven, 1992).
Besides these general ones there are also more detailed and scientific definition of recreation. The main reason why there are so many definitions of recreation is its different interpretation by societies having various socials, economic structures and views (Akduran, 1991).
From these basic definitions, many different recreational activities could be developed depending on human and the culture, also time and life style. For instance:
At the present time, cities are getting petrified and urban green areas are annihilated, because of increasing of urban population. The urban man wants to use the urban nearby regions, in order to get rid of stress of the modern life and to remove his yearning of green (Yaşlıca, 1986).
In the light of above-mentioned explanation, rural regions and their agricultural potential are started to use for recreational activities.
Briefly, together with changing time and living conditions recreational activities are not only an important tool for healthy societies but also an important tool for all kind of human activities. Its importance lies under the positive effects on human culture, which are summarised in Figure 1.
It is very clear; if we consider agricultural activities as a mean of human re-creation above mentioned positive effects would be increased. From this point of view, agricultural recreation meets the rural development concept.

Figure 1: Effects of recreation



Rural development concept

In general, development concept is described as "economic growth, industrialisation, scientific and technological development and improved quality of life" nowadays new comments with sustainability and human resource development dimensions are brought in to agenda (Anonymous, 2000).
Rural development is a process which contains, rural communities economic, social and cultural development oportunities. It also contains increased quality of life by rational use of natural and cultural resources and improvement of human resource development.
The 1992 United Nations Conference on Environment and Development (UNCED), in its Agenda 21 document, identified human resource development (HRD) as a major tool for achieving sustainable agriculture and rural development (Anonymous, 1996).
In this paper, rural development concept is evaluated in above-mentioned frame by understanding traditional structure of rural societies. State Planning Organisations eighth five-year development plan "Rural Development Special Commission Report" summarises the classical structure of rural areas;

- Rural area habitats and economic activities are heavily depending on uses and evaluation of natural production resources.
- Economic-social- cultural development process runs relatively slow.
- Reflection ratio of Technological development on life and production is relatively delayed
- Life styles and rules are effected by traditions
- Life style and consumption pattern is relatively traditional
- Face to face relations are common.

When glancing at this basic classical structure of rural areas, some difficulties are observed.
Consideration of strategic options is preceded by an assessment of the main causes of unsustainability in each agro-ecosystem, and of the strategic objectives, although these will vary from country to country. The most widespread causative factor is population pressure in the face of static or slow technological change, although the underlying reasons are variable within and between countries and agro-ecosystems (Anonymous, 1991).
The need for trained agricultural personnel in the developing world is steadily increasing. Training of agricultural teachers and extension workers becomes more and more important, as an ever-growing number of farmers in developing countries have to master skills in order to generate income and improve their standards of living (Anonymous, 1990).
Area economic development planning can not be very effective unless it is coordinated with other types of planning that might be underway in a rural area. The reason for this is that the other types of planning are also bound to have an impact on the area economy and its prospects for development. As a matter of fact, area development planning is often viewed as a means for coordinating all development planning in an area (Bendavid-Val, 1991).

Considering the above-mentioned descriptions and traditional structure and also sustainability and human resource development concepts, rural development requires multi dimensional activities. This approach is summarised in the Agenda 21 as "Major adjustments are needed in agricultural, environmental and macroeconomic policy, at both nationalist and internationalist levels, in developed as well as developing countries, to create the conditions for sustainable agriculture and rural development (SARD)". These expressed facts are required integrated approaches for cultural expectations and adjustments for cultural activities. From this point of view agricultural recreations contribution to the human culture could not be denied.

Contribution of agricultural recreation to the rural development process

Agricultural recreation activities are generally urban population interest. Urban population selects urban nearby areas, because of accessibility, for this tendency. In this way, traditional structure of rural and technological and scientific opportunities of urban could be harmonised.
Urban population could select rural areas for either producing or joining the rural life. This selection directs the land use patterns. Re-creation activities could support agricultural land prevention because of the high tendency on agriculture. By this way agricultural lands are uses for agricultural production purposes.
Whether citizens started to be producer or started to be visitor for both resting and renewing, he could effect the way of production because of the healthy life seeking and wide production varieties demand. In this way, only one way and one product centre production patterns of rural life is broken and ecologic production patterns increases.
This alteration brings variation of products and small-scale food production. These changes also bring progress of rural market. By this way, balanced manpower distribution could be established.
Different cultural background groups interaction speeds up educational development process for both sites. While rural population aware from scientific and technological changes more rapidly, an urban population especially young generation aware from the production process of the food and natural life cycles. Also, urban population, who is broken off natural life, refreshment by agricultural activities brings physical and physiological improvement, which is very effective on health and social structure.
These alterations provide constitution of small farms and improvement of agritourism activities, which are all-important tools for the refreshment of rural social and economic life.
For many farm owners today, making a profit depends on diversifying farm operations to include services and products designed for visitors. Farm stands, u-pick operations, and farm bed and breakfasts are examples of this growing trend toward agritourism. Agritourism basically combines agriculture with New York's second largest industry-tourism. Agritourism works to expand existing businesses, create new festivals and farm markets, and tie this all together regionally to attract visitors (Kuehn and the others, 1998).
Expanding farm businesses to include agritourism opportunities can provide a mechanism for keeping farms financially sound. Besides benefiting farm owners, agritourism businesses benefit visitors by offering a diversity of agricultural experiences (Kuehn and the others, 1998).
All of this activities and changing's brings socio-cultural and economic activities and also continuous education process which is directly affective on the human resource development as a major tool for rural development.

A Case Study on Kalecik - Ankara

Kalecik district, which has been continuing her existence since Hittite civilisation, is selected for the agricultural recreation development according to the below mentioned reasons.
Kalecik district bound to Ankara City within 68-km distance. Which is quite important for accessibility for daily and weekend recreation.
According to 1997 census, population of Ankara City is 3.231.329 (Anonymous, 1997). This population brings many different life-styles and expectations. For that reason, concern on agricultural recreation is rising issue for the citizen.
District is located 6-km from main road route, which is accepted as an important impossibility for development, but with the new way of development understanding with sustainability this condition brings a very important opportunity for nature friendly developments.
Kalecik is situated near Kızılırmak River, which brings many opportunities to the district, like temperate climate when compared with Terrestrial Anatolian Climate, high landscape potential, diversity on natural resource, agricultural product varieties etc. These are all quite important resources for especially agricultural recreational activities.
In the district, industrial and commercial activities nearly are not taken in to place in the economic structure. Especially weak industrialisation brings healthy air, water and soil resources. In the mean time, a district natural topographic structure that is earthenware pot shape protects the settlement from unwanted pollution resources.
Besides high potential on agricultural products, district has also an important role on grape production, especially Kalecik Karası grape variety is quite important for special brand wine production. Viniculture was nearly finish because of the phylloxera insect, but last decade it is started to liven up by the help of American vine road-stock. With the broadened of vineyards and development of local wine productions strengthen the agricultural recreation demand and agritourism opportunities. Also, the other agricultural products contribute the agritourism capacity.
Also, citizens will find an opportunity to meet vineyards, which is quite attractive for them.
Because of the districts close situation to Ankara City and insufficient opportunities for labour there is migration to the Ankara City (Kıvançlı, 1996). Agricultural recreation creates new labour fields, which is important for both rural and national development.
The great majority of the population interests in agricultural activities. Majority of the agricultural product is grain. This production style is not rational way of resource use. Agricultural recreation diverse the crop production which speeds up rural development.
Agricultural culture is still dominant in the region, which has a great attractiveness on urban population.
Agricultural product varieties and production amounts of Kalecik are summarised in Table 1to 5. Advantages and resources of Kalecik and recreational activity recommendations are summarised in Table 6.

Table 1: Agricultural Land Distribution of Kalecik

ype of land	Area (Hectar)
Field crops	35.450
Vineyard-fruits and vegetable	3.620
Pasture	30.000
Meadow	170
Forest	6.200
Fallowing	14.000
Others	29.300
TOTAL	118.740

Source: Directorate of Kalecik Agricultural Province, 1999.

Table 2: Vineyards, Fruits and Vegetable Land Distribution

Type of land	Area (Hectar)
Vineyard	860 (fast increasing ratio)
Fruits	820
Vegetables	1.920
TOTAL	3.620

Source: Directorate of Kalecik Agricultural Province, 1999.

Table 3: Structure of agricultural production of Kalecik

Type of product	Production area (ha/number of trees)	Production amount (tons)
FIELD CROPS	39.337	87.410
Wheat	22.000	48.400
Barley	6.000	15.000
Chick peas	600	750
Dry bean	700	1.050
Lentil (green)	1.200	1.400
Sunflower	1.852	1.480
Sugar beets	4.580	17.000
Onion	100	2.000
Potato	5	100
Fodder crops	2.300	230
VEGETABLES	1685	34.310
Tomatoes	300	1.300
Eggplant	2	80
Squash	10	150
Cucumber	20	200
Green paper	43	280
Watermelon	750	20.000
Melon	500	12.000
Bean (fresh)	60	300
FRUITS		522.985
Pear	64.300	1.607,5
Apple	137.600	6.880
Quince	57.550	2.877,5
Medlar	2.500	37,5
Plum	11.300	226
Oleaster	4.100	123
Apricot	33.500	4.400
Cherry	13.300	665
Peach	3.450	86
Black cherry	17.500	525
Wild apricot	9.150	320
Mulberry	9.500	1.187,5
Almond	15.000	150
Walnut	12.000	600
Vineyard	860	3.300

Source: Directorate of Kalecik Agricultural Province, 1999.

Table 4: Livestock

Livestock	Number
Cattle	14.445
Buffalo	260
Sheep	23.540
Goats	1.750
Hens	44.500
Gooses	1.000
Turkey	1.500
Equidea	410

Source: Directorate of Kalecik Agricultural Province, 1999.

Table 5: Animal products of Kalecik

Animal products	Quantity (Tons/number)
Milk	16.000
Meat (cattle)	400
Meat (sheep-goat)	10
Hen eggs	6.000.000 piece
Angora wool	2
Spring wool	35
Honey	45
Beeswax	5

Source: Directorate of Kalecik Agricultural Province, 1999.

Table 6: Advantages and Resources of Kalecik and recreational activity recommendations

Advantages and resources	Recommendations
65 km. From Ankara	Daily and weekend use/services on farm, bad and breakfast, weekend houses
Production of Kalecik Karası grape variety	u-pick operations, festivals
Kızılırmak river coastal	Fishing activities
Production of various fruits and vegetables and animal husbandry and their products (tomato paste, grape molasses, wine, jam, honey, canned food, pickle etc.)	Farm markets

Conclusion

In the case of Kalecik characteristics the most suitable development point is agriculture. By the contribution of agricultural recreation planning this development point is utilised the most rational way. In the rural development process agricultural recreation brings;

- Economic productivity, social activity, energy and material flow, which are components of rural development process
- Employment opportunities
- Cultural relations and educational oportunities
- Investments (within the organisation model)
- Local government and private sector cooperation
- Local products introduction in both national and international markets
- Marketing opportunities
- Social activities like festivals, competitions etc.

to the Kalecik.

Ankara metropolitan populations demand on edible landscape, weekend houses, weekend trips to the urban nearby areas are increasing, this are all good indicators for the tendency on agricultural activities. Except for traditional ones this different recreational tendency brings to the citizens and urban young generations;

- Involvement to the production process
- Meeting with nature and agriculture
- Opportunity for the agricultural ecology education

Finally, to reach sustainable rural development at Kalecik and to meet recreational activity needs of Ankara metropolitan population, agricultural recreation planning process should be started by the help of comprehensive inventory and analysis studies. The most appropriate field or fields should be determined for agricultural recreation and

these areas should be planned detailed way. Organisation models, application and management process should be defined.
All of these works on Kalecik-Ankara case will be a model for improvement of the same characteristic settlements.

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Urban agriculture: a hope for the future?

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Abstract

This paper attempts to search, understand and introduce the concept of "urban agriculture". The possibilities and limitations of urban agriculture are evaluated and presented. Urban agriculture is considered to range from low-income subsistence farming to middle-income gardening to comprehensive agribusiness. Briefly, food production activities within city boundaries are called urban agriculture. Growing your own food in urban settlements has long been a common practice in Asia, and it is rapidly expanding in Africa, Latin America, and all over the world.

Urban agriculture provides social, economic, environmental and educational benefits to urban settlements and their inhabitants. Bringing agriculture back into towns and cities helps to improve household food security by supplying local food, regenerate the environment by managing waste and open space, speed the recycling of organic wastes into productive compost and fertilizers and strengthen urban economies by enabling employment and extra income. At the community level, gardening enables community interaction, provides a chance for spiritual growth and creative learning. A city with agriculture is greener and cooler. The biological transformation of waste and conversion of barren land to green, productive landscapes contribute to creation of clean, healthier towns and cities. With these features, urban agriculture has a lot to offer to urban planners who are in continuous search to create more livable urban environments.

Introduction

Historically, public support for access by the poor, to urban land for food production has arisen for economic and cultural reasons *(schreber* gardens, allotment gardens). In the post-World War II period, urban farming examples include Mozambique's *zonas verdes,* Cuban *hydroponicos,* Mongolian school gardens, South Africa's provincial urban small-scale farms and community gardens in France and the United States. (Drescher, 2000)

"Probably, as old as our cities urban agriculture has not been an exceptional or a temporary pursuit. Though the nature of cities and of urban food-supply systems has changed, the need for urban agriculture to interact well with the rest of the city, on one hand, and with rural production and imports, on the other, remains as true today as it was thousands of years ago. "(Mougeot, 2000)

"Urban agriculture is an integral part of life for hundreds of millions of people throughout the cities of the world. Many valuable programming lessons have been learned from activities in Asia, Europe, and North America. These experiences need to be shared with city planners and managers in order to further refine on-going efforts." (Sommers, Smith, 1994)

"Smit et al. (1996) claim that an estimated 800 million people are engaged in urban agriculture world-wide; of these, 200 million are market producers, employing 150 million people full-time." (Mougeot, 2000) There are many publications and bi- and multilateral development agencies concerned with urban agriculture in the world. For example, with the key word of "urban agriculture" 7 902 Web sites have been found in a search of the Lycos Web Catalog. 3 240 Web sites in Yahoo-Google, and 6 396 Web sites have been found in Altavista.

An important conference on urban agriculture has been realized in September 2000. FAO (Food and Agriculture Organization) together with the RUAF (Resource Centre for Urban Agriculture and Forestry), based in ETC-International (Luesden, The Netherlands) hosted a virtual conference entitled "Urban and peri-urban agriculture on the policy agenda". The conference took place from 21 August to 30 September 2000 on the web page of FAO (http://www.fao/urbanag/.) The conference attracted 720 participants from all over the world, 210 of them contributed to the planning group discussions. The final report of the proceedings of conference consisted of many proposals recommended by e-conference participants. The site also has many interesting papers on urban agriculture.

The conference emerged that there are obvious differences in the focus on urban and periurban agriculture in developed and developing countries: In developed countries the term is often embedded in "recreational" or "educational" activities and treated as such (allotment gardens, Schreber gardens). In developed countries the environmental aspects of urban open space and green belt management (landscape management, safety against floods, aquifer recharge) are considered more important than food production. In developing countries the focus is more on poverty alleviation, urban hunger and crisis management. (Drescher, et al., 2000)

Urban agriculture

Urban agriculture (UA) is a new concept defining an old practice. The term urban agriculture has originally used only by scholars and the media. It has now been adopted by United Nations agencies such as the UNDP (United Nations Development Programme) or FAO (Food and Agriculture Organization). (Mougeot, 2000)

UNDP (1996) defines urban agriculture as follows: "Urban Agriculture is an activity that produces, processes, and markets food and other products, on land and water in urban and peri-urban areas, applying intensive production methods, and re-using natural resources and urban wastes, to yield a diversity of crops and livestock". (Jacobi et al, 2000)

Accounting for the broader needs of the urban population, FAO-COAG (1999) states that: "Urban and peri-urban agriculture are agriculture practices within and around cities which compete for resources (land, water, energy, labor) that could also serve other purposes to satisfy the requirements of the urban population. Important sectors of UPA include horticulture, livestock, fodder and milk production, aquaculture, and forestry." (Jacobi et al., 2000)

However, due to the lack of an accepted common description of UA, authors prefer to describe urban agriculture with its characteristics. Smit et al. (1996) briefly discusses the connection of urban agriculture with the urban nutrient cycle and with the urban food system. Several authors have further incorporated urban agriculture in their analysis of related concepts, e.g. on rural agriculture (Moustier, 1998); on food entitlements (Lourenço-Lindell, 1995); on food security (Koc et al., 1999); on urban households' survival strategies (Rakodi, 1995); on urban food supply systems (Smith, 1998); on urban land management (Lee-Smith, 1998; Girardet, 1992) and on sustainable urban development (Mitlin & Satterthwaite, 1996). (Mougeot, 2000)

Mougeot (2000), emphasizes "the lead feature of urban agriculture, which distinguishes it from rural agriculture, is its integration into the urban economic and ecological system. It is not its urban location, which distinguishes urban agriculture from rural agriculture, but the fact that it is embedded in and interacting with the urban ecosystem. Integration into the urban system has been crucial to the persistence of urban agriculture, more so to its technological and economic influence over rural agriculture throughout history."

Within this perspective, a comprehensive definition of term by Mougeot is as follows. "Urban agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, (re-) using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area." (Mougeot, 2000)

Why urban agriculture?

"If there is one common denominator amongst urban people of the world it is agriculture. UA, the production of crops and livestock, is practiced by people from all walks of life: elites and recipients of social welfare; gang members and ladies clubs; the physically and mentally impaired; seniors and kids alike. They grow for it different reasons, in all types of locations, and use very different production methods." (Sommers, Smith, 1994) However, according to the gender profile, home gardening is women's business all over the world. (Jacobi, 2000) More than half of the urban farmers is women (80% in Latin America, 60% in East Africa, and 60% in Eastern Europe. (City Farmer, 2001)

Jacobi introduces urban agriculture as a very economic strategy, used by the poorer urban population, to cope with economic crisis. In Africa, Latin America and Asia, in many cases UA activities are often linked with economic crisis. Urban food production is in many cases a response of urban poor to access to food supply. Urban food production can be seen as a crisis strategy, ensuring survival of the poorer segments of the population. Desire for a better habitat e.g. leisure / personal satisfaction or green cities (e.g. maintaining open spaces), waste management, composting are more prominent for those groups who have already satisfied their basic needs or for decision makers and planners as it indicates a vision for the city as a habitat. (Jacobi et al., 2000) For many, urban farming is an alternative way to renewing contact with the land and nature through therapeutic and healthy work. For others it is an increasingly necessary method of obtaining food at reasonable cost. For everyone, it teaches through direct experience something of rural occupations and the basic elements of human survival. (Hough, 1993, p.236)

In some cases UA and UPA is accepted as a component of urban land use. For example, during governmental change, economic crisis or natural disaster period's municipalities place more emphasis on urban food security. Also the efforts to install "urban greening" and high costs of green open space management tend to modify planners' thinking: a more "agricultural" approach or an approach to public private partnerships can help to reduce costs. Involving community programs or youth through e.g. community gardening is seen as a way to de-stigmatize agriculture. (Drescher, et al., 2000)

The content and location of urban agriculture

The reasons and purposes of UA show diversity. But also the areas and context of UA have a great diversity. "A survey conducted by the United Nations Development Programme identified over 40 distinct farming systems with produce ranging from medicinal herbs to aquaculture. " (Sommers, Smith, 1994)

Urban agriculture is recognized as ranging from low-income subsistence farming to middle-income home gardening to agribusiness. (IDRC, 2001) The range of activities and foods grown may be diverse and rich. For example, urban agriculture practiced in London include; commercial farmlands, county farms, allotments, city farms, community gardens, private gardens, school gardens, orchards, parks, temporary / vacant land and/or community gardens. (Garnett, 2000)

In the final report of the electronic conference, Drescher et al. express that: "UPA often uses land prone to seasonal flooding, areas zoned for public open space, land reserves along roads and railway lines, land along power lines, as well

as areas where no other land-use is possible or planned (river banks, brown fields, un-used open space around public buildings)." (Drescher, et al., 2000)

According to Sommers and Smith (1994), it is undertaken wherever land or space is available: residential plots, public access areas, abandoned or vacant lands, balconies, canals, rooftops, etc. For example in Canada, McGill University has experimented with urban rooftops as an open space resource for growing food. (Hough, 1993) Residential resources for urban farming are considerable and include private properties, apartment balconies, rooftops, and in fact almost any space where the individual can grow a few tomatoes or lettuce. (Hough, 1993)

Potentials and risks of urban agriculture

Urban agriculture provides social, economic, environmental and educational benefits to urban settlements and to their inhabitants. "Urban agriculture is one source of supply in urban food systems and only one in several food-security options for households; similarly, it is one of the several tools for making productive use of urban open spaces, treating and/or recovering urban solid and liquid wastes saving or generating income and employment, and managing freshwater resources more effectively. " (Mougeot, 2000)

Van den Berg (2000) emphasizes the multiple functions of UA as agricultural production, managing green open space, nature management, energy heat production/consumption, retail, recycling CO2 (by greenhouse farmers), fresh air and quietness, amenity-'open view', education, employment generation, urban planning reserve, water management (quality/quantity), recreation, care (e.g. of handicapped, stressed), recycling urban waste (solid &fluid), etc.

According to Sommers and Smith, urban agriculture potentially fits into nearly every major on-going program in cities. These activities include environmental improvement, waste management, crime prevention, health care, child nutrition programs, redevelopment/inter-city enterprise zones and education. (Sommers, Smith, 1994)

"A city with agriculture is greener and cooler. The biological transformation of waste and conversion of barren land into a green, productive landscape contributes to a clean healthy city, especially in the first meter above the soil where our children spend their days." (Smit, 1996)

Perhaps the most important functions of UA may be potential contributions to the children for play and nature experiences. Ginsberg explains that "the origin of Schreber gardens (as many allotment gardens are called in Germany) in the second half of the 19th century was not the provision of food to the poor, but rather play provisions for children. Schreber was a pediatrist stating as soon as 1861 that urban development was detrimental to children's health and therefore demanded the development of play areas and facilities for children, garden areas were added later on for "educational reasons" and only with the occurrence of economic crises were mainly used for productive reasons. Children never regained their central position in these gardens even after food supply of the poor had ceased to be a major problem and until today serve more the esthetic demands and recreational purposes of adults than children." (Ginsberg, 2000)

The social meaning of urban farms/gardens (not only in terms of fresh air and green space, but in terms of social contacts, community identity and community culture) and the (play) needs of children as well as the role of women should not be neglected (Ginsberg, 2000) According to Ginsberg's comparative research among 90 European city farms, in urban farming projects animals are very important social mediators especially in densely populated areas and in districts with cultural diversity. (Ginsberg, 2000)

Deelstra and Girardet define constraints associated with UA and its potential role to help improve the ecological performance of cities. One of the major constraints of UA is the lack of space. However there are several advantages. UA can help to create microclimate improvement, conservation of urban soils, waste and nutrient cycling, water management, biodiversity, reducing global warming and atmospheric pollution, and environmental awareness. (Deelstra, Girardet, 2000)

But, like rural agriculture, UA and UPA entail risks to health and the environment if not managed and carried out properly. It is essential to address the health risks associated with urban agriculture for two main reasons: the first is to protect consumers from contaminated foods and farm workers from occupational hazards; and the second is to secure the support of municipal and national authorities for sustainable urban food production. (de Zeeuw, 2000) "The main health risks associated with UPA can be grouped into following categories:

a. Contamination of crops with pathogenic organisms (e.g. bacteria, protocoa, viruses or helminths), due to irrigation by water from polluted streams, or inadequately treated wastewater or organic solid wastes;
b. Human diseases transferred from disease vectors attracted by agricultural activity;
c. Contamination of crops and/or drinking water by residues of agrochemicals;
d. Contamination of crops by uptake of heavy metals from contaminated soils, air or water;
e. Transmission of diseases from domestic animals to people (zoonosis) during animal husbandry, processing or meat consumption;
f. Human diseases associated with unsanitary postharvest processing, marketing and preparation of locally produced food; and
g. Occupational health risks for workers in the food-production and food- processing industries." (de Zeeuw, 2000) "As a principle issue, it is proposed that urban farmers and consumers should receive more information and training on environmental risks (e.g. wastewater treatment and composting techniques)..." (Deelstra, Girardet, 2000)

With the introduction of UA new methods of monitoring and regulation will be needed. "Indicators and measures need to be established for different climates, economies and cuisines. Regulatory staffs need to be retrained and reassigned." (Smit, 1996)

Nugent (1999) attempts to measure the sustainability of urban agriculture and presents a framework consisting of two tables. These are put into three major categories: social, economic and ecological.

Benefits of urban agriculture: Marketed or non-marketed agricultural production; indirect economic benefits, such as, multiplier effects, recreational benefits, economic diversity and stability, avoided disposal costs of solid waste; social and psychological benefits, such as, food security, dietary diversity, personal psychological effects, community cohesion and well-being; and ecological benefits, such as, hydrologic functions, air quality, soil quality.

Costs of urban agriculture: Inputs: Natural resources, such as, rented or purchased land, vacant or donated land, water; labor wage and salary labor, volunteer, unemployed and contributed labor; capital and raw materials machinery and tools, fertilizer and pesticides, seeds and plants, energy (fuel oil and electricity). Outputs: pollution and waste, such as, soil quality impacts, air-quality impacts, water-quality impacts, solid –waste and wastewater disposal...

Nugent offers to employ a common framework for assessing the nature and distribution of costs and benefits. By using that framework policymakers can discuss the sustainability of urban agriculture and develop appropriate policies.

Farmers, sociologists and landscape architects much have declared the benefit of UA. But urban planners don't seem to be much interested in this issue. The best way to increase concern on this subject may be examining the factors associated with the urban agriculture.

Basic and supporting factors of urban agriculture

Urban agriculture requires some basic and supporting conditions. These factors can be grouped into five major areas. These are natural, socio-cultural, institutional, economic and infrastructure conditions.

Basic factors or preconditions:

. Natural conditions (amount and seasonality of rainfall and temperature,)
. Physical infrastructure and services (availability of water and space.)
. Socio-cultural conditions (household farming traditions and food preferences)
. Institutional conditions (legal framework for urban production, access to space, access to water)
. Economic conditions (urban labour market, the shortage of adequate and accessible income opportunities and unsatisfied demand for agricultural products in quantity and quality) (Jacobi et al, 2000)

The natural conditions should allow crop cultivation and/or livestock keeping. Physical infrastructure and services should be available, at least to a certain extent. The socio-cultural conditions should be in favor of farming, at least within the part of population. The institutional conditions do not prevent access to certain resources for urban agriculture. These conditions can be supported by some additional factors. Supporting factors make it easier for people to get involved in it and raise its preference as a survival strategy against other alternatives.

Supporting factors for of urban agriculture:

. Natural conditions (soil conditions, good yields and lower expenditure for fertilizers and irrigation, but also low pest and disease pressure and limited hazards)
. Physical infrastructure and services (the availability of inputs, access to formal or informal credit, urban extension service, the quality of water and land (e.g. availability of tap water, fenced and therefore secure plots, drainage), integration of organic waste management in cities (urban nutrient cycling)
. Socio-cultural conditions (the degree of self-organization of urban residents, farmers, e.g. the formation of user-groups, co-operatives, associations, organizational capacity of the farmers, public acceptance of urban agriculture, degree of awareness on food quality, acceptance of individual property rights)
. Institutional conditions (capacity of organizations to adequately fulfill their mandates (implementation of existing legislation and efficient delivery of services e.g. water supply to communities, allocation and use of land, better integration of waste cycling and environmental protection in city development), political acceptance of urban agriculture e.g. permissive or supportive laws for urban agriculture)
. Economic conditions (economic conditions which are linked with physical infrastructure, e.g. shops which sell seeds, tools etc., farmers access to formal or informal credits and saving schemes, access to different market channels) (Jacobi et al, 2000)

In practice, case studies indicate that the importance of these factors and conditions are subject to change in accordance with their relevance for implementing urban agriculture. If the food security is the first incentive, even if the basic conditions (e.g. availability of land, access to land, availability and access to water) are problematic, urban agriculture emerges as a survival strategy.

Implementing urban agriculture

"The ultimate objective of an urban plan is to create a livable city -relatively free of conflicts among dwellers and users, providing for the needs of its citizens, and maintaining its natural resources. The role of urban and periurban agriculture in a city plan is to contribute those ends. Urban planning should incorporate UPA in order to improve urban sustainability; enhance the urban food system, especially food security; and avoid or minimize conflicts between agriculture and the other resource-use activities." (Drescher, 2000)

"A fundamental step in order to set the right conditions for city farming is to develop an urban agriculture plan and policy, recognizing the interrelated nature of food, agriculture, health and ecology by forming a municipal working group that can deal with food issues from a total system perspective. This could involve, among others: the health department, planning department, engineering, local economic development, and water management and waste management. Following this, the urban agriculture plan should be incorporated into the land-use planning system. This implies that urban agricultural activities are recognized as major components of green zoning systems, for which a dedicated policy must be formulated, developed and implemented." (Deelstra, Girardet, 2000)

Ginsberg reminds the educational functions of UA and proposes that: to be included in planning process urban farms can be addressed as community and youth service as well as educational infrastructure and not only as "agricultural land". In fact under some circumstances it may be easier to promote their inclusion in the urban planning process if treated as the former rather than the latter. (Ginsberg, 2000)

Based on practical experiences basic requirements for including UPA in planning are as follows: "Obtain the interest of political leadership; the institutional set-up of a specific city determines the stakeholders involved; a coordinating body is needed, linked with the policy level, include stakeholders from policy, research and action levels; organize workshops and plenary session on UPA open to all stakeholders as a forum for participation, awareness creating and discussion (Zambia); map actual land use (particularly public and institutional idle land), and potential future land use (Latin America); map city expansion -including population figures and expected growth rates; map food insecurity pattern; examine the gender profile of urban farmers, incorporate environmental aspects (hazardous sites, protection of water catchments area, erosion control etc.), form community committees/organize community meetings; use scaling-up principle (The Philippines); start with demonstration and training sites (Samoa)." (Drescher et al., 2000)

Planners can help to improve the food system, e.g. compiling data on the community food system; analyzing connections between food and other planning concerns, such as environment, transportation, housing, health, land use, etc.; assessing the impact of current planning on the local food system; integrating food security into community goals; and educating future planners about food system issues. (Pothukuchi, Kaufman, 2000)

Planners can assist poor families to access farming in the city through: recycle farms (at the dump /landfill and below the sewage treatment plant); natural resource conservation farms (on steep slopes, floodplains or over aquifers); use of buildings (roofs, walls, balconies, rooms) for food production (edible buildings); integrated use of home gardens, backyards etc. for food production and aesthetic purposes (edible landscapes); secondary use of institutional and public lands (farming along railways, under power lines, in a park, military base, school garden, golf course fairway or airport-approach farms); and public-private partnerships between companies; city councils, state enterprises and urban and periurban farmers could serve as a vehicle to establish stable agricultural activities in and close to cities. (Drescher, 2000) Planners can contribute to these opportunities by identifying appropriate ones for farming activities, encouraging the infrastructure developments needed by farmers, and implementing protective measures to provide land security (Drescher, 2000)

The integration of agriculture in urban development planning can be achieved by the following measures: the revision of actual urban zoning bylaws and the integration of UA in zoning plans; promotion of UA as a temporal use of vacant public and private land; promotion of multifunctional land use and encouragement of community participation in the management of urban open spaces; the inclusion of space for individual or community gardens in a new public housing projects and private building schemes. (de Zeeuw et al., 2000)

Conclusion

This paper attempts to understand and introduce the term of urban agriculture to the attention of planners. The paper also points that there is need for more effective policies to encourage urban agricultural activities in the city. Local administrators may support for establishing such areas. They further support inhabitants in providing required items for UA, such as soil, fertilizers, water, trash collection, marketing, etc. Thus, vast unused urban open areas can be utilized for the benefit of the inhabitants of the cities, as well as a major input for the economy. Yet, there remain many issues to be discussed about the legitimacy and the viability of urban agriculture. It is my concern that urban agriculture will be usefully contributed to more livable cities. In addition of these multiple advantages urban agriculture stands as a practical formula to integrate the urban inhabitants with the nature they have so far neglected. The proposal of urban agriculture may sound idealistic even romantic. But it is obvious and realistic that we have many lessons to learn from nature. And the best and easy way of it is to be close to the earth, incline to it and just see its generosity.

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Vineyard concept in open and green space system of the Anatolian cities: Konya-Meram case

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Abstract
Viniculture which is both food and livelihood source for agriculture producers has importance in social and economical aspects of our country. Viniculture is a kind of traditional lifestyle in Anatolia. The distance of vineyard areas to urban settlements determines their usages. If the vineyard is close to residential areas, people go to their work daily, if it is far away, people go to their work by migrating temporarily. Another reason for temporary migration is the usage of houses during summer months. Accommodation at summer houses is a kind of living style for some people who migrate temporarily from settlements to high, cool and beautiful-scenery plateaus or vineyards. Vineyards which have social-economical qualities can also be used for recreational purposes. Vineyards which are close to settlements lose their traditional structures since they are chosen as settlements by the people who want to live away from dense urban areas, air and noise pollution. Today, vineyards have been turning into prestige regions where luxury houses are located. Konya-Meram vineyards are the most identifiable examples for this transformation. While world-wide famous Meram vineyards are hosting upper income class, they also carry important green space characteristics in the whole city formation. In this study, transformation process of vineyards into settlement areas was examined and the importance of present structure of the open and green space system of Konya and it's evaluation for future city formations will be emphasized.

1. Introduction

Mankind, beginning from his earthly existence, has always encountered with the nature in order to survive. Rapidly increasing population, technologic and economic advancements have caused the nature to be affected negatively and many natural elements to be gradually passed away. These negative advancements in the physical environment have almost demolished the relation between mankind and nature. However, open and green spaces have great significance in specifying the cities as locations which contain appropriate requirements to live.

Open and green spaces in urban and rural settlements are the petty or large-scale surfaces and empty areas that people make use of for their recreational needs. Such areas serve as the places that people who live in cities can use for their physical and psychological needs and for their leisure activities such as resting, entertaining and making sports (Pamay,1978).

Open and green spaces, making the people who are alienated from nature get closer to it, are the urban areas which help out to re-establish , to continue and improve the human- nature relationship. Open and green spaces, surrounding a building on the smallest scale, provide the possibilities of sun shine, natural light and way of living to be transferred outside. Open and green spaces in the level of urban settlements take the responsibility of saving the urban characteristics as well as affecting them. However, open and green spaces on the scale of regions form the extensions of rural areas. Regional open and green spaces are prone to saving the nature.

Open and green spaces, without considering whatever scale they have, have got several functions for urban areas. These functions can be got together under three main headings as the function of recreation, the function of ecology and the function of organisation (Şahin et.al.,1998).

The Viniculture fields which exist in suburban areas and called as private open spaces are of great significance for urban settlements as being very important open and green spaces. Having been situated within the most appropriate climate zone on Earth for viniculture, Turkey have got a very old and original viniculture tradition. Viniculture that contains a social characteristic as well as an economic one has been a traditional way of life in many parts of Anatolia. The distance from viniculture fields to the settlements specifies their usage. If the vineyard is close to the residential areas people commute from their houses to the vineyards, but if they are far away from the residential areas they carry out their functions by migrating. Another reason of migrating seems to be vacation. Plateaux or vineyards which are cooler and more picturesque and have got a higher altitude than residential areas are preferred to be migrated for certain periods of time (Somuncu,1996).

As far as social & economic characteristics are coucerned, viniculture areas, at the same time, enable recreational aims by offering such a possibility and chance for people to be a part of nature and to live in it. They create positive effects in urban areas in terms of ecology and microclimate. They enable agricultural production as well as leading the forests to continue their existence. The viniculture fields, having a potential as being the green spaces in the suburban areas, are facing with massive urbanisation demands. These areas, amalgamating with urban places, appear to be such

prestigious places that include luxurious houses for the ones who wish to live in a natural neighbourhood, being far away from the problems of urban habitation.

Meram viniculture fields are one of the distinctive instances of this rapid metamorphosis like many settlements in Anatolia such as Safranbolu viniculture fields, Hisarcık, Talas and Hacılar viniculture fields of Kayseri city .

2. The historical progress of Meram vineyards

Konya and its neighbourhood which is one of the oldest settlements in Anatolia have been a cradle of many civilisations. Konya, with its geographical location, fertile lands and cultural potential, is one of the most significant agricultural, industrial, cultural and commercial centres of our country, Turkey.

In Konya, the viniculture fields are particularly in the south, east and the west sides of the city. All these appear to be Lalebahçe, Yorgancı, Çay, Çelebi, Sille, Hocacihan and Historical Meram viniculture fields.

The historical Meram viniculture fields, situated along the Meram Stream and formed in Dere Valley Between the Bozdağ Mountain, are the summer habitation location which is five kilometres in the west of the city centre (Karpuz,2000).

The history of the Meram settlement begins with the history of the city of Konya. Archaeological excavations, carried out on the Alaaddin Hill between the years of 1944 and 1946 have indicated that Konya had founded and inhabited by Phrygians in the 8th century AD. What is more, in the archaeological excavations in Meram that is situated in the green valley on the slope of Takkelidağ, many ceramic remains from Phrygian, Roman, Byzantine and Seljuk times were found (Önder,1999).

Meram vineyards gained its historical identity and reputation in Seljuk times. Seljuk Sultans got villas similar to the ones in the city centre built on Meram slopes in order to stay during summer months. When Cem, the son of Sultan Mehmet the conqueror, was the governor of Konya; he, with his royal personnel, stayed in the villa which was in Meram in order to spent summer and spring months. Meram was an unchangeable summer destination in spring and summer months also for the world-wide famous Turkish-Islamic philosopher, Mevlana, who lived in Konya. He wrote the considerable amount of his well-known work named Mesnevi and the most enthusiastic lyric poems here.

Meram whose name had been mentioned in many documents, poems, myths and legends in the times of Seljuks and Karamanoğulları, also kept its reputation in the times of Ottomans as well and some famous guests, rulers, princess and sultans who came to Konya were treated with respect here. Meram has also been praised to the skies by many wayfarers and travellers. When the well-known traveller of the 17th century Evliya Çelebi came to Konya, he praised Konya by the following lines: " In comparison with Meram vineyards of Konya, the Baruthane picnic spot of the city of Peçevi, the Sudak viniculture fields of Crimea, more than a hundred and seventy gardens of Istanbul, Şah-ı Cihan vineyards of Tebriz are just very simple gardens and almost nothing." (Önder, 1999). That is so apparent also by these lines that Meram is one of the most important resorts and recreation spots of Konya and of the world as well.

In Seljuk and Ottoman times viniculture had an important role in the economy of the city. Gut, dimrit, gemri, aldiriz and büzgülü types of grapes were grown in the Meram vineyards. The other fruit and vegetables that the city needed were obtained from the gardens in which apricot, plum, apple, sour cherry, almond, walnut and pear trees were also grown as well as the grape fruit. The majority of the population in the city who had gardens and fields migrated to Meram, worked on their fields and prepared their food for the winter and turn back to their houses in the city after the vintage in October. Thus, it was that human-land-viniculture relation which created a fairly rich viniculture tradition. Another reason for the migration of people to the vineyards was health reasons. The fresh air and clear water of Meram have always been a source of rejuvenation and recovery for many sick and weak people (Figure 1).

When the viniculture fields were migrated, people stayed in thatched cottages. These houses differed according to the income level of the owner that, they appeared to be either only one-storey simple houses or luxurious villas. Çelebi, Yıldız and Köyceğiz villas which were included by the latter group are the famous buildings that are mentioned with Meram viniculture fields (Özönder,1997) (Figures 2-3).

Besides the natural beauties , the historical buildings of Meram which witnessed the past has also great importance. The Tavusbaba Tomb on the hill of Tavusbaba, the Meram Bridge, built by Seljuks , over the Meram Stream, The Meram Baths on the south bank of the stream and cisterns pinpointed in the vineyard fields are the places that are visited by many domestic and foreign tourists.

Today, the natural sources of Meram can not satisfy the needs of the city due to the increasing population. In the early years of the Turkish Republic, the water of the stream has reduced due to the usage of the stream in electricity production. Therefore, the vineyards started to dry up. In addition, the increase in population, urbanisation activities and transposing economic conditions made the viniculture tradition to lose its importance and tarnished its reputation (Meram Belediyesi,2000). As a result of these chances, the Meram vineyards were exposed to a considerably intensive demand of construction and the modest cottages started to switch to modern and luxurious villas of the people of upper income group who wanted to live in nature, away from the polluted air, noise, glumness and tension of the city. This transposing in the vineyards caused the natural beauties to be exposed to a considerable danger of vanishing.

The green character of Meram which has been losing its natural and historical qualities owing to these negative conditions, was guaranteed by the Committee of the Conservation of the Natural and Cultural Riches of Konya by issuing the statement numbered 1199 on 12.12.1991 containing the manifesto that this area was declared as a natural protection area of first, second and third level of importance and ninety two trees of silver poplar, oak, ash tree and plane tree were specified as being "Monument trees". The density specified as one house to 2000 m^2 in the

Environmental Order Plan prepared in 1985, was changed and redetermined in the Protection Aimed Architectural Plan which was approved on 25.05.1997 and revised in 1999 as one house to 1300-1600 m^2, E=0.15, Hmax= 6.50 m in the natural protection areas of the first and second level of importance. By this decree, Meram is aimed to continue its green existence by having houses with gardens. On the either banks of the Meram Stream which still have been drawing the most attention as a recreation area and a picnic spot, new recreation areas have been built such as cafes, buffets, toilets and social-cultural buildings (Batu,1997).

3. The significance of the Meram vineyards in the open and green space system of Konya

In the integrity of open and green areas of Konya, Meram vineyards region is the place at which the green strip going from the centre of the city towards west has come to an end. The total area of Meram, serving as a green belt for the city, is 1340 acre They are the modest vineyard cottages of the land owners which exist within the natural protection area of the first level of importance where it is banned to build any buildings. This area which can be named as passive green space has got an undeniable importance for the green area character of the city.

The natural protection area of the second level of importance which satisfy the active recreative needs of the people of the city is 865 acre including The Tavusbaba Tomb and Aydın Çavuş Grove is a place where people can use the area for walking, resting and sightseeing. Meram Stream that contains walking paths, parks, resting points and picnic areas on its either bank and situated at the end of the Meram Road is the most preferred recreation area by the local people.

The natural protection area for the third level of importance in which the construction activities go on rapidly is 125 acre. This region, by being preferred to be inhabited by the people who are within the upper income group, is considered to be the prestigious residential area due to its imposing villas and gardening arrangements. Of this area whose green character, by the density regulations, is purposed to be kept in the format of houses with gardens is consist of 15025 m^2 of parks for children, 94980 m^2 of parks and 108484 m^2 of sports fields (Önder, 1997). The gardens of the houses are also very important in order to satisfy the green space needs of the public. By arrangements in the gardens of these one or two-storey houses, several needs are satisfied. Thus, these arrangements make the demands of public on shared living areas such as parks, parks for children and sports fields partially reduce.

4. Conclusion

In many parts of Anatolia, the viniculture areas which have got a great importance from the point view of economy are the areas that make the people who are alienated from nature get closer to it again. Vineyards, having been surrounding the cities as recreative spots in the suburban areas are being converted into urban areas and exposed to the danger of losing their traditional origins. Measures must be taken in order to protect, to transfer these valuable lands to the future generations and to improve the conventional viniculture tradition.

Meram viniculture fields which are world-wide famous with their unique green character and viniculture tradition, are the most preferred recreative spots for weekdays and also for weekends regardless of seasons by people like the ones in many different Anatolian cities. Today this summer habitation, the viniculture fields, which amalgamates with the city centre forms a different sort of natural, cultural and environmental integrity with its natural beauties, traditional architecture and historical buildings. The green character of Meram which forms the majority of the open and green spaces of the city, its viniculture tradition and its historical values must be protected and the planning studies must be organised in order to provide a perfect protection.

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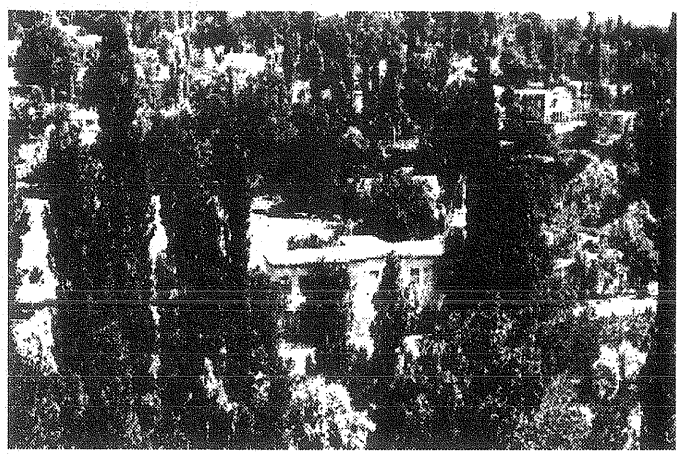

Figure 1: A view of Meram vineyards in early 1900s

Figure 2-3: A famous vineyard villas of Meram

An in-place employment project: "organized greenhouse district"

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Abstract

The planning activity, which continuously aims to control the spatial sprawl of industrial production and adapts other land uses within the process so as to provide the most suitable and the most profitable location choice for industrial production, has largely succeeded to overcome the tension faced with the help of organization constituted within the sector. It becomes possible to constitute a set of institutional regulations by the spatial collectivity and to manipulate urban development by utilising the vast employment opportunities created by industrial establishments.

Despite the existence of urban areas that have fostered spatial organization tools in terms of industrial production, it is hardly possible to see similar organizational attempts in rural areas. Within the context of paper, industrial mode of production and the advantages of cities, as the place of this production, gained through such organizational structure within the sector, balanced use of natural sources and labour-power and the facilities in urban planning formed by several spatial arrangements will be summarized. In this connection, the principles of spatial arrangement, which will be used in agricultural production and implementation tools will be sought to determine.

A similar approach in the rural area is defined as 'Organized Greenhouse District'. The spatial collectivity, which will take place in agricultural production with reference to organized greenhouse districts, will undoubtedly lead to numerous advantages in the entire rural life. However this section is a subject matter of a more comprehensive endeavour and within this research, criteria for the allocation of organized greenhouse districts will be determined and the role of mentioned spatial organization in preservation and balanced use of sources will be examined.

1. City as a Product of Organization

In the point the humanity reached,
the allegation/theory that cities are a compulsion can be acceptable
however, the postulate that
all cities will develop industry-based can never be accepted.

While cities, as models of a top-level organization in history of humanity, express a compulsion for communities to live together, urban areas as cultural products have entailed the alienation of both individuals and communities to natural living environments and natural settings.

It is known that in the post-industrial era, the land is no longer regarded in ways known for centuries, but now being shaped according to the demands of the recently established economic system (Demirer *et al.*, 1999). The industrialist system and the accumulation relations determined by this system have emerged as the sole determinant of the urban physical layout in this process. While a continuous expansion can be observed in cities defined as "the spatial precipitation of industrial production mode", in a parallel activeness, urban planning attempts to complete the spatial distribution in priority of industrial production.

In addition to the industrialization movement in urban areas, a dense specialization is experienced within specific production activities and in succeeding years, cities that could institutionalise the mentioned organization are to have developed more. This organization affects the process of production and consumption and also provides convenience pertaining to the details of the -modern-daily life. While the spatial collectivity in terms of production activities gain an operative characteristic within the capitalist production relations, similar business branches are observed to form scale economies by standing together.

2. Industry, Organized Industry and Urbanization

Owing to industrial revolution, industrial production has been considered as the foremost urban land use type since it plays a dominant role in urban development, and the processes of industrialization and urbanization have been called in a synonymous and synchronous way. Industrialization has concentrated on specific regions as a result of the need of industrial production for natural sources and labour-power. Regional inequalities, specifically as a result of the unbalanced distribution of natural sources in nature, have arisen following the concentration of spatial preferences of industrial establishments in the same locality. As a result of the provided employment opportunities, central areas consisting of

production units have drawn in a wide migration particularly from rural areas. In this way, industrialization and urbanization have involved in literature as the two important concepts that display mutual causality.

Industrial establishments were located at the centres of cities that developed in post-industrial period. The concentration of production in places with higher accessibility has resulted in the insufficiency of central areas in terms of quality and quantity both (Işık, 1995). The close proximity of industrial establishments to residential areas within the city has in time caused many physical, social and health problems. Slum areas, housing the demanded labour-power, were implied by the close proximity of industrial units deprived of necessary infrastructure and social facilities.

In time, with the effects of the development of industrial production and various reactions arising from social structure, industrial units located at the centre have been pushed towards the peripheral areas. The mentioned decentralization process has been concluded by the overall purification of central area from industrial functions. However, cities have displayed a demographical and spatial growth and development with the migration movements as to constitute both the causes and results of urbanization. In order to confront the emerging circumstances industrial establishments, which have been pushed outside the central area and been forced to choose location in the peripheries, have stayed once again within the urban residential area. Consequently, industrial establishments in urban periphery, partially far from control and deprived of necessary infrastructure and facilities, have emerged as the fundamental reason of greater problems of infrastructure and environmental pollution.

The adverse effects of industrialization over urbanization have arisen the necessity for the arrangement of industrial districts and the minimization of environmental problems. Following this, a formation process of industrial estates, industrial complexes, and organized industrial districts have commenced where low-cost transportation, mass-production and land were available.

3. The Connection between Urban Planning and Being Organized

When urban planning is formulated as the rehabilitation of urban life and aestheticalisation of urban space within an action area operating for public interest, the major problem faced is the appropriate location choice of industrial production in revitalization of the mentioned objectives. When city is defined as the "spatial precipitation of the industrial production", urban planning is rather concerned with the completion of spatial distribution in priority of industrial production. Indeed the planning activity, which continuously aims to control the disjointed growth and spatial expansion of industrial production and adapts other land uses within the process so as to provide the most suitable location choice for industrial production, has largely succeeded to overcome the faced tension with the help of the organization formed within the sector.

The establishment of organized industrial districts certainly provides great facilities for the planning discipline. Organized industrial districts can effectively be used by planning authorities as a tool in succeeding the urban development just in the desired location. Moreover, it becomes possible to manipulate the urban development by utilizing the vast employment opportunities created by these industries.

Depending on the organization within the sector, industrial establishments that display a regular and controlled development and urbanization ensure compulsory investments in infrastructure during the establishment phase. In the following years, the mentioned compensations are not collected from the citizens as social costs. Therefore, the more rational use of social fixed-capital becomes possible as the solutions for these problems are encountered in the establishment phase. In this way, the extravagant use of already scarce sources can partially be prevented. The gathering of industrial establishments within an area both minimizes the required infrastructure costs and provides a setting, which avails for the formation of external economies.

4. An In-Place Employment Project

It is clear that the problems experienced in rural areas such as landlessness, insufficient income and the deficiency of social services and facilities, lead rural people to new ways of searching. Besides, urban area is an important centre of attraction with its supply of employment and social services. It becomes difficult to keep rural people in-place when living conditions in rural area that get harder in the course of time is accompanied with the amenities offered by cities. As it will be seen by examining the results reached by the development practices, demands concerned with the balanced regional development and removing the rural-urban segregation can only be possible by the sub-expansions that can keep rural people in their locality and employ them in-place.

All projects implemented in rural area are to be successful only when such a reality is seized. In this context, rural development policies, which are involved in the programs of political parties and can occasionally have the chance to be implemented, have most of the times failed as a result of the misconception of rural life reality and their short-term application period.

The opinion in the disquietude, emerging as a result of the deficiencies in social service supply would be concluded by the satisfaction in educational and social service needs of rural settlements, and the conception of the necessity of source transfer for various activities that take place in rural area...All similar approaches that were once involved in party programs for a period and were supported by the different parts of the community, consist of superficial programs and projects that are unable to cover the economic, social and physical dimensions of the issue. A project, which will keep the rural population in-place and provide for the lacking services in the rural area, can only be realized with a discernment that acts with the dynamics of rural area.

In this respect, the realization of physical arrangements aiming at encountering the problems of landownership structure and dominant natural conditions effective in agricultural production should be achieved. The spatial arrangements, which will be achieved in the rural area, and economic gains, which will be provided in accordance, will have specific reflections over social life. Innovations and arrangements that will develop and strengthen the social structure in rural area in terms of ensuring the social comfort, preventing the social conflicts, removing the class disparities and forming a healthy and efficient individual and community structure, should take place parallel to the transformation in economic structure.

5. Spatial Organization in Agricultural Production

Despite its endurance and continuity, land as a major component of agricultural production, is a source with a limited supply in the long term. Though the proliferation of land through production is impossible, almost the entire land available for agriculture is being processed. This means that the augmentation of the quantity of land available for agriulture is not possible. Despite this, the existing agricultural land is being consumed in terms of quality and quantity with out-of-purpose uses. The reformation of the topsoil layer, which has been eradicated or has lost its quality due to misuse and erosion, takes quite a long time.

The agricultural sector leads to an ambiguity as a result of the special features like the dependency of agricultural production on natural conditions (humidity, precipitation, temperature and so on), seasonality of the large proportion of the product, multiplicity of conditional product type and the impossibility of the control of natural conditions on a vast scale.

One of the effective transformations in the maximization of agricultural fertility is the development of land for irrigated agriculture. Deficiency of humidity decreases the fertility. Researches on various products of diverse regions have shown that the production can be multiplied by irrigation. However, transition to irrigated agriculture has usually entailed the production of plantation. Despite the high efficiency rate obtained from land in the short term, major problems are to be confronted in the long-term as a result of the continuous plantation of the same product.

It is obvious that, agricultural land does not increase proportionally with the growth in population and moreover some parts of land become unusable as a result of the natural circumstances such as aridity and erosion caused by water and wind. On the other hand, some parts of land are left out of production as reserve areas for the establishment of settlements and industrial districts and for the construction of transportation facilities such as highways, railways and airports. Furthermore, such a practice is arranged and encouraged by legislations as well. Since the development of settlements and the extension of industry and tourism based built environment are directed towards the agricultural land, the boundaries and functional allocations of "the districts, which will be left out of agricultural activity" will be determined by the province-scale institutions and these districts will be declared as residential, industrial and tourism districts (Devlet Planlama Teşkilatı, 1984). Seen as such, the agricultural land under the threat of urban land uses has undergone qualitative and quantitative changes through a set of functional allocations and legal arrangements. Therefore, preserving and improving the land and sources in limited agricultural areas and increasing the production capacity of land by other cultural precautions are essential in satisfaction of needs.

Owing to a set of special arrangements achieved in agricultural production, it is possible to increase the amount of product to be obtained from the limited agricultural land. The greenhouse method is such sort of a special arrangement that is based on the principle of taking control over the climatic conditions. The achievement of gaining control over the climatic conditions, whether partially or completely, makes the acquirement of almost all sorts of product possible without depending on the ecological conditions. Moreover, it provides a balanced distribution of employment in agricultural production throughout the year by decreasing the dependency on the natural forces and processes.

In the production by greenhouse method, which differs from the open land production, greater infrastructure is needed. Interventions, which will be provided in the greenhouse area such as irrigation canals, arrangements for energy supply, road construction and drainage, all bring extra costs. Furthermore, such a method of use disables the balanced and economic use of natural sources.

The special arrangement, which will be achieved in terms of organized greenhouse districts, enables the satisfaction of infrastructure demand collectively and the use of natural energy sources. The principle of utilizing agricultural land existing in the close proximity of geothermal sources, which will be included in site selection criteria for organized greenhouse districts, will provide the fulfilment of the need for energy in natural ways. In this respect, the achievement of plans in accordance with the capability of land and the balanced use of sources will also be possible. The control of agricultural production and relevantly, the planning of agricultural product will be achieved as a result of the expansion of these areas under the guidance of the experiences gained through the arrangements in organized industrial districts.

It is possible to define the organized greenhouse district as a constitution that aims to transform the arid, infertile and naked land pieces with definite boundaries, which are essential in the placement and improvement of greenhouses within a specific plan, into an allocatable and manageable land. This transformation process follows the equipment of land in terms of both infrastructure facilities (dividing up the land into plots, construction of roads and drainage, provision of water and electricity and other physical components) and social institutions (postal service, fire-brigade, health facilities, security services and other social components), which will be determined upon requirements (T.C. Sanayi ve Ticaret Bakanlığı, 1999).

One of the most important tools/phases in the realization of the organized greenhouse district concept is the land consolidation. Land consolidation can be defined as a compulsory arrangement achieved upon the demand of villagers or land reform programs so as to increase the fertility in agricultural production and prevent the inefficient production of agricultural

establishments caused by the fragmentation of landownership. Such an intervention includes the consolidation of land into larger pieces to a degree that enables the fertile agricultural activity (Keleş, 1998).

The land under the domain of producer, presents an unbalanced and unjust status in terms of ownership. On the other hand, problems faced in the agricultural structure, specifically in ownership pattern, obstruct the fertility and services such as irrigation, drainage, land conservation, levelling and betterment cannot be achieved for being economically inappropriate. In this sense, attempts in land consolidation that ensure the economic and technical appropriateness of agricultural infrastructure, are essential in the completion of preparatory studies in the area, which will be selected as the organized greenhouse district.

With the establishment of organized greenhouse district, land remains in villager's domain and it becomes possible for the mentioned spatial organization to serve for the rural development in real sense. In case of succeeding in the land consolidation, irrigation systems, drainage canals and water mains within the field are established in a more economic way. In this respect, the realization of organized greenhouse is facilitated. Land consolidation minimizes the investment costs by facilitating the irrigation and establishment of emptying and water networks. It enables the economic use of water as being the most important input in agricultural production. The most importantly, it ensures the social comfort in the project area.

Conclusions

The main aim of the paper, as previously stated, is defining a program, which will facilitate the rural life and ensure the mentioned development objectives. It is obvious that the achievement of the mentioned objectives can only be possible within a program that includes the social and spatial arrangements. Within the context of paper a set of spatial criteria, required for the establishment of organized greenhouse district, is sought to be determined. Rural structure, which will be organized under the guidance of mentioned parameters, constitutes a pre-condition in the ensuring of transformations desired in the social structure. The spatial criteria concerned with the site selection of organized greenhouse district can be classified as below. According to these:

- Areas in close proximity to renewable energy sources (such as geothermal reserve areas),
- Areas accommodating the appropriate climatic conditions for greenhouse work,
- Areas unavailable for the open agriculture and display an inactive situation including appropriate climatic conditions and geothermal potentials, and
- Areas primarily including the accessibility facilities will be allocated to organized greenhouse districts.

Additionally, with the buffer-zones, which will be formed by the allocation of land for organized greenhouse district in order to preserve the qualified the agricultural land under the threat of urban development, it will be possible to preserve the agricultural land in urban periphery.

The factors that effect the site selection of greenhouse districts can be classified into two as:

- Ecological factors: including light, heat, wind, precipitation, soil, water and topographic features.
- Economic factors: including issues such as proximity to transportation routes and residential area, market demand, fuel, manure, disinfectant and provision of electricity and employee (T.C. Sanayi ve Ticaret Bakanlığı, 1999).

The success gained by the concept of being organized in regard to the organized industrial district experience, specifically in the preservation of natural data and in the gains provided through social and economic structure, has been tested in different geographies in recent years. Similarly, an organization, which will be defined within the rural area, is expected to have an instrumental characteristic in promoting the economic mobility, which will keep rural people in their own land. In this respect, the achievement of physical arrangements, which aim to solve the problems concerned with theownership pattern, natural conditions in agricultural structure etc., should be given priority. Consequently, the spatial organization certainly constitutes the pre-condition of succeeding in a desirable social and economic transformation.

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Main Factors For The Sustainability Of Rural Settlements Case For Artvin Province

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Abstract

Traditional rural housing environment may be regarded a physical environment which reflect most successfully the social structure of the community in a given time period. The spatial dimension of rural settlements formed by moulding successfully the society's social, economic and cultural characteristics and its technological opportunities.

In cities, due to modernisation, the essence of architectural variety has been disappeared gradually. The rural settlements too got their share from this transformation. Because, development in industrialisation and technology promotes to spreading of some urban functions in to rural areas which, in turn, causes to change in rural activities leading to rural-urban continuum in time. In these settlements, the architectural products, formed by an authentic way of rural life, have been affected negatively from such transformation process. However, in traditional rural areas, today, there are still living environments that are harmonious with natural environment and sustain their own culture.

Industrialisation and urbanisation cause to many environmental problems, i.e. air pollution, traffic noise, crowding, etc. As a result of these, urban dwellers turn to face to rural areas desiring to live within nature. The second housing, even in some cases first housing requirement in rural setting have been increasing gradually. Especially the villages, which have recreational facilities, natural beauties, cultural heritage and vernacular housing moulded by rich architectural culture are preferred for settling. Although the planning laws allow to housing development in such areas, it is not clear how and under what condition the planning permission should be given and planning application should be auditing.

In this context, it is necessary a detail research on rural areas in relation to not only rural activities and resources, but also to village site planning and housing environment. Rural housing and its surroundings will be analysed by means of photographs, surveys and interviews.

INTRODUCTION

Unlike the urban areas, rural areas have different settlement characteristic, depending on the social structure, economic priorities and environment. The rural and the urban have different features and are two concepts, having different spacial qualities.

Rural architecture is defined in many ways such as folk architecture, ananoymous architecture, vernacular architecture, architecture without architect or traditional arthitecture etc. (Sümerkan, 1990). In parts it also possible to see above mentioned architecture even in cities; However regional and personal architecture are no longer prefferred as they were in the past. The core of arthitectural variety is slowly disappearing in cities, partly because of globalization. The same standart solutions for any urban problem bring some negatif results for liveablility.

Still, today there exists settlements having natural surroundings, living its own culture and reflecting its own way of life to its architectural environment. The elements of nature such as topography, climate, water and green have an influence on the location of the built-area, the choice of material and structure when all these environmental elements combine with the socia-cultural structure of the living environment, an original regional and rural architecture is created. Eastern Black Sea rural settlements have an important place with their local and original formation organisations among the regional and rural settlements. (Özgüner, 1970; Tosun, 1983; Çevik & all 1994).

The ortation and communication facilities with the increasing tecnology, started aprocess of change in rural areas, not as rapid as one in cities, though. This process of change has altered the expectations, the desires and living standards of rural people and made them seek new solutions. As it is known, change is necessary and unavoidable for the sustainability of culture. It is important that the dreamsand wants of people should be answered in this process (Rapoport, 1969).

The urban activities that are now gradually transferred towards rural areas due to industrialization, transportation facilities, social tendency and expectations, cause changes in rural activities. The unconscious architectural formations of the rural architecture are affected in a negative way by this process of change and rural architecture is damaged to some extent. Sustainability of rural architecture will be possible only if it meets the changing expectations and wants of the community.

What makes certain traditional environments modern and permanent is the realization of a synthesis that would be acceptable for all the times. The reflection of living style to the space can be made possible by means of considering the three basic concepts; material, rational structure, the suitability of structures with the environment, only through a full analysis of these concepts that basic causes and criteria for the modern designs are possible to achieve (Başakman, 1993). This idea is also a valid one for the rural settlements, as well. In order to make these areas liveable, there must exist some basic principles, gained through long lasting studies and experiences.

Negative consequences of our cities (air pollution, noise, visual pollution etc.) drive people to live in rural areas, in a natural habitat. Such areas, unique in their natural habitat and original structures are also used as a means of recreation. Such tourism activities as mountaineering, trekking, and hunting and high plateau tourism have reached to the extent that people have secondary houses in this region. In these changing areas new spatial organisation such as revitalizations, rehabilitations, conservation is needed. Present laws and regulations have access to such new special organizations but its not sufficient. There is a need for local studies in order not to harm the unity of rural architecture, to use the basic principles of it and to enable the preservation of its continuity. In foreign countries, there are commissions setting up for the rural areas and having different disciplines. There are regulations and issues for every kind of building construction in such areas (Arendt, 1994; Owen,1998).

In this study, richness of natural and rural architecture, the potential touristic use of the area, and the changing process of a number of villages, either disappeared or transferred because of the dams, have all been taken into consideration and the rural settlements of Artvin, located in the east of Eastern Black Sea have been studied.

The Study reflects a part of a research study that is being conducted within the scope of evaluation of physical architectural measurements, liveable environment qualities and sustainability and the relevant policies (Kantar, 1998; Çevik ve Kantar, 2000).

RURAL SETTLEMENTS OF ARTVİN –YUSUFELİ AND ŞAVŞAT- DİSTRİCT

THE LOCATİON OF SETTLEMENTS

Topography, climate and panorama are the determining factors in the location and the direction of rural settlements. Settlements are organized as a unit, in separate part or in groups according to topography and property pattern. Mountains, rivers, lakes, seas and forests etc. have also been influential on the location of the settlements. In the rural parts of Artvin, village roads trace along the valleys or streams. Most of villages are located near the rivers and roads. However Şavşat and Yusufeli, our study areas, have different settlement characteristic. In Yusufeli the settlements are established on bedrock and the fertile lands are reserved for the agricultural activities. In Şavşat, having a better topography; houses are built in complete harmony with topography high up in the garden dominating their property insuring the most beautiful panorama. The houses are built in their gardens where they provide their products. Buildings are in accord with topography, in highest level possible in their property and the front elevation is in the direction of the scenery (figure: 1).

THE QUALITY OF SETTLEMENTS

Settlement qualities represent some determining criteria that show architectural characteristics of a settlement. Architectural qualities that determine the original character of settlement cover, in general, structural qualities and aesthetic concerns. These qualities are determined according to the rural settlements, are evaluated by covering the building and its close environment. In this study, the house has been defined by using the qualities such as material and structure, building scale form, windows, entrances, cantilevers and design. Also the neighbourhood qualities cover the units such as garden and open spaces, street, edges, walls, barns, sheds and natural environment landscape. In the formation of rural settlements, the effect of physical environment is very important. However it is not sufficient to explain the architectural character of settlement only with these conditions. At this point, "the building culture", supported by the long experiences and the interaction of individual, society and environment, gains significance (Kantar, 1998).

QUALITY OF HOME ENVİRONMENT

Natural environment- landscape: Natural environment has an effect on the street formations, the location of structures, the materials and many other details in rural settlements. The front elevations, living spaces and striking balconies all directed towards the scenery that indicates importance given to good landscape. In the region, architecture is in full harmony with the nature. This harmony also brought about the formation of a common language. Rural settlements, with their natural formations, provide unique beauties in the landscape and enrich the living quality (Figure: 1).

Street: In rural settlements, the street is formed according to the topography, scenery and sunlight position. There are no extended street formations in the region as the settlements are in groups and scattered. Winding roads are sometimes ended with a fountain, an orchard or a small garden. It is also possible to see panoramic views and surprise spaces. In rural settlements, street boundaries can be listed as buildings; fences and gardens that make it possible to

have more colourful, dynamic and spacious street formation. Street formations are not very significant in Şavşat due to scattered settlement but in Yusufeli they are very significant (Figure: 3).

Edges: In rural settlements, it is not possible to mention a certain edge. Fences, trees, gardens and houses are referred as an edge. Settlement edges are varied like others mentioned above. Edge is sometimes a forest, a natural rocky area or gardens and buildings. This variety enriches the external view of settlements in landscape (Figure: 1).

Garden and open spaces: In rural settlements, the open spaces around the house are generally formed in a hierarchical order. This gradation beginning from the small door front space goes on to a courtyard, a domestic vegetable garden; to larger agricultural fields. This order is seen in the villages of Şavşat, vegetables and fruit gardens are very close to the house whereas in Yusufeli, they are far away, according to the special topography of Yusufeli. Every house or a group of house have a place that is used for socialising, cooking, storing.

Other Units: In rural settlements, the house is a complex one with all its household around. Cottages are built near their orchard, fountains, barns, stotages and haylofts. These elements basically the same, can be formed in different ways depending on the environmental qualities. In Şavşat, the storage units such as storehouse or hayloft are close to the barn in the some orchard, but in Yusufeli these are grouped away the house orchard near the house, there is a hearth (fire place), toilet and sometimes a small store. In addition to all these units, in Yusufeli there is also water mill. These units are related to each other functionally (Figure: 4).

BUILDING QUALITY

Building scale and form: In rural architecture, the building form is generally in perpendicular rational forms which facilitate the use of material in rainy and cold climatic conditions and fitting the sloping grounds: Square and near square form of building perceived from the outside and maintains the architectural entirety.

In rural architecture, the harmony with the nature and the liveability of a house is more important than form and size, man and environment are important in building scale of the rural settlement, like many other architectural detail. In Şavşat, the house has either single or two floors. In Yusufeli, though, it has three floors but only one or two can be seen when looking from rear elevation according to sloping ground. Between the house and other units, there exist size and dimension unity. This similarity is also reflected on the general characteristic of the settlement and the harmony with the natural environment is another significant criterion (Figure: 1,4).

Plan Scheme organization: Environmental factors are important factors to analyse either a settlement or a house. However, in interior organization of the house, cultural characteristic such as tradition –custom and life style also gain importance. In most cases no solution obtained by discussing these values, at this point beliefs, habits and construction traditions gain importance. In the region, household life shows a cultural unity. A part from the size or location every house has a storeroom where food is kept and a room with a hearth and a guest room. In all houses, living spaces are on the upper floors and in the direction of scenery. The toilet is outside the house.

Barn sections and winter rooms are in the ground floor and separated by a hall. In snowy winters, winter rooms are used. This gives economy both the warming of the house and its circulation. There is a hearth in one of the two floors and used as kitchen. In Yusufeli, barn is separated from the house. Every floor has direct access from outside and the top floor is the place where food is kept. The use of timber in this floor is a striking feature of the house.

The village houses of this area have been designed for large families. In its rooms there are built in baths either in a cupboard or on a platform. In the houses of rural areas a guest entrance and a guest room have been organized for the guests (Figure: 4).

Entrance: The sloping ground, climatic conditions, structural traditions and, life style have been influential in the organization of building entrances. The visual link among the building entrances supports close neighbourhood relationship. The buildings have independent entrances that have direct access to the outside. This can be explained in a way that in the past in these regions there were large families and these entrances were presiding independence and privacy within the families itself. In Şavşat, there are two doors for the entrance of the living room. One of these entrances is the main entrance connected with street and used by guests also, and the other is the one that gives way to work place. Between the entrance and the street, there seems to be a hierarchical order: First the balcony, the courtyard and then the street. In Yusufeli, due to the limited land the space, the entrances are smaller and sometimes it gives way to street with only alcove with a few steps (Figure: 4).

Oriels: The houses in the villages within our study area have a simple form. There are no closed oriels. The cantilevers are in the form of balcony in the house and covered with the roof eaves. The balcony of Şavşat village house generally covers all the three elevations of the house, the front balcony has a part called "köşk". In Yusufeli, the front elevation has a balcony called "köşk". The timber works and eave details are remarkable. This special oriel has an important place in the statue of house (Figure: 2).

Windows: The climate has great influence in the formation of houses in these areas. In Şavşat, which has cold and snowy winters, the windows are equally dispersed in every dimension except northward. Generally, hearthstone is placed in northward direction. In Şavşat the window sizes are small contrary to Yusufeli. Here, because of the warm summers, the windows are formed large and dominating the front. Windows overlooking to different directions in the living spaces enable the air- circulation. The different window sizes in the region cannot only be explained by means of traditional life style or concept of privacy (Figure: 2). Even these two reasons are open to question. In Şavşat district, the balcony formation on all three dimensions of the house may be an indicator of an extrovert life style. The main concern here is to build the most liveable house suitable to the environmental conditions.

Material and Structure: In our study areas, generally timber and stone are used as building materials in a way as pure as possible. In the region, a piled up block building system is used. The raw or unpolished timber houses in Şavşat are very interesting. Timber joining connection practices in region are called "boğaz" or "yaka". Stone is used in heart and chimneys, and in the base of the houses. In Yusufeli, due to insufficient forest areas and warmer climate, a special kind of store that can delay and stone the heat. Timber is used only in windows, door, balcony and upper floor of a house. Storing units like storage or straw sheds are built in solid block timber. In sloping grounds, the stone is used in raw (Figure: 2).

The harmony of timber and stone in houses can be estimated as a significant quality of regional architecture. In addition, the suitability of the physical qualities of the material to the climatic conditions is another significant quality.

CONCLUSION AND SUGGESTIONS

The rural architecture has been developed for centuries through experiences and has been formed, depending on the environmental conditions. Eastern Black Sea Region settlements particularly have difficult transportations and long hours of travel as in Şavşat and Yusufeli. It is possible to say that guests of these regions are the people who prefer the nature of this region and its original attraction. That is why we have to be sensitive about the protection of natural and architectural characters and its livcability and sustainability in the rural settlements. For this reason, people who visiting, living or wanting to live in rural areas have to make a conscious decision as to live there. In these preferences, the existences of liveable spaces are very important. New organisations should be an interpretation of the existing architectural tradition but not imitation.

In rural settlements, the buildings have very simple characters. The material, building systems, roof patterns, window-door patterns and their sizes, oriels are the common characteristic of many buildings. However, they are valued as part of a whole according to their locations, site plans and landscape qualities. As seen in samples rural settlements, the location of buildings are estimated according to the climatic conditions such as wind, sun, topographic structure and scenery. The whole settlement principles in rural areas are important from the standpoint of positive usage of natural environment.

The house is like an operation centre in village settlements. As an operation unit it is both a living, management place and a production centre, it must give way to many alternatives in the design of the house and its environment. New design alternatives have been appearing in the changing conditions and possibilities. It is important that these innovations should form usable and liveable environments.

The building materials in rural areas are provided from nearby resources. These materials are stone, timber and burnt clay. The simplest form of material usage has affected the formation of houses and simple forms have been preferred. As seen in the examples, the simplicity of the house and its outhouse units dose not harm its originality; on the contrary support to harmonize with nature. The form of the house and the simplicity of the material are remarkable feature.

In rural settlements, there is a hierarchical order from private to public organization. As in the examples the entrance of the house, its own yard, the passages are in an order that enable an arrangement from private to a public organization. These special organizations not only foster communication but also are valid in urban design criteria.

As in the examples of Şavşat and Yusufeli, the spatial variety in rural architecture is realized in geometrical, open and simple spaces rather than in accessible disorderly spaces. Separated order in the house enables a range of activities and the frequent use of them and by using these spaces in multi functional way, the special economy is provided. In rural environment, an influential architectural formation has been realized by means of simple designs location, scale, form, the functional spaces and the intensive care in the construction.

Decisions and proposed important changes in rural areas should be in harmony with local characteristics, such as nature and landscape qualities, physical architectural and social environment. Special expert studies and a design guide should be made for the new formations in the region, to create liveable environments.

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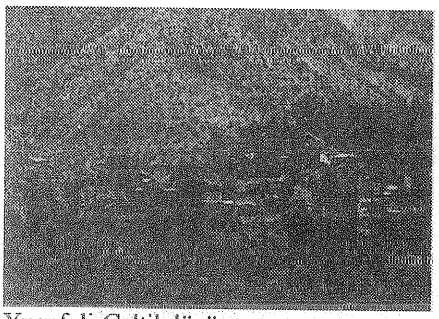
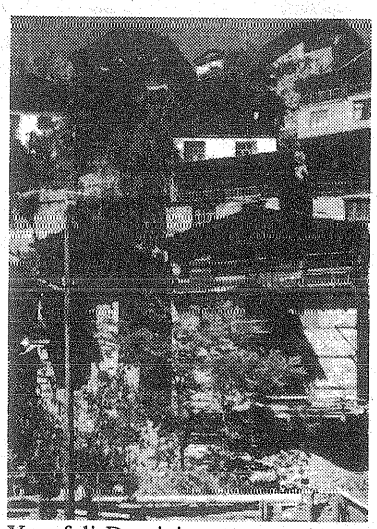
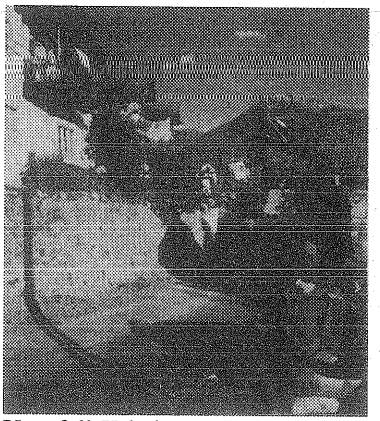


Yusufcli-Çeltikdüzü



Yusufeli-Dereiçi

Yusufeli-Dereiçi



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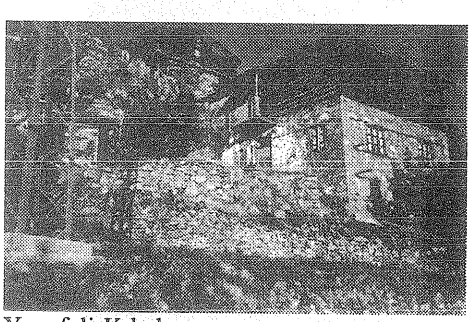

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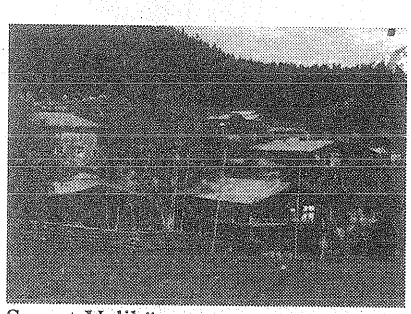
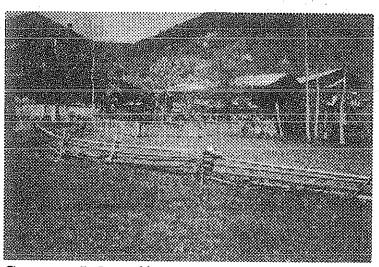
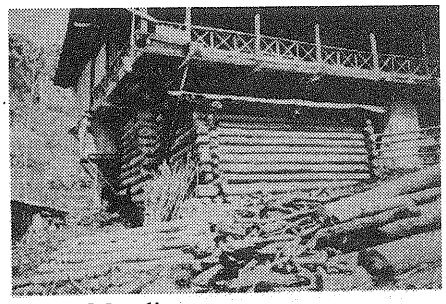


Şavşat-Veliköy



Şavşat-Meşeli

Figure: 1



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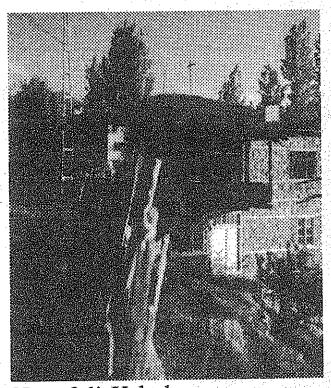

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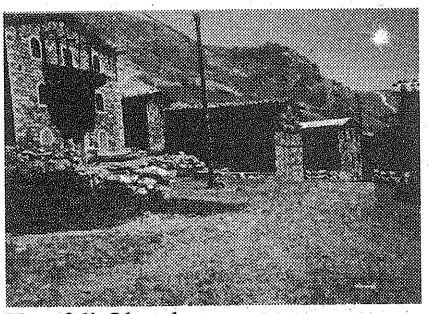

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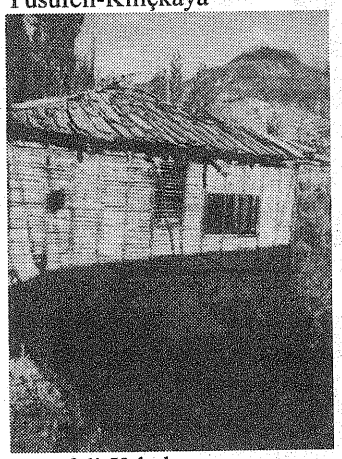

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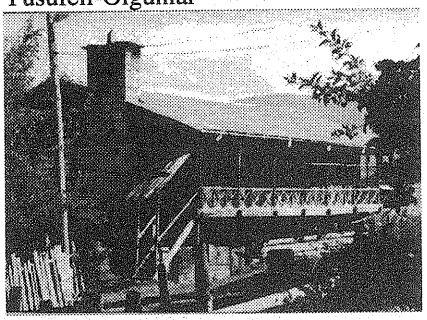

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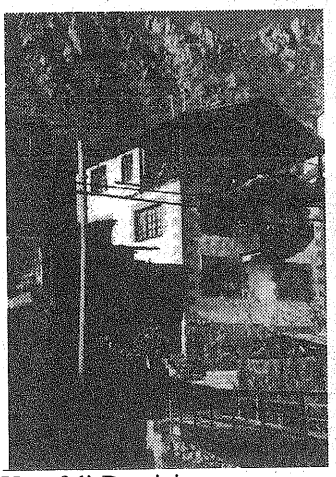

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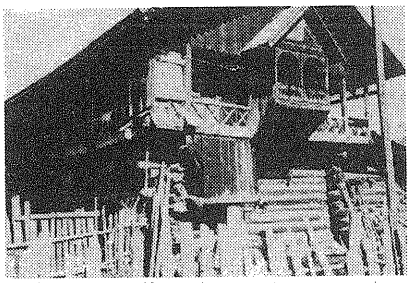

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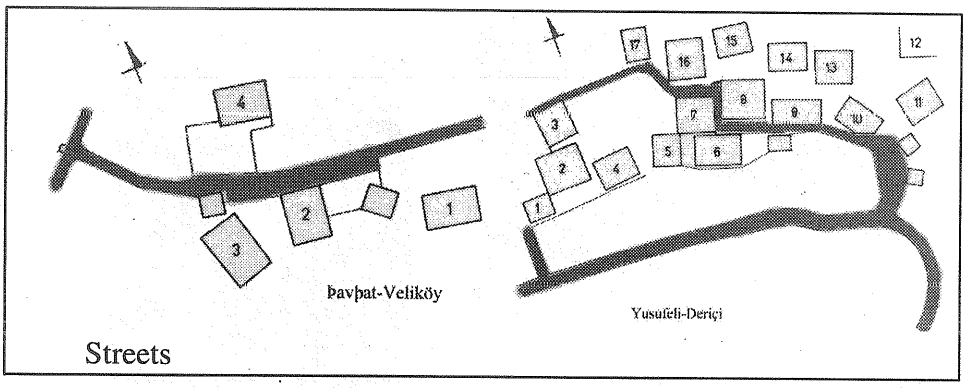
Figure: 2



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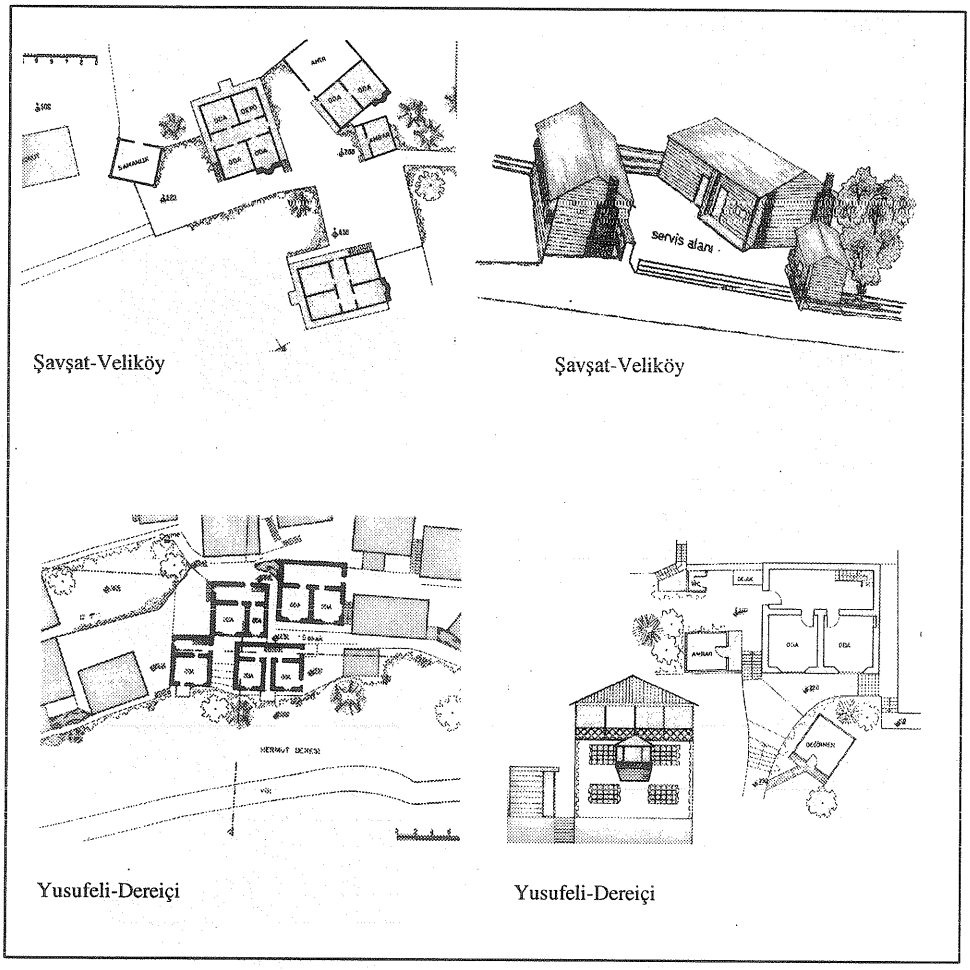

Figure: 4

Coordination of mass transportation modes for more livable cities

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Abstract
Coordination of public transportation modes in urban areas is vitally important in order to create more livable cities. In large cities, city bus systems, minibuses and taxis for urban transportation have been around for many years. Nowadays, in metropolitan cities of Turkey, light rail transit has started to be taking its role in urban transportation. Such different systems in urban transportation need to be coordinated/integrated in order to promote a successful urban public transportation system. Integration of alternative public transit systems can be successfully achieved when there is ease of transfer, compatibility in scheduling, carefully designed and located transfer facilities, and a fair fare structure system.

Intermodal integration is important to rail transit (metro, LRT and tramway) that must be a significant part of a family of modes serving an urban area. Such integration is successful in situations where certain requirements are met as mentioned previously. In this paper, rail transit modes in the three biggest cities (Istanbul, Izmir and Ankara) of Turkey are examined by conducting a preliminary rail transit passenger survey and making observations on the modes of urban rail transit with respect to the availability of coordination with other transit modes, especially with rubber tire systems. The layout and functions of rail transit systems in the metropolitan areas are also discussed in the study.

1. Introduction

The issue of coordination and integration of alternative public transit systems in the cities of Turkey is becoming one of the most important urban transportation issues to be resolved. Transportation planners and local authorities believe that they must achieve the coordination of rail transit systems with rubber tire transit modes as well as other rail systems; otherwise metro and LRT systems built by investing multi million dollars will not be fully utilized as desired and the rail systems will be seen unsuccessful. In that case, rail transit systems will be having a negative reputation, which is an undesired phenomenon from the point of view of the successfulness of local governments.

2. Literature review

Krzyczkowski, R. et al. [1] studied the integration of transit systems in the US by examining the transit systems in Europe. The study assessed the potential for interagency and intermodal integration of transit systems in urban areas of the US by drawing on an analysis of the successful experience of European transit systems. In Europe one mode is selected to serve a particular travel desire and other modes are coordinated with it. In the U.S., however, bus and rail usually compete. Sophisticated ways of constructing incentives within the marketplace for coordination and cooperation among competing operators is lacking in the U.S. The growth of federal programs subsidizing operations should encourage such cooperation to create more livable cities.

Ela Babalık [2] presented a paper at the 4th Transportation Congress, Denizli, Turkey (1998). In her study, she recommended methods to increase the success of new urban rail transit systems. She stated the purposes of new rail transit systems as follows: a. to improve transit service, b. to reduce urban traffic jam, c. to control urban sprawl, and d. to revive downtown.

Güngör Evren [3] stated in his paper at the 2nd Istanbul Urban Transportation Congress in 1992 that in corridors with high travel demand, urban transportation should be developed by offering rubber tire systems first, and then rail transit systems would be brought in as travel demand increases. In developed countries, rail transit systems have become popular not only for their high capacity but also their environmentally friendly characteristics. Rail transit systems are also not dependent upon imported energy sources. This is good for countries to run their systems especially during the times of energy crisis due to expensive imported fossil fuels. Alternative urban transit systems cannot be efficiently utilized due to the lack of availability of an organization providing interagency and intermodal integration of transit systems in urban areas. For example, Evren stated that, the coordination of the commuter rail and ferry at Haydarpasa Rail Station might be a problem. Speaking of the integration of urban rail transit in Istanbul, the light rail transit (LRT) system between Aksaray and Esenler is not connected with the tramway mode at Aksaray.

Kılıçaslans [4] revealed that urban transit systems should not have competed with each other rather than they supported each other on a corridor by providing an integrated and coordinated service. For this purpose, building proper transfer facilities can increase the efficiency of the whole system. Improvement of the transit system in an urban area should not be achieved by only extending the coverage area of the rail transit but also integrating rubber tire transit systems to the rail transit.

In Asian countries intermodal integration was succeeded by redesigning rail stations to integrate various modes of transport such as buses and light rail with metro systems. Passengers benefit from integration by being transferred

seamlessly from one mode to another through the recently designed stations. Also, the operator is expected to increase its revenue due to the attractiveness of the stations. Moreover, the local government is likely to benefit by the additional property values that accrue at such nodes and with the decrease in private car usage. One example is the Hong Kong Mass Transit Railway Corporation's (MTRC) new station at Po Lam. This terminal station on the Tseung Kwan O line was master planned by government to be adjacent to several passenger generators. An adjacent passenger transport interchange (PTI) is a drop off for taxis, buses and light buses [5].

The goal of urban planners in the US is to reduce suburban sprawl to adopt sustainability in planning. By smartly choosing the LRT lines, the growth of a city can be manipulated as desired. Considering the LRT system in the US, most are meeting the goals established while they were in the planning stage, including ridership levels, economic development and, to some extent, an amelioration of both traffic congestion and air pollution. More importantly they are helping to build what are now being called "livable cities." Light rail has helped give city planners new hope in achieving their aims of reducing suburban sprawl and shifting focus from the freeway to urban transit. Many who are against light rail as being too expensive, inefficient, or inflexible simply are not evaluating a bigger social picture that can best be described as "quality-of-life" or "livable cities" [6].

3. Integration efforts in Turkey

The issue of intermodal integration in urban transportation is very new in Turkey. Until recently, no or little efforts have been encountered to integrate urban transit modes in metropolitan areas of Turkey. In these days, it is nice and hopeful to see some efforts of intermodal integration in the metropolitan areas of Izmir, Istanbul and Ankara. The cities are trying to coordinate and integrate available urban transit modes (metro, LRT and rubber tire systems) to provide better urban transportation.

3.1. Istanbul

In the European part of Istanbul, there are three major urban rail transit systems operated by the metropolitan municipality: metro, LRT and tramway (see Figure 1). These systems look like as if they were built without considering integration

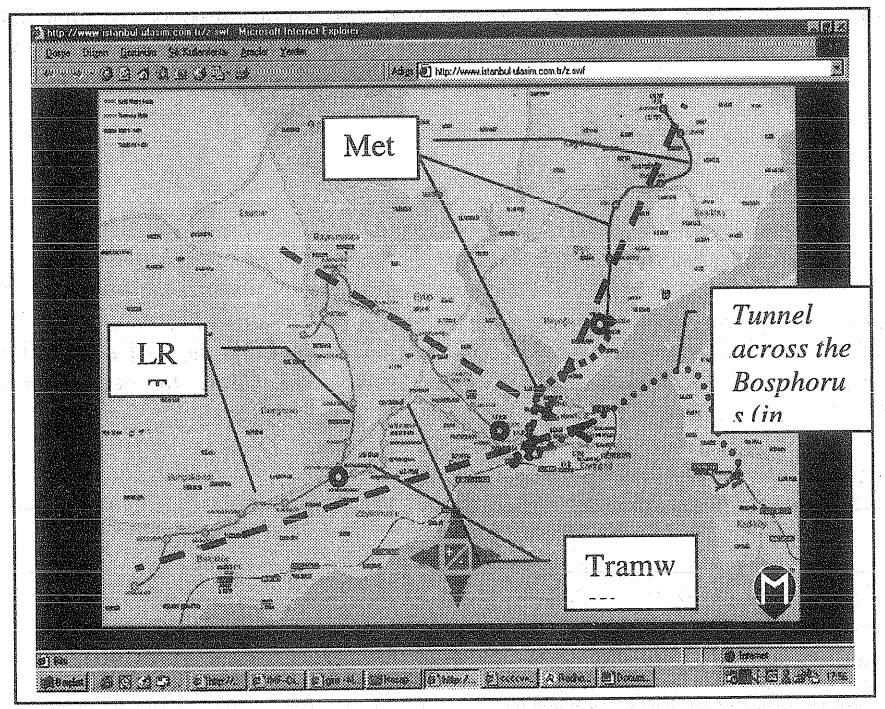

Figure 1. The urban rail transit system in Istanbul: the systems are located at the European part (metro--the extension of it is shown in dotted black; LRT, tramway, and the tunnel to be constructed across the Bosphorus-- black dotted line connecting the two sides-- are shown) [7].

among them. Metro is the newest of all opened in June 2000. The LRT and tramway systems have been operated since 1986 and 1989, respectively.

The urban rail systems in the city of Istanbul are shown in Figure 1. As seen, metro serves the city in the north-south direction at the west (European) part of the city. The current line is 7.9 km long built in two tunnels, and has six stations. Metro is being extended to Yenikapi to meet the tunnel through the Bosphorus. Yenikapi will be the location where metro, ferry, commuter rail and bus systems, and the tunnel will meet. The second part of the metro system will be 5 km long and has four stations.

Although the LRT system is one whole line, it looks that it is consisted of three parts (see Figure 1). One part is lied down in the northwest direction from Aksaray to Kocatepe or the intercity bus terminal. The second part serves in the north-south direction from Kocatepe to Zeytinburnu; and third part is in the southwest direction serving from Zeytinburnu to the airport (to be extended soon). The LRT system is 18 km long and has 16 stations.

The tramway in Figure 1 is 12 km long and has 21 stations. It serves in the east-west direction at the west part of the city between Eminonu and

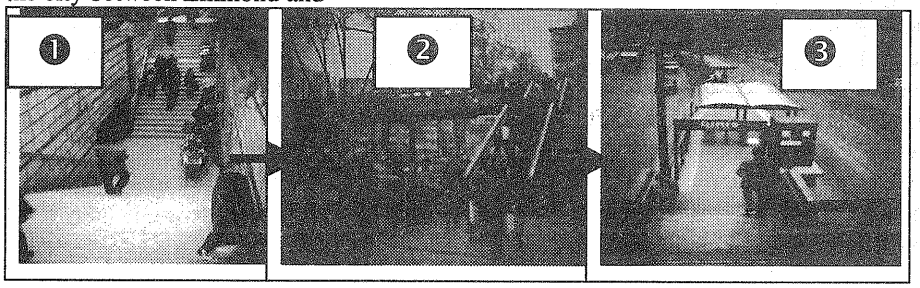

Figure 2. Transferring from LRT to Tramway from Aksaray station [photos: D. Akin]

Zeytinburnu. Currently the LRT and the tramway systems are connected at the two stations: Aksaray and Zeytinburnu. The first transfer point is Aksaray; however, at this station, the connection is not convenient at all. Riders have to walk about 10-12 minutes to reach from one system to the other. While transferring from LRT to tramway, first they need to walk through an underway (photo 1), and then, go through a passage. To reach tramway stations, they need to climb up a bridge (photo 2) without a lift for handicapped passengers and then walk down to the Yusufpasa tramway station (photo 3) (see Figure 2).

Having said that the LRT and tramway systems are connected at the two points, Aksaray and Zeytinburnu, the metro system is connected to both LRT and tramway with a bus service from Taksim (metro station) to Aksaray (LTR and tramway stations). From any station of the metro, LRT and tramway, transfer is free within 1 to 1.5 hours using with AKBIL, the smart card used for fare collection.

In Zeytinburnu transfer station between the LRT and tramway, one needs to first climb up stairs and then walk down to reach to tramway stations. As observed, it is not a very nice walking area to provide the transfer between the two systems. Again the transfer is free of charge between the systems if one uses AKBIL.

3.2. Ankara

In Ankara (capital of Turkey), there are two urban rail transit systems operated by the municipality. Ankaray is a LRT system, and Ankara Metrosu is a metro system.

3.2.1. Ankaray

Ankaray, the LRT system, is operated in the east-west direction between Sogutozu and Dikimevi. The length of the system is 8.7 km and it has 11 stations. It reaches to the intercity bus terminal. The capacity of the system is 16,000 passengers per hour in one-way. In one day, the capacity reaches to 365,00 passengers. Currently, the system serves about 140,000 passengers per day. The sketch of the system is shown in Figure 3.

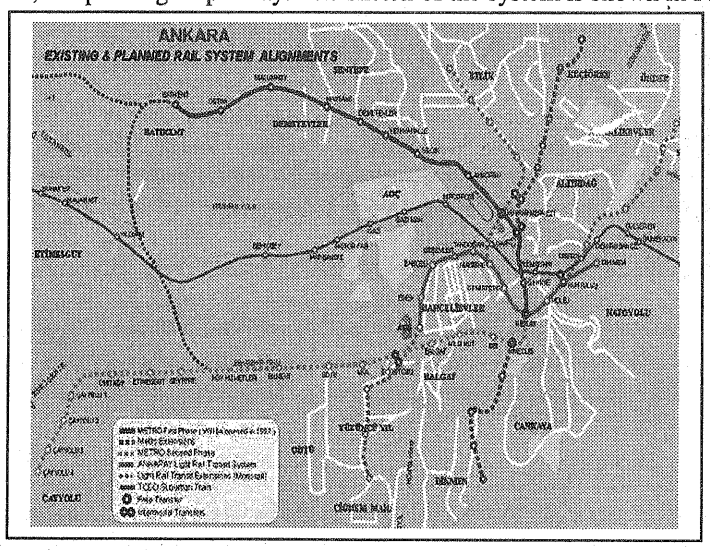

Figure 3. Ankaray (LRT system in Ankara) and Ankara Metrosu [8,9]

3.2.2. Ankara metrosu

Ankara Metrosu is 14.6 km long and has 12 stations (see Figure 3). The line is lied down in the southeast and northwest direction and connects downtown with Batikent (a satellite town).

Ankaray and Ankara Metrosu intersects at Kizilay station. The transfer is free of charge between the two systems at Kizilay. Also, the rail transit and bus systems are integrated with respect to fare payment. One can transfer among the three (metro, LRT and bus) in 45 minutes by paying only once. Moreover, at every station of the metro and LRT systems, rubber tire transit modes (bus, minibus) are integrated to the rail transit.

3.3. Izmir

A while ago Izmir started the project of the integration of bus, metro and ferry systems. The coordinated system will be in effective in this summer. The project called "Transformation Project in Transportation" has been prepared in order to provide better urban transit system and elevate transportation standards for the city of Izmir. With this project, urban transit systems in Izmir are managed by one authority, and bus, ferry and metro systems are integrated with respect to schedule, fare payment system and ease of transfer. Finally, with this project the access of riders is aimed, not the access of vehicles. Figure 4 shows the current integrated system. It is hoped that the metro will be extended up to Aliaga (not shown on the map) through the north side of the bay.

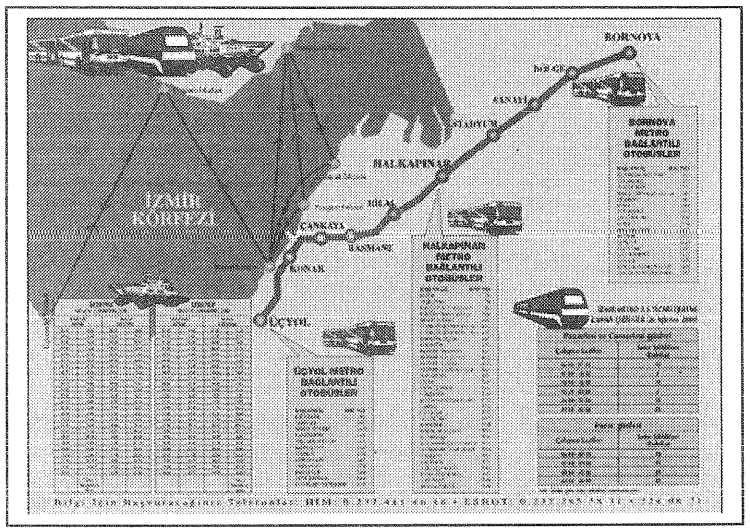

Figure 4. Intermodal integration in Izmir, Turkey [10].

4. Rail transit passenger survey

In this study, a passenger survey is designed for rail transit passengers to get information about the availability of coordination of the rail transit with rubber tire systems with respect to the availability of ease of transfer, compatibility in scheduling, and proper facilities. Information regarding the fare structure that supports transfers was obtained by actually riding on the systems. The survey and observations were conducted on the rail transit systems in the cities of Istanbul, Ankara and Izmir. 192 surveys were conducted on-site and 24 surveys were filled out by riders of the systems through the Internet. It should be noted that the survey was conducted for a preliminary analysis. Therefore, to perform an in-depth analysis, the number of survey questionnaires completed must be increased to the required number to receive more accurate results at a desired confidence level (usually 95 percent).

To conduct on-site surveys and take photographs at stations and trains, necessary permissions were obtained. For the metro in Izmir, the Metropolitan Municipality gave a verbal permission based on our request letter with the survey attached faxed to them. For the rail systems in Istanbul, Ulasim A.S. gave a verbal permission based on our request letter with the survey attached e-mailed to them. For the systems in Ankara, General Directorate of EGO (Bus Operator and Utilities Provider) has not given the permission to conduct the survey on trains. Therefore, the surveys in Ankara were conducted outside the stations. The full survey questionnaire is given in Table 1.

Table 1. Rail transit passenger survey

PASSENGER SURVEY FOR URBAN TRANSIT SYSTEMS

1. What is the frequency of the use of rail transit in your daily trips?
   a. Almost everyday (3-4 days a week) b. Once or twice a week
   c. Several times a month d. Several times a year
2. What mode of transportation do you use to reach to rail transit (choose the one used the most)?
   a. Bus b. Minibus c. Commuter rail d. Ferry
   e. Pedestrian f. Automobile g. Other _____please describe
3. Do you think that there is compatibility in scheduling between the access mode and the rail transit? a. Yes____ b. No ____
4. Do you think that transfer area from the access mode to the rail transit is proper for pedestrians' easy walking? a. Yes____ b. No ____
5. Is there a park-and-ride area at the station you accessed to the rail transit? a. Yes____ b. No ____
6. What is you profession? (if necessary, please choose more than one)
   a. student b. government employee c. blue-collar worker
   d. technical person e. medical person f. social scientist
   g. manager h. faculty i. retired j. homemaker k. Other_describe
7. What is your age?
   a. 15-17 _____ b. 18-25 _____ c. 26-35 _____ d. 36-45_____
   e. 46-55 _____ f. 56-65 _____ g. 66 and over _____
8. What is your sex? a. Male _____ b. Female _____

4.1. Istanbul

On the three rail transit systems in Istanbul, totally 126 passenger surveys were conducted; 47 on metro, 40 on LRT, and 39 on tramway, respectively.

4.1.1. Ease of Transfer

As mentioned before, easy transfer is not available among the rail transit in Istanbul. It seems that the systems (metro, LRT and tramway) are built independently from each other.

Specifically, at Aksaray station the transfer between the LRT and tramway is not easy (see Figure 2). At Zeytinburnu station, the transfer between the LRT and tramway is also not pleasant. The transfer between the metro and the other two rail transit is currently achieved by a bus connection. However, the metro system will be extended up to the other two systems.

4.1.2. Compatibility of Scheduling

Using the survey, passengers of rail transit were asked a question about the compatibility of scheduling of other modes with rail transit. The answers are summarized in Figure 5. In all modes more than two-thirds of passengers said

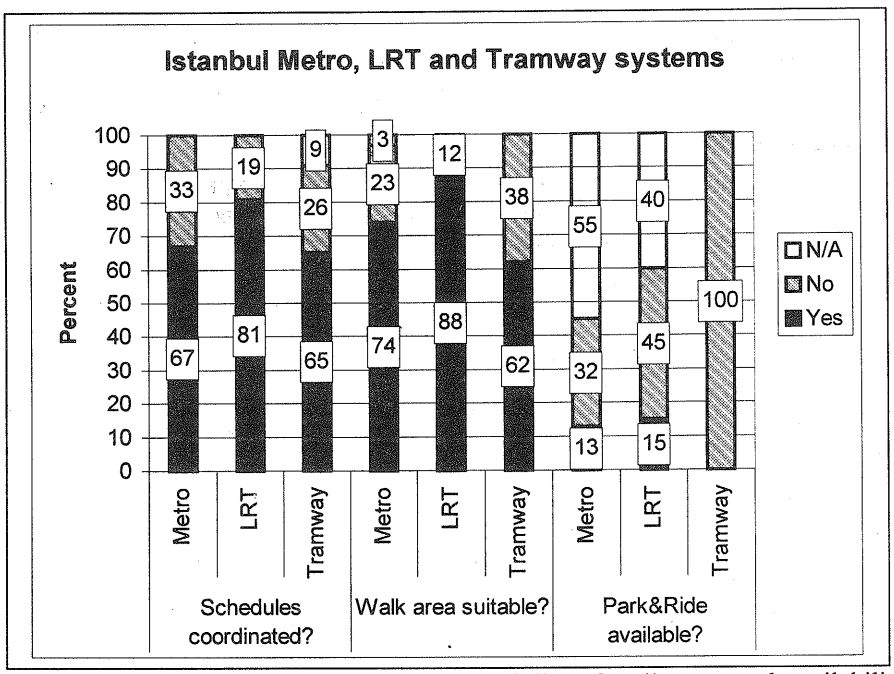

Figure 5. Survey responses to compatibility of scheduling, suitability of walk area, and availability of park-and-ride areas in Istanbul rail transit systems

that there was compatibility of scheduling of other modes with rail transit in Istanbul.

4.1.3. Transfer facilities

In Istanbul currently there is no transfer facility specifically built to provide seamless transfers from one transit system to others.

4.1.3.1. Quality of walking areas to access to stations

Transit passengers were asked about the quality of walking areas to access to rail transit stations. The answers are summarized in Figure 5. In all modes at least two-thirds of the rail transit passengers expressed that the quality of walking areas to access to rail transit stations in Istanbul was suitable for walking.

Rail transit stations were visited by the authors and observed the quality of accessibility. It was observed that some stations of LRT and tramway do have neither escalators nor elevators. Elevators at metro stations are available. However, there is no escalator to access to ticket booths at metro stations.

4.1.3.2. Availability of park-and-ride areas

Passengers were asked whether park-and-ride areas are available at the stations they use regularly. Answers are summarized in Figure 5. Only 13 to 15 percent survey respondents confirmed the availability of park-and-ride areas at some stations of metro and LRT. Tramway has no such areas at all.

4.1.4. Fare structure

There is an electronic fare collection system called AKBIL in transit systems of Istanbul. With AKBIL, transfers among the rail transit are free. AKBIL is accepted on all transit modes. AKBIL offers discounts up to 50%. One can also ride on transit systems by paying the fare with tickets, but has to pay for each system separately.

4.1.5. Other observations

From the passenger survey, observations of riders were obtained. Some of these are summarized as follows: a. Sings guiding to other transit modes are inadequate; b. Bus stops are not properly located relative to the metro stations; c. Metro line should be extended to north up to Maslak, which is both business and university center; d. At some stations, access to the ticket booths is achieved by only stairs, i.e., escalators are not available; e. In the LRT system, stations are far from business districts. Therefore, rubber tire systems are integrated; however, there are no signs to guide riders to the access modes from the LRT; and f. All transit modes have different fare systems (ticket, token or card) and it is necessary to pay for the fare for each mode separately, but AKBIL offers easy fare payment accepted in all urban transit modes operated by the city of Istanbul.

4.2. Ankara

On the two rail transit systems in Ankara, totally 62 passenger surveys were conducted; 46 on metro (Ankara metrosu) passengers and 16 on LRT (Ankaray) passengers, respectively.

4.2.1. Ease of Transfer

It is very convenient to make a transfer from metro to LRT and vice versa at Kizilay station. The transfer is free of charge. Also, at almost every rail station there is connection with rubber tire transit systems.

4.2.2. Compatibility of Scheduling

Using surveys, passengers of rail transit were asked a question about the compatibility of scheduling of other modes with rail transit. The answers are summarized in Figure 6. More than half of the survey respondents connected to the rail transit by rubber tire transit systems said that schedules were coordinated.

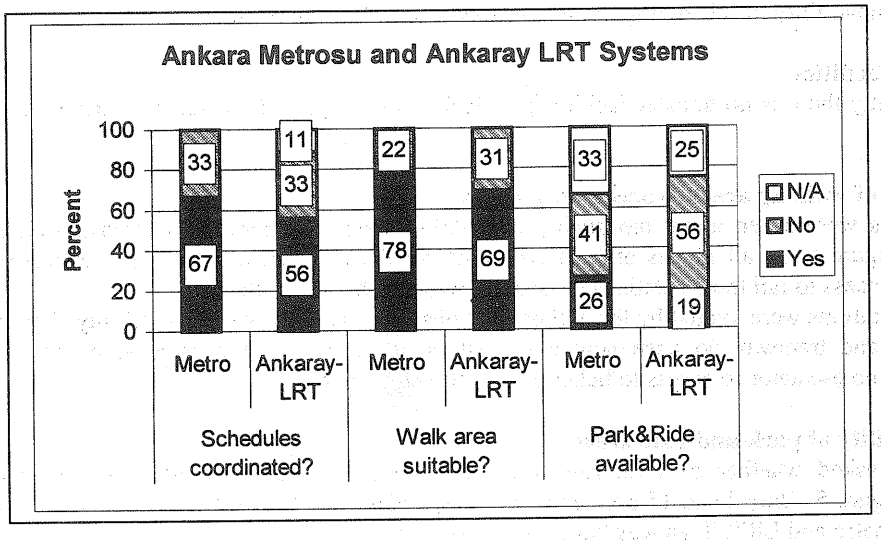

Figure 6. Survey responses to compatibility of scheduling, suitability of walk areas and availability of park-and-ride areas in Ankara rail systems

4.2.3. Transfer facilities

Only one transfer facility is available in Ankara to make transfer between metro and LRT, which is Kizilay station. As a very nice feature, at almost every metro and LRT station, a city map is available to guide passengers after they depart the rail transit.

4.2.3.1. Quality of walking areas to access to stations

Transit passengers were asked about the quality of walking areas to access to rail transit stations. The answers are summarized in Figure 6. More than two-thirds of survey respondents expressed that the walk areas for both system were suitable for passenger to reach stations by walking.

4.2.3.2. Availability of park-and-ride areas

Survey responses regarding to the availability of park-and-ride area at rail stations are summarized in Figure 6. Between one-fifth and a quarter of the respondents said that there were such areas at stations they use.

4.2.4. Fare structure

A smart fare collection system is used in Ankara; however, the cards are not rechargeable by passengers. The cards can be used on every system including buses. Transfers are free of charge within 45 minutes of a trip.

4.2.5. Other observations

From the passenger survey, observations of riders were obtained. Some of these are summarized as follows: a. Passengers suggest that multilevel auto-parks be built over rail stations. Also, small offices can be built to collect utility charges; b. Some stations lack escalators; c. At the ASTI station, escalators and stairs are not enough due to high pedestrian volume; d. After 11:00 pm, at some stations the time duration of 45 minutes for free transfer is not enough; e. During peak times, schedules of trains are not met. Sometimes trains arrive late by ten minutes; and f. Rail transit should be extended up to Eryaman, Kecioren, Etlik, Sincan, Etimesgut and Middle East Technical University.

4.3. Izmir

On the metro system in Izmir, totally 28 passenger surveys were conducted.

4.3.1. Ease of Transfer

In Basmane station, the transfer between metro and commuter rail is impossible for handicapped people and very inconvenient for elderly people. At Konak station, the transfer between the ferry and metro is not very convenient due to long walking area.

4.3.2. Compatibility of Scheduling

Using surveys, passengers of rail transit were asked a question about the compatibility of scheduling of other modes with rail transit. The answers are summarized in Figure 7. About 80 percent of the survey respondents said that the schedules of other transit modes with the rail transit were coordinated.

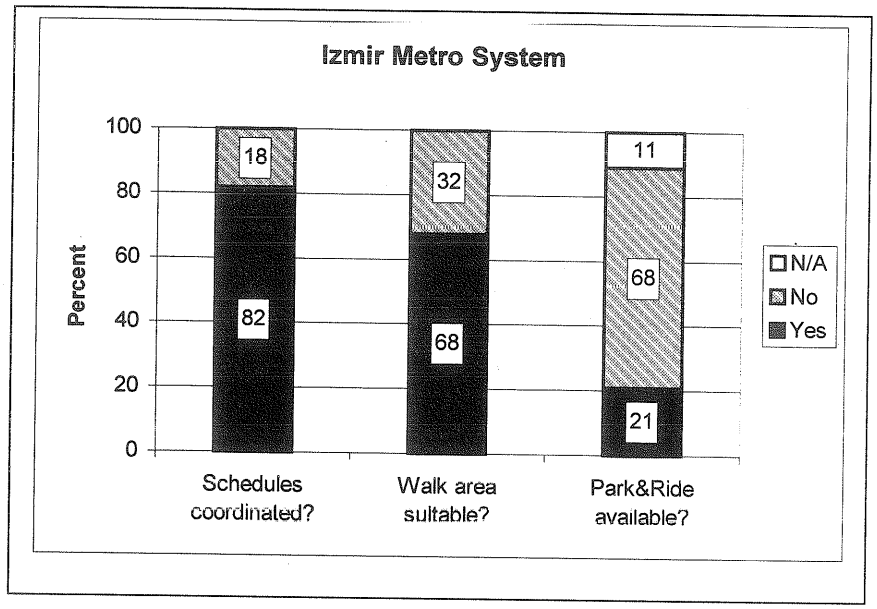

Figure 7. Survey responses to compatibility of scheduling, suitability of walk area and availability of park-and-ride areas in Izmir metro system

4.3.3. Transfer facilities

Only Basmane station can be considered as a transfer facility. Passengers can reach to commuter trains from the metro at Basmane. At Konak station, passengers from the metro need to walk 5-7 minutes to reach ferryboats. However, no sign guiding to the ferry is available.

4.3.3.1. Quality of walking areas to access to stations

Transit passngers were asked about the quality of walking areas to access to rail transit station s. The answers are summarized in Figure 7. More than two-thirds of the survey respondents expressed that the walk areas to reach to rail stations were suitable for pedestrians to walk.

4.3.3.2. Availability of park-and-ride areas

The responses of the passengers to the question whether park-and-ride areas are available at stations they are familiar are summarized in Figure 7. Only one-fifth of the surveys respondents yielded a positive answer.

4.3.4. Fare structure

A smart fare collection system called KENTKART is used at the transit systems of Izmir including buses. Besides, tickets and coins are also used to pay for the fare at the transit systems.

4.3.5. Other observations

From the passenger survey, observations of riders were obtained. Some of these are summarized as follows: a. Audio announcements and electronic messages on trains are very helpful for passengers; b. Every station has security personnel on the platforms; c. Access of handicapped people to stations is impossible without the help of others; d. No escalators from ground to the platform of booths and vice versa; e. Currently no elevators are available at any station; and f. At some stations, stairs are not enough for high passenger volume.

5. Summary and recommendations

Coordination and integration of urban transit systems in metropolitan areas of Turkey is generally not achieved. Although there are some efforts in that direction, urban transit systems are seemed to be operated independently. However, coordination and integration of transit systems in urban areas especially in metropolitan areas is a requirement to create more livable cities. With this in mind, integration must include the provisions of ease of transfer, compatibility in scheduling, carefully designed and located transfer facilities, and a fair fare structure system.

Rail transit systems in Istanbul are not well-coordinated and integrated with rubber tire transit systems. The access to tramway stations is not designed pedestrian friendly. Handicapped people have no way to access to tramway and some LRT stations.

In Ankara, integration of rubber tire systems with the rail transit is fairly achieved. The integration of metro and LRT is successfully achieved at Kizilay station. Also, the fare collection system and the free transfer among the three consecutive modes are appreciated by rides.

Izmir has recently introduced the coordination of metro, bus and ferry in urban transportation. Metro stations lack of accessibility of handicapped and elderly people. Metro system is appreciated by residents of Izmir; however, it needs to be extended to cover the rest of the metropolitan area.

In Istanbul, passengers transfer areas need to be designed more properly. Integration efforts of the rail transit must be speeded up. Also, as in the case of Izmir, the integration of rail transit with waterway transportation in Istanbul must be achieved since the ferry transportation holds a significant part in trips across the Bosphorus.

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Data base modelling at the Erciyes mountain winter sport center

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Absract

Mountain tourism, winter sport and activities have been gaining importance all over the world in recent years. Certain factors, such as the mystical and attractive appearance of the mountains in winter, the developed highways, higher number of motor vehicles, increased welfare and the appreciation of free time have been augmenting he number of visitors enjoying visiting such mountainous sites.

Recently, there have been established an increased number billeting sites and mass recreation centers in the mountainous areas in Turkey. Such a development has caused excessive human population density, planless structuring, noise, pollution and similar problems. These new developments not only threaten the natural life, but also jeopardize the transmission of present values to the next generation. Whereas it is possible that, the winters sports activities can be continued in its natural physical and cultural environment, while this environment is preserved and improved.

The Erciyes Mountain is attracting an increasing attention because of its situation and natural properties. Unfortunately, the planless development of winter sport center since 1970, has started to cause severe problems at Erciyes.

In this work, in order to enable the Erciyes winter center to perform its services while the natural environment is preserved, a Data Base Modelling (DBT), suitable to the continuity principle and supporting the Rational Comprehensive Planning has been improved. This DBT includes a physical planning and climatic and functional factors devoted the design of mountain space. The modelling aims at the creation of qualitative physical installations. This presentation therefore is about the DBT done for The Erciyes Mountain in 1999.

The importance of mountain spaces in terms of tourism, recreation and winter sports

Tourism has an important role on the economical and social development of regions. Especially after the second half of the 20th century, mass tourism has significantly developed.

The main factors for the development of mass tourism may be summarized as follows:

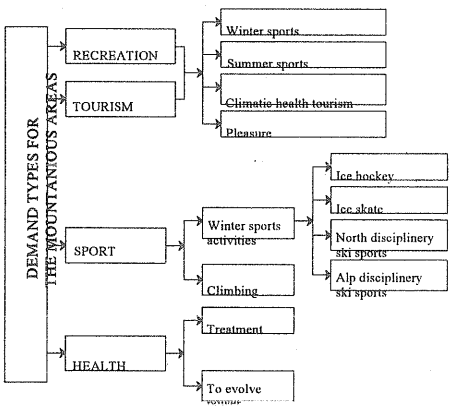
- Increased urbanization (Gezici, 1998)
- Increased travel opportunities (Gezici, 1998)
- The raising of income per person over a certain level (Gezici, 1998)
- The desire to know new environments and people (Gezici, 1998)
- The disappearance of frontiers in a globalizing world
- The increasing of education level.

Because of misunderstandings prevailing in our days, tourism and recreation activities are interpreted as if they are the alternatives of each other. Whereas, in reality tourism and recreation must be considered as a whole. The reason why tourism has predominance over recreation is its higher economical power. On the other hand, in general tourism is a component of recreation concept, because tourism activities are parts of recreation activities.

The most important part of the tourism and recreation is the one that is connected with water and summer climate. The main alternatives to these are mountain and country tourisms. The "healthy climate" criterion developed by the medical science has shown that the best places for the human health are at the altitudes 800-2000 m from sea level (Ülker, 1992). This discovery has increased the demand for the medium height mountains and winter sport centers.

These kinds of places, which have attractive climatic and natural properties, are being converted to the holiday camps; fun, health, treatment, sport and body building centers. The demand types for mountainous places are presented in Figure 1.

Figure 1. Demand types for mountainous places (Demir, 2000)



The spacial development of residence in mountanious areas and winter tourism

The spatial usages of the mountainous areas have initially started as holiday sites near the present town and villages. Later on this tendency has developed and by changing its character, it took the form of winter sports and recreation centers. Dorword has shown the related human abiding sites in Figure 2.

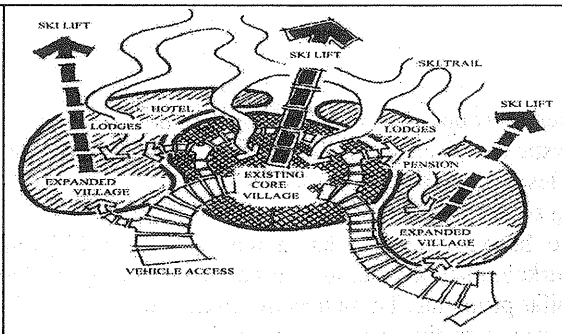
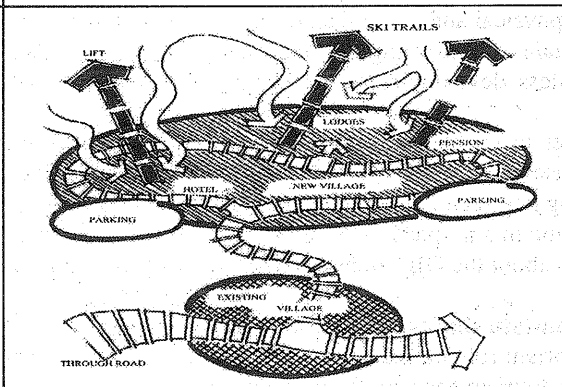
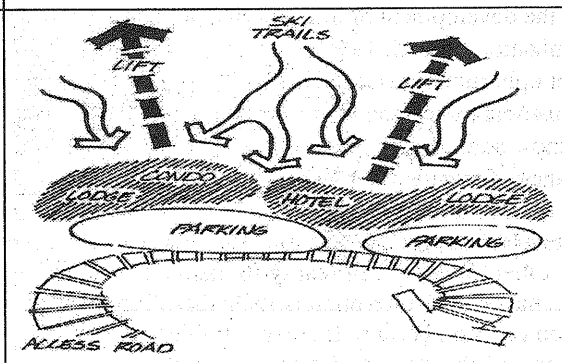
I. Stage ski villages: integrated to the traditional villages	
II. Stage ski villages: placed near the villages to benefit from the services of the villages	
III. Stage ski villages: by the invention of mechanical cable railways the ski villages have been planned and self-sufficient ski centers.	

Figure 2. Spatial development in mountainous areas (Doward, 1990)

As Figure 2 shows, the ski centers that initially started as parts of the traditional village sites have become self-sufficient mountain settlements in our day. As a result of this development, the main four factor necessary for the functional arrangement of mountain tourism sites are shaped as; road, car park, residence center and ski field (see Figure 3).

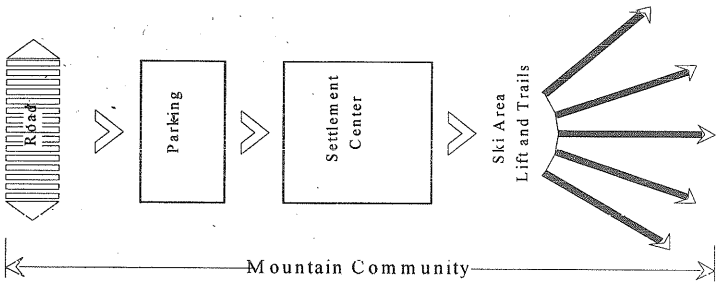


Fig. 3. The functional elements of mountain tourism areas.

The comparision of general plannig process and the plannig process of mountain areas.

The different physical planning works determine the established relationship between nature and people who use that area. The better this arrangement is the happier the people are. A physical arrangement provides answers to social and economical necessities in an orderly way and directs the quantative and qualitive increase of these needs in certain rules. There is a certain general planning process for the physical arrangement works of the settlements. This process includes the following: (Demir, 2000)

1. Investigation (the determination of data and their assessment)
2. Establishment of the aims (the determination of alternative strategies)
3. Synthesis (evaluation of the final situation following the determination of data, needs and aims).
4. Arrangement (planning)
5. Application

The mountainous areas are more sensitive than the other areas and as a result, they are more prone to be spoiled. Therefore, in order the physical planning works to achieve the desired goals, it is necessary to collect the necessary data and apply science based systematic research techniques.

The detailed inventory analysis works, conformity with the continuity criteria, a wide range physical planning conducted with participation of experts from very different fields are necessary for the success of the planning.

The present settlement structure, scale, character, architectural forms, material and micro climatic control determine the nature of the planning of the mountainous areas. The main aim of the mountain planning is to establish the relationship between visual and functional concepts while preserving the natural landscape.

The necessary technical data for the establishment of such a relationship in a winter tourism center is given in Table 1.

Table 1. Technical data for planning (Demir, 2000)

THE TECHNICAL ELEMENTS FOR PLANNING		
CONCEPTUAL SITE PLANS	Land use density	
	Preserve of landscape	
	Road and circulation systems	
	Buildings position	
	Natural landscape linkage	
	Parking accessibility	
MASTER PLAN	Proposed Alternatives	
	Proposed densities	
	Building-people graphics	
	Natural constraints (flood, wetland, slope maps)	
	Climatic maps (temperature, sun angle, wind, snow, avalanche hazard, microclimatic maps)	
DEVELOPMENT S PLANS	Setting quality	Character and style
		Position and scale
		Structure mass
		Architectural forms
		Material quality
	Economy	Cost control
		Marketing
		Construction
		Finance

	Usage quality	Visual and functional linkages
		Control of microclimatic impacts
		Slope revision
URBAN DESIGN	Constructions improvement	
	Constructive functions	
	To choose architectural materials	
	To protect from negative mountain conditions compatible solutions	
LONG-TERM MAINTENANCE PLANS	Snow removal	
	To protect urban furniture	
	Entrance-exit control	
	Trail maintenance and materials financing	

As it is seen from the table, the regions that will be opened for winter tourism should be suitable for relaxing and recreation activities. The suitability of the microclimate to the optimum living conditions, the conformity of the area to the necessary criteria and the attractiveness of the place are the main suitablity criteria for such a planning.

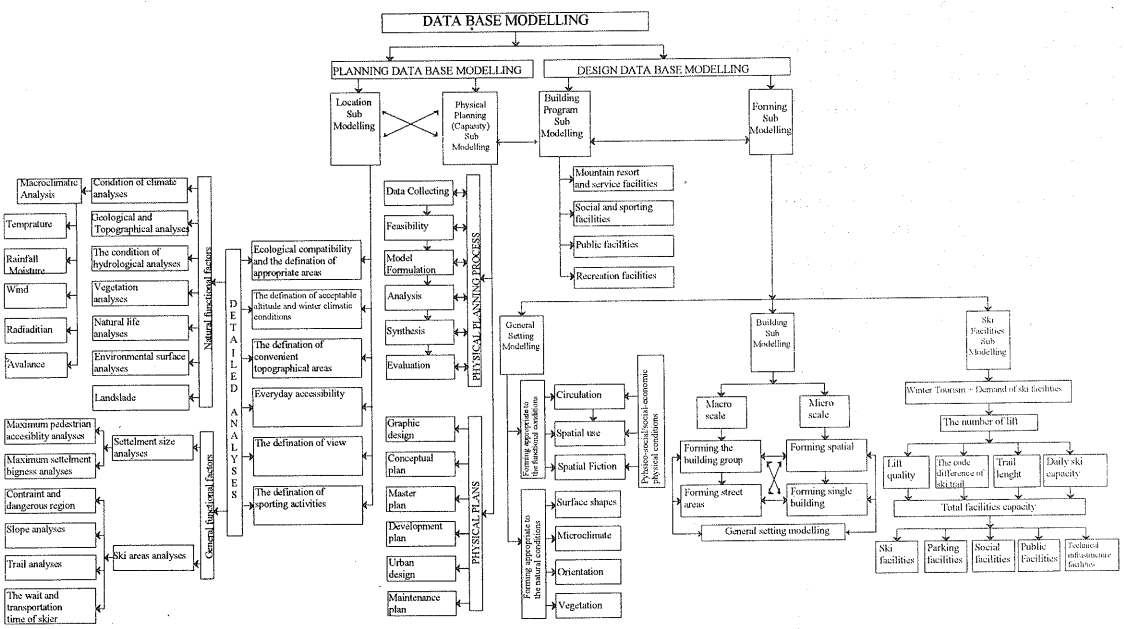
Under the light of these discussions, the winter tourism centers should satisfy the following requirements:

- Have convenient transport facilities in winter conditions,
- have land surface and topographic properties suitable for settlements and winter sports
- have micro climatic properties that will not prevent human activities and have adequate snow and sunny days to provide necessary tine and opportunity for winter sports
- have good visual panoramas
- have optimum means for skiing and settling.

Data Base Modelling

The planning of winter tourism centers can be classified into two parts as macro and micro planning. Following this line of definition, a data base modelling was developed for specific areas to be planned as mountainous winter tourism settlements (see Figure 4) (Demir, 2000). The DBM is investigated as "planning data modelling" at macro scale and as "design data modelling" at micro scale.

Figure 4. Data Base Modelling for mountainous areas.



The aims of this modelling:

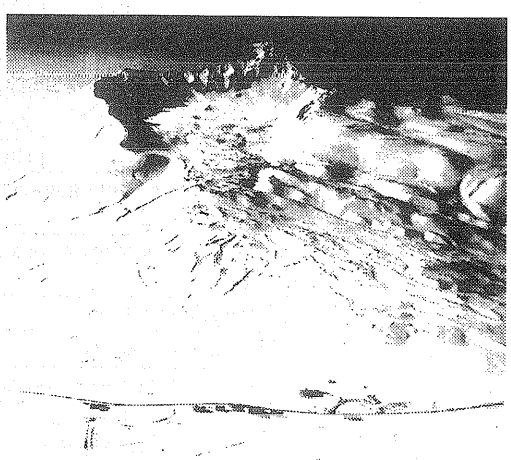
- To contribute to the outside spatial life
- to reflect the continuity principles in natural and functional base to the winter tourism-recreation areas
- to present the data in way to be able to help the planner and designer.

The spatial development of Tekir Plateau in Erciyes Mountain and planning works for this area

The Erciyes Mountain is inside the borders of Kayseri province. It is 25 km away from the center and with its height of 3917 m; it is the fifth highest mountain in Turkey. It is also an extinguished volcanic mountain. The mountain can be seen from every point in a circular area with a diameter of 100 km and with this appearance, it is a real statue of nature (Çabuk, 1996).

The Erciyes Mountain is attracting an increasing national and international attention because of its situation, natural properties and potential for winter tourism. Especially with its dust type snow, it is a very good place for winter sports. Furthermore, the length of its skiing track and the differences between the slopes (10-30%) make it one of the best ski centers.

The living centers that have shown a linear increase with time have been established at the Tekir Plateau. Most of the buildings are on East and by the roadside. The present ski tracks and mechanical systems are on the West skirt (side) of the mountain (see Picture 1.)



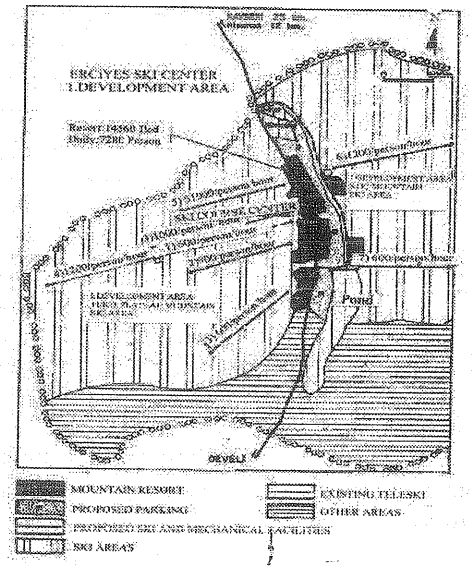
Picture 1.The development of The Erciyes Mountain between the years 1994-1997.

At the Erciyes winter tourism center there are not high quality living and other service units, social and sportive facilities, recreation oriented sportive centers and single day living abodes. Most of the buildings belong to the public instructions. They been built haphazardly and they do not contribute to the outside city spatial appearance.

The unplanned development of the ski center and living centers at the Erciyes winter tourism center since 1970 has caused many problems. There have been developed new plans to alleviate these problems. Unfortunately these plans (1/25000, 1/1000) did not include the macro and micro approaches necessary for this area with specific properties (see Figure 5).

The Ministry of Tourism has outlined the following decisions for development of The Tekir Plateau:

- At the 1st development region, living buildings, parks, ski mechanical systems and ski tracks and protection areas have been indicated.
- To procure the needs of the 1st development region, the living spaces 1-2-3 and the mechanical systems have been planned according to the settlement density.
- To procure the needs of the 1st development, a revision plan was prepared for the present and presently built



structure.

- At the 1st development region, the present establishments and the ones that being established are shown.

Figure 5. The development plan for The Tekir Plateau.

The test of the planning of spatial development of Tekir Plateau in Erciyes Mountain with DBM

The investigation of the physical planning of The Tekir Plateau with DBM is divided into two parts as macro and micro approaches. The DBM is investigated as "planning data modelling" at macro scale and as "design data modelling" at micro scale. The results are presented in Tables 2 and 3.

Table 2.Investigation by Planning Data Modelling

INVESTIGATION BY PLANNING DATA BASE MODELLING								
LOCATION SUB MODELLING	Ecological compatibility and the definition of appropriate areas	□	DETAILED ANALYSES	Natural functional factors	Condition of climate analysis	Macro-climatic analyses	Temperature	⊜
							Wind	□
							Moisture	□
							Avalanche	□
							Radiation	□
	The definition of acceptable altitude and winter climatic conditions	□			Geological and topographical analysis			□
					The condition of hydrological analysis			□
					Vegetation analysis			□
	Everyday accessibility	⊜			Natural life analysis			□
					Environmental surface analyses			□
	The definition of convenient topographical areas	□		General functional factors	Settlement size analyses	Maximum pedestrian accessibility analysis		□
						Maximum settlement size analysis		□
	The definition of view	□			Ski areas analyses	Constraints and dangerous region analysis		□
						Slope analysis		□
						Trail analysis		□
	The definition of sport potential activities	⊜				The wait and transportation time of skier		⊜
PHYSICAL PLANNING SUB MODELLING	PHYSICAL PLANNING PROCESS		Data collecting					○
			Feasibility					□
			Model formulation					□
			Analysis					□
			Synthesis					□
			Evaluation					□
	PHYSICAL PLANS		Graphic design					□
			Conceptual plan					□
			Master plan					□
			Development plan					⊜
			Urban design					○
○ Insufficient ⊜ Little sufficient ● Sufficient □ Uncertain								

At this part of the work the following results for The Tekir Planning were obtained:

- Space Selection Sub Modelling: natural and functional analyses criteria were not included.
- Physical Planning Sub Modelling: data collecting for the physical program and feasibility and assessment-oriented data collecting were not performed.

- Establishment Physical Planning: good spatial shapes between macro and micro scales for the living centers were not obtained.

Therefore, it is concluded that the planning for The Tekir Plateau is not a suitable one and this planning can not be sustained for the future.

Table 3.Investigation by Design Data Modelling

INVESTIGATION BY DESIGN DATA BASE MODELLING					
BUILDING PROGRAM SUB	Mountain resort and service facilities				◎
	Social and sport facilities				○
	Public facilities				○
	Recreation facilities				○
FORMİNG SUB MODELLING	General setting modelling	Forming appropriate to the functional conditions	Circulation		○
			Spatial usage		○
			Spatial fiction		○
			Surface shapes		●
		Forming appropriate to the natural conditions	Microclimate		□
			Orientation		◎
			Vegetation		○
	Building sub modelling	Macro scale	Forming the building group		○
			Forming street areas		○
		Micro scale	Forming spatial		○
			Forming single building		○
	Ski facilities sub modelling	Winter tourism + demand of ski facilities	The number of lift	*Lift quality*	□
				The code difference of ski trail	□
				Trail lenght	□
				Daily ski capacity	□
			Total facilities capacity	Ski facilities	□
				Parking facilities	□
				Social facilities	□
				Public facilities	□
				Technical infrastructure facilities	□
○ Insufficient ◎ Little Sufficient ● Sufficient □ Uncertain					

The development of establishments The Tekir Plateau was investigated, personal observations were conducted and the results are summarized as follows:

- Building Program Sub Modelling: The present buildings belong to public institutions and they are only for staying in there. The present buildings are lacking of the necessary requirements of a high rated ski center.
- Shaping Sub Modelling: Building Sub-sub Modelling: There is no new development from the settling structure to the single building scale, outside space and street shaping.
- Ski Establishments Sub Modelling: No scientific study on the potential ski sources and ski demands has been performed.
- There are no data related to the usage capacity of the center.

From the point of micro design, the present establishment plan of The Tekir Plateau has shown a development devoid of architectural and city planning concepts.

Result

The work has shown that, for the improving of the present structure and building of new establishment at The Erciyes winter center it is necessary to revise the present modeling concept. The relationship among nature-man-space concepts must be reinterpreted and a new approach, where the planning and design are integral parts of a whole must be implemented.

Therefore, a good physical planning as viewed in this article is important in order to achieve personal and social satisfaction, to build high quality structures, to respond to the expectations of relationships between man and nature as much as the transport capacity enables. The principles of this physical planning and its priorities must be sustained and the design must be directly put into practice.

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What does Computer Aided Design offer for producing livable buildings in the 21st century?

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Abstract

Designing livable buildings has always been a major concern for architects but they are often criticized on account of failing in this aim. However, this is not only due to the ignorance of the designers, but also of the complexity of the factors that are essential to design but difficult to incorporate the design process. Buildings are shaped and occupied under several dynamically changing conditions and paper-based media and conventional Computer Aided Design (CAD) tools are inefficient in representing them.

This paper aims to discuss the changing role of digital media for architectural design in response to the increasing complexity of design processes. Some proposals, supported by recent technological innovations, are suggested for the future and they are compared with the conventional uses of CAD. It is claimed that in the 21st century, the main advantage of using computers will be to dynamically simulate buildings in time in highly visualized virtual environments to evaluate the future performance of proposed designs. The design model will not only look as if it were real, but it will also "behave" as if it were real so as to provide dynamic and intelligent response. The two key technologies for the development of such modeling, virtual reality and object-oriented programming are addressed and four promising application areas for near future (evaluation of user-building interaction, visualization of environmental factors, construction scheduling, and combined CAD-GIS) are discussed. Some important considerations for the development of dynamically simulated virtual models are analyzed and suggestions are made for further research.

Introduction

The process of building incorporates many intermingling environmental and cultural systems. Although buildings have static structures, everything else related to architecture is dynamic. Environmental factors such as the effects of the sun, wind, temperature and humidity change in time. People experience buildings dynamically in various ways. Use patterns are likely to change in time and buildings are exposed to unexpected events like fires, earthquakes, or floods. It is usually assumed that architectural design takes all such factors into consideration. In fact, reality doesn't meet this expectation, not only due to the insufficient knowledge of architects, but also due to the complexity of the factors that conventional design media fails to represent.

Although they have been the major interpretation of designs throughout history, drawings and physical scale models are rather abstract representations that are not related directly to the context of use. Since they do not represent the unique experiences of users and the dynamic effects of environment, they are not proper media for testing and refinement of designs. Jones contrasts the rigidity and limitations of "design-by-drawing" with the responsiveness of the craft process. He explains that trial and error is separated from production by using a scale drawing instead of the product as the medium of experiment and change. The scope for using drawings and physical scale models as a means of producing well-adapted designs is limited, because, "The principle of deciding the form of the whole before the details have been explored outside the mind of the chief designer does not work in novel situations for which the necessary experience cannot be contained within the mind of one person." Moreover, in design-by-drawing, designers tend to focus on visual articulation and ignore everything non-visual that the scale drawing fails to represent (Jones qtd. in C. Mitchell, 1993).

Despite the importance of representation for architectural design, research on the potentials and limitations of design media is surprisingly rare. Instead, widely used techniques of sketching, orthographic projection, perspective projection and scale modeling are discussed in terms of re-inventing roles and re-establishing the order of precedence in the literature (Koutamanis, 2000). Within this perspective, this paper aims to discuss the changing role of digital media for architectural design as a response to the increasing complexity of design processes. Some proposals, supported by recent technological innovations, are suggested for the future and they are compared with the conventional uses of Computer Aided Architectural Design (CAAD).

Although computer graphics and CAAD have revolutionized modeling media in architectural design, digital media has been conventionally used by architects as a replica of paper. This is probably due to the misconception of the earlier CAAD systems in 1980s as simple devices for manipulating graphics just like word processors for manipulating texts

(W. Mitchell, 1990). Consequently, CAAD gained acceptance as a term referring to automated drafting with the "D" in "CAAD" actually read as "drafting." Even in academia this opinion is still prevalent among those who focus only on the "conceptual" phase of the architectural design process (Hanna and Barber, 2001).

Three-dimensional modeling, visualization in motion and virtual reality introduced a new dimension to architectural representation in 1990s. The demands of clients have been the main driving force for the widespread use of such tools. The public is exposed to high-end graphics on a regular basis in games, on TV and in movies. It was this type of output that most of the clients began to demand during that period (Mahoney, 1997). Fortunately, besides these presentation-oriented developments, there have also been efforts to reinterpret the computer as a tool for processing and communicating information about buildings. In fact, in the field of CAAD the attention is increasingly shifting from the mechanization of design process to the simulation of buildings with the whole life cycles (Bojar, 1996). In this approach, the goal of the architect is not to compress the time required to produce traditional documentation, but to explode the amount and nature of information available about a designed building, to the benefit of the building's designers, users and owners. This paper strongly supports this point of view attempting to propose a more rigorous use of computer graphics for architectural design.

An Approach to More Utilitarian Computer Graphics: Virtual Prototypes in Engineering Design

Engineering design traditionally tends to be the forerunner of new computer applications in design. Thus, it appears to be a good place for searching for inspiration. In the second half of the 1990s, there have been several important developments towards expanding the limits of design media in engineering design. Combining virtual reality technology with object-oriented programming, virtual prototypes of products have emerged. Although the idea of using virtual reality in industry is not a new one, virtual reality technology has only recently matured enough to enable engineering design applications. A virtual prototype is a dynamic, interactive, often immersive three-dimensional CAD model developed to analyze product designs. It is "intelligent" enough to capture product content, generate and simulate manufacturing processes, and predict product behavior. In other words, virtual prototyping software not only simulates the way things look but also the way things work. They enable engineers to check for potential design problems, such as difficulty in accessing components and completing assembly sequences. Engineers can perform several "what-if" tests prior to the development of the first real prototype. Once built, a virtual prototype can be used in the whole product life cycle from preliminary design to cost estimation, manufacturing, and marketing. The use of virtual prototyping optimizes the design performance, increases collaboration, reduces costs and shortens time to production (Halpern, 1997).

The availability of massive computer power, huge system bandwidth, and industry leading graphics -all with the decreasing costs- have led to the acceptance of virtual prototyping as a viable engineering tool. In the current state of the technology, there is still a long way to go to compose (for example) an entire commercial airplane as a virtual prototype (Kasik, 2000). However, several major industries, such as aerospace, automotive and shipbuilding, are already using virtual reality for design testing applications. For example, the automotive industry tests the interaction of users with the products by combining the virtual models with virtual humans which are computer-generated realistic models of humans (Hodges, 1998). This type of modeling is developing so rapidly that one of the pioneers of human modeling, Norman Badler, claims that in the near future digital copies of individuals with their mannerisms and behaviors will be available. They will simulate natural language, natural movements and interactions between the entities utilizing artificial intelligence techniques (Badler, 2000).

Proposals for Architectural Design

A single three-dimensional digital model that includes the behavior of design elements has long been a dream for CAAD researchers. Taking clues from the developments in engineering design, we claim that virtual prototypes of buildings will be the next important step in digitalization of buildings. Since every building is unique, it has been impossible to produce a realistic prototype before the actual construction for each building. The use of full-scale models or mock-ups can be used only in exceptional situations due to the high costs. Even when they can be utilized, the representational capability of a physical model is very limited compared to a dynamically simulated virtual model. However, in the future, whole life cycles of buildings will be dynamically simulated in highly visualized virtual environments to evaluate the future performance of prospective designs. Decreasing costs and improving functionality of computer technology have already made such applications possible (Taşlı and Özgüç, 2001).

Two key technologies for the dynamic simulation in virtual environments, namely virtual reality and object-oriented programming, suit the needs of architectural design well.

Virtual Reality represents the latest development in the process of digitalization of architectural design. It has already been utilized in architectural design in different manners, as a highly developed presentation technique, as a means for digital reconstruction of historic buildings and sites, or as a tool for producing manifestos of "virtual architecture" as the sole product. There are also several experimental studies to utilize virtual reality as a design medium.

The popularity of virtual reality in architectural design is not surprising because, it can easily be observed that its characteristics, three-dimensionality and immersion, interaction, and simulation find correspondence in architecture.

Architectural artifacts are by their own nature three-dimensional and the natural physical immersion of architecture can be rendered at its best in immersive virtual environments. Interaction refers to the cognitive aspect of design process. In the earlier phases of design, designers deal with recursive sketching; many ideas are generated and tested in a fast manner. While sketching, architects interact with their designs by re-forming their representations. However, most CAD packages are not intuitive enough to the designer's thought process to support rapid development of design ideas. Virtual reality, however, has great potential for enhancing the way architects interact with their digital models since it provides a natural interface for design by real time feedback functionality (Bertol and Foell, 1996).

We believe that the most important potential of the use of virtual reality for architectural design lies in the concept of simulation. Simulation as a means of imitating a real system and predicting its behavior is an essential phase of an efficient design process. It is used within many areas, where it is considered to be a methodology. The use of simulation as a design methodology has been proposed by many scholars since the early works of Design Methods movement of 1960s (Cross, 1993). However, in the practice of architecture, knowledge about many systems is represented primarily through a normative process. Such knowledge is based on architect's own experience of what has worked in the past, or that of some other designers' embodied in existing buildings that can be observed. If the normative approach is used exclusively it is very limited due to the general nature of this knowledge. Since any departure from a solution that has worked before leaves the architect with no point of reference, original solutions are discouraged and the basic designs tend to remain unchanged. Remaining designs unchanged, the less obvious mistakes can become "fossilized" and carried from one building to the next (Reynolds, 1980). Moreover, rules of thumb are often incomplete, partial or contradictory. Since they are developed from past experience (because there is no theoretical guide) a failure of a rule cannot lead to any advance in providing better rules. On the other hand, a simulation model explicitly lay down its assumptions and can be controlled and criticized at each step of its development. Computers can currently simulate most of the aspects of design relatively easily, but conventional simulation tools leave architects with a large amount of data, often in a format difficult to understand. Architects are not very willing to use conventional performance simulation tools because of the non-graphical output and uncomfortable interface of such tools. Experiencing design behavior is yet only possible with virtual reality. Design behavior such as thermal insulation and acoustic isolation can be represented as colors, sounds, motion-models and other user-friendly representations and these can be directly mapped on the virtual model.

Object-oriented programming is the other tool that can be used in the development of dynamically simulated virtual models. The basic idea of object-oriented software is to combine the data describing the object and the operations related to it into the same object. Objects can be defined in a hierarchy so that an object can inherit the properties of its "parent" object. The benefit of object-oriented software to architecture is clear "because object-oriented design is what architecture is all about." Architects can use object-oriented software to describe the attributes and behavior of a broad range of architectural objects most of which are well described by their interfaces (Sanders, 1996). Object-oriented programming dates back to first simulation programming languages like Smalltalk and Simula in 1960s, but they did not become popular among CAAD vendors until 1990s. In the early 1990s, CAD technology shifted from two-dimensional drafting to three that allowed drawing a wall, for example, as a single block and then punching holes in it for windows and doors. In this method, the wall drawing "knows" that it represents a wall and if the user draws vertical lines inside a wall the software designates these lines as studs or joists. The main advantage of object-oriented technology is the increase in the level of communication and collaboration among the building parties (Ross, 1999).

Application Areas and the Potential Benefits

In the current state of the art, four areas seem promising for the near future: evaluation of user-building interaction, visualization of the environmental performance of buildings, construction scheduling, and combined CAD-GIS (Geographic Information Systems). Any type of design should be considered as an interface between people and designed artifacts (products, buildings, etc.) and each work of design has to respect the user needs in order to be regarded as successful. However, the information needed for user responsive design is fragmentary, imprecise and highly subjective. Even if reliable information exists, it is not easily applicable for design purposes. However, as mentioned earlier, human modeling software has already reached a level of maturity to be used in design testing applications. By combining the virtual model of the design with virtual humans, an architect can understand the possible results of interaction. Experiential user needs (like aesthetics, comfort and preferences) as well as accessibility and safety considerations can be analyzed. At the most advanced level, architects can become immersed in designs, "becoming" the user. For example, an architect designing a house for an elderly can benefit from "looking through the eyes" and "walking in the shoes" of that person. Moreover, simulations of groups help to analyze the events like evacuation, panic, or wayfinding in buildings.

Virtual prototyping allows us to look at a system as a whole; a building with its environment is a perfect example for such a system. Buildings' thermal, structural, acoustical and lighting behaviors can be analyzed by dynamically simulated virtual models. Such simulation often makes use of computational fluid dynamics that solves the equations governing fluid flow and translates the numeric solutions into easy-to-read dynamic graphics. Computational fluid dynamics can be used in architectural design to predict airflow, heat transfer, progress of a potential fire and concentration of smoke. Auralization of sound in virtual environments i.e. rendering spatialized sound based on

acoustic modeling, is another area of performance visualization. Such systems can compute reverberation paths from a sound source to a listener and visualize the results (Sullivan, 1996).

Simulation of construction scheduling is a further application area of dynamic simulation in virtual environments. This type of simulation makes it possible to analyze construction processes and to optimize them. In a simulated construction environment, bottlenecks can be eliminated by trying out several "what if" scenarios (Maruyama et al., 2000). A recent development in the computing for architecture-engineering-construction (AEC) industry is the project-specific Web sites known as "proj ct extranets." Such systems use the Internet to improve communication and data sharing between geographically dispersed team members during design and construction. In most aspects, these sites are similar to the public Web, but their access is password-restricted to members of a project team. Using Virtual Reality Modeling Language (VRML) construction simulations can be shared through the Internet (Potter, 2000).

Geographic Information Systems (GIS) that store environmental, topographical, and demographic information in layers linked by geographic reference points help urban planners to organize information in an efficient way. While design and geographical analysis are closely related, they have depended on two independently operated technologies (CAD and GIS) until the recent years. Now, there are combined CAD-GIS applications that allow users to produce real-time simulations (Sullivan, 1998). In the early years of the present century, architects will be able to design buildings in virtual environments within the urban context. They will have access to accurate measurements of land and city infrastructure in visual databases using game-like interface.

There are many advantages of three-dimensional, interactive, dynamic virtual models for architectural design compared to conventional CAAD. First of all, simulation of building performance for the whole life span of a proposed building saves the client and architect time and money and enhances the quality of design. Buildings are expensive entities to build and maintain. Furthermore, even a small increase in the operating and maintenance costs of buildings will total much through the years. However, many of these deficiencies can be eliminated by dynamic time simulations in virtual environments.

In architectural design, most of the important decisions (orientation, circulation, functional layout, etc.) are made in the early stages of design. However, most CAAD software does not support these stages of design development. CAAD software is traditionally used for the production of construction documents after the preliminary design is complete. The digital model produced at this stage is rarely used after the construction of the building. On the other hand, virtual reality technology has already proved itself in the early phases of engineering design and just like virtual prototypes, virtual building models can be utilized for the whole life cycle of buildings. Moreover, a virtual model is more flexible compared to conventional models. Simulation, evaluation, and modification can take place within seconds through a highly interactive user interface with real time feedback functionality. The benefits of this property are clear: the shortening of the design cycle and quality improvements due to gained information.

Educational benefits of virtual prototypes also deserve attention. Since the early trials of flight simulators in 1960s, simulations in virtual environments have been increasingly utilized for educational purposes. They are mostly used where "hands-on" practice is essential but actual equipment cannot often be used (either because it is too expensive or too dangerous). Industry, medicine, or other work areas involving high risk like fire fighting have been already using this technology (Greengard, 1998). In architectural design, most of such experiments (evacuation, structural stability, thermal comfort, etc.) are dangerous to conduct. Therefore, experiments on proposed buildings in virtual environments will facilitate for architecture students' understanding of how buildings work.

Some Considerations for Future Developments

Since the development of dynamically simulated virtual models is very new to architectural design, effective development necessitates several researches on different fronts. A major problem is compatibility. Architects usually have to use two or more software packages to produce a high-level model and lack of compatibility between different programs has always been a problem. Because of differences in user preferences and fundamental capabilities several incompatible CAAD systems tend to continue to exist (Kasik, 2000). Dynamically simulated virtual modeling will not to be an exception. Virtual Reality Modeling Language (VRML) became an International Organization for Standardization (ISO) standard in 1997 (Nadeau, 1999), but standardization and compatibility considerations still need further studies.

Interface design is another important issue that needs to be considered. CAAD systems are often criticized on account of incompetent interfaces that shift attention from the design task to the interaction task. This obviously consumes time and energy. A design system should be quick and intuitive, capturing the flow of concepts as quickly and naturally as possible. Moreover, dynamic simulation designed for architects should enable them to get the information needed on their specific problems, make sense of it and reach decisions easily. Since building is a process including a number of professionals with different backgrounds (architects, engineers, facility managers, financiers, etc.) a common ground should be provided for different applications. Hence, interface designs enabling effective collaborations have to be studied as well.

Any type of computer simulation necessitates that information be collected. Since this data is often complex and divergent for the building process, interdisciplinary studies are needed. We suggest that the information needed for the production of dynamic simulations of buildings should be obtained from environmental design research. Design researchers often complain that their efforts are not respected enough by the practitioners. Besides the ignorance of

practicing architects, this situation is also due to the inconvenient format of the outputs of such research for their competitive and pressuring market conditions. Simulation in virtual environments can effectively make use of research data and present the results in an easy-to-follow way.

Finally, validation of simulation models and representations for visualization is an important consideration. Validation of the model is required for any type of simulation to ensure that the mathematical model successfully represents the reality. There are several difficulties in modeling time, colors, and textures for dynamically simulated architectural models. Since it is yet impossible to simulate the real visual experience, at the current state it would be proper to catch a likeness level that reveals the key aspects of a design rather than trying to simulate the whole experience. Moreover, visualization techniques and representations should well respond to the needs of architects. Ease of use and avoidance of misinterpretations are the key concepts. There is a lack of standards for computer visualizations in general (Gershon and Eick, 1997); hence, architects have to develop their own conventions according to their purposes.

Conclusion

The latest developments in computer graphics are opening up new frontiers for the more efficient uses of digital media for architectural design. Predicting future developments in computing is one of the most difficult exercises because of the rapid pace of the development. However, it seems that dynamically simulated virtual models will further challenge the conventional practices. Architects should re-design their expectations from CAAD towards expanding and exploring design knowledge.

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Metropolis and the individual

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Metropolis and the individual

Under the title of 'metropolis and the individual', the impressing mechanism and operation of the great city, the effect of modernity to the formation of the metropolis and the modern society, the life style that human being leads and the reactions he develops in the metropolis, the relation and communication types of the modern society are examined. Metropolis and the society are two different forms of modernity. Metropolis has an intoxicating effect on the individual with its superior aesthetic, function, and the complex set of relations. Commodity is a dominating factor in the formation of the metropolitan culture. Metropolis has its great functional magnitude beyond its physical boundries.

Mental life in the metropolis is intensified by rapidly changing, sometimes contradicting impressions captured at a glance. The stimulants of the mind in the rural life are more smoothly flowing and regular while being rapid and violent in the metropolis. Conciousness acts as a buffer, inducing a defence against the fragmentary, alienating nature of modernity.

Production relationships as in the division of labour determine the social role of the individual in the social structure of the metropolis. Modernization, in the social platform, is in the process of shifting the social structure from a rural based, traditional community/Gemeinschaft to a modern society/Gesellschaft.

There is precision and exactness in the metropolis as the complex matrix of relations can only operate in that way. Modern mind, by the effect of money economy in the practical life, has become more and more a calculating one. Money economy and the mass production also brings an anonimity to the relations of the producer and the purchaser. Indirect relationships prevail within the modern society while face to face relationships are a characteristic of the traditional community.

In the metropolis, while the individual culture is getting through an atrophy, objective culture which is supported by 'education' is in an hypertrophy.

1. General features of the metropolis

1.1 Intoxication

According to Benjamin, metropolis is entwined with myth. He thinks it as a dream world, and finds literary meaning in it. Since modernization is seen as the obviation of myth, it is paradoxical to think metropolis to be mythical. But what is significant about metropolis is the intoxicating effect of the extraordinary functioning, complexity and the aesthetics of it. Intellectualistic individual generally prefer not the simple but the complex one in both the platforms of art and life. (Benjamin,1940)

Metropolis and the modern society: Gesellschaft, are the forms that appeared with modernity. It is through the crowds of the city and the decaying fabric of its buildings, one could understand modernity.

The aim of trying to understand the life of metropolis might rather be to find its effects on the individual as the modern life is challenging for him.

Life in the metropolis transforms the human being mentally. In order to consider an inhabitable environment for the individual, we should not forget the fact that he is undergoing mutations with his environment: Individual and his environment, here the metropolis, are ever transforming.

Baudelaire's 'flaneur' is parallel with Simmel's blasé individual. Blasé type individual is like a creature in the crowds of the metropolis, while 'flaneur' observes them from afar. (Leach,1997)

The fethishization of commodity, the deception of 'progress', the repetition of the 'nothing-new' within the fashion industry constitutes the cultural side, the myth in the metropolis. To get forward and to succeed might be the illusions of the invidual while he ensures the continuity of the economic system. (Benjamin, 1940)

1.2 Dynamic geometric extension

The important characteristic of the metropolis is the functional magnitude which is beyond its actual physical boundaries. Beyond a certain limit, the economic, personal and intellectual relations in the city grow in a geometrical progression. The horizon of the city enlarges by the thought and knowledge that derive from it. Furthermore, the limits of the individual extends by the meaningful effects emanating temporally and spatially from him. (Simmel, 1903)

In this growing relations of the metropolis, the individual takes additions and prosthesis to himself in order to keep in step and compete with the heavy rhythm of mental life. Thereby, he could have access to the locations far from him and make decisions with that competence. (Mitchell, 1996)

1.3 Production relationships

The dominating economic factors of the metropolis already determine the social roles and relations. The city and the metropolis are the places that keep millions of people together in which production relationships and division of labour are establihed in a highest level. There is mass production for the market.

By the 19th century, the individual achieves a unique and indispensable position like a cogwheel in a machine as the division of labour came into being. But he is more dependent on the complementary activity of others. In its gigantic limits, the metropolis or the city offers a wide variety of services and functions.

For the individual, specialization which brings diversified plurality of achievements, is necessary for finding new sources of income and meeting a variety of demands of the customer. This process enriches the demands of the society, and brings a kind of refinement. Specialization offers individualistic diversity and plurality to the society.

1.4 Intensification of mental activity

Metropolitan existence and the rural existence of the small town are in contradiction from the point of the rhytm of mental and emotional life. Mental activity, imagery, and the rhytm of life are more smoothly flowing and have habituated regularity in the small town and rural areas while in the big cities and the metropolis, by the rapidly changing images, the unexpected and contradicting stimuli, the rhytm is hard and requires more mental energy. Then, mental activity is intensfied.

1.5 Modernization, changing the social structure

A German sociologist Toennies defined modernization in the process of shifting social structure from a rural based traditional community;Gemeinschaft, to a modern society; Gesellschaft. His definitions are significant to see what modernity has changed in the social structure. The metropolis, as we understand it today, is based on this shift.

Gemeinschaft is the traditional and natural organism of people whose relationships are based on consensus while Gesellschaft/Modern society has impersonal, associational relationships dominated by money economy and based on agreement. Gesellschaft is formed on the conscious choices of relatively independent individuals, while the essence of Gemeinschaft is the subjective being and belonging together. (Boudourides, 1997)

Toennies defined levels of communal and modern social life. While the levels of family – neighborhood – civil community constitute the former, urban – national – cosmopolitan levels form the latter. These steps follow each other rather than being isochronal. (Oppenheimer, 1932)

In the 'Family' level, we see an organism whose relationships depends on kindred and blood affinity. Their economy depends on the family's production and the controlling actor is the family member.

In the 'Neighborhood' level relationships depend on the'place'. Community has collective activity that requires common sense but still based on customs and traditions. Individual's mental activity is habituated. Economical activity is based on agriculture while partnership is the controlling actor.

In the civil community, there is collective activity depending on conscience. Individual is oriented through religion, supervised by the religious institutions. Intellectual activity is usually about beliefs and spirit supported by art.

In the 'Urban' level, there are agreement, contracts and legal relationships among the individuals rather than a consensus. Society controls the individual's behaviour. Commerce is the economic activity. Then, society is not a natural organism anymore but an artefact, which forms a mechanism designed to serve the purposes of the individual.

The upper 'National'level, individual has a rational way of thinking, is oriented by laws and controlled by the state. Production is based on industry.

In the 'Cosmopolitan' level, the society has a conscious will. Public opinion supervises the social life and scientific thought is an important reference for the people. Their production and intellectual activities are based on scientific thought. Today, diversified groups and associations prevail within the society.

Significant differences could be told in other words as follows: In the communal level 'culture' is formed, however the 'civilisation' is a product of a society related with an urban sociality. (Oppenheimer, 1932)

1.6 Calculating Exactness

There is precision and exactness in the metropolis as the complex matrix of relations can only operate in that way. The capital does not let any uncertainity, everything should work fluently like a machine.

Modern mind, by the effect of money economy in the practical life, has become more and more a calculating one. The exactness resulting from this calculation, corresponds to the ideal of natural science, to define the world in mathematical formulas.

Because of the character of calculability which money has there has come into the relationships of the elements of life a precision and a degree of certainty in the definition of the equalities and inequalities. Punctuality, calculability, exactness defines the form of life in the modern metropolis besides exterminating the instinctive, irrational, and independent characteristics of the individual. (Simmel, 1903)

2. Stimulating metropolis, adaptations of the mind...

The metropolis is an extremely dense and stimulating environment for the human being. The individual, in an ever transforming city, adapts to his environment by changing himself. The modernization and urbanization of the individual can be described as an irreversible reaction. Once transformed mentally, the reaction cannot be reversed.

The mental abilities of the individual in urban conditions are well developed due to the many stimulants. His mental activities, addictions, expectations and his art changes in this transformed potential. This is why the world is dominated and managed by the people living in the cities. So, the life of metropolis becomes the core of modernity.

Personality makes an agreement while adapting to external impulses. The individual takes his place in the life of metropolis by concentrating his mind and putting it in a dominating position.

Individual is not an object of knowledge but an object of experience which means the knowledge about him is not statical as the external and internal conditions of him are ever transforming.

By the continuous shift of internal and external stimuli , the mental life gets intensified. The mind is stimulated by the difference of the actual impression and the preceding one. Being insensitive and indifferent to events and to other people is a result of this situation, this is a mechanism of the human mind to protect itself.

According to Simmel, the locus of reason is in the lucid, concious upper strata of the mind and it is the most adaptable of our inner forces. In the evolutionary process, the latest forming layer; neo-cortex is the 'enlightened' and most adaptable part of the brain which Simmel told about. In other words, it is a superior formation of the human body that makes him achieve refined skills and a high potential of conception.

During the history of evolution, the mass of the neo-cortex in human being increased, while the connections within his neural network got complicated. These connections increase the capacity of probable reactions of the brain. In the emotional life of human being, neo-cortex provides a skill of 'thinking about what we think'. Thereby, human brain has an ability to criticize itself. A wide, flexible range of reactions is vital in a complex social system like the human being's.

Adapting capacity is required in the metropolis to keep in step with the rapidly changing, contradictory events, impressions and stimulants. The incontinuities of external milieu form deep cracks in the mental life. Individual protects himself by developing rational and reasonable attitude rather than emotional ones. Benjamin explains that conciousness acts as a buffer, inducing a defence against the fragmentary, alienating nature of modernity. (Leach, 1997)

However it is interesting that the individual living in the metropolis tend to become bored without the regular impulse, intensity and chaos existing in crowds. Just wandering around and observing crowds unfamiliar to him as an anonymous person, is vital to him. This is a kind of indepency for the individual.

3. Negative aspects of modern metropolitan life

In the modernized metropolis, a dissociation comes into the sociality by the negative effects of money economy on the individual's thinking and behavior. The so called dissociation and diversity is one of the primary forms of socialization. The deepest problems of modern life flow from the attempt of the individual to maintain the independence and individuality of his existence against the sovereign powers of society, against the weight of the historical heritage and the external culture and technique of life. (Simmel, 1903)

3.1 Money economy

Money is an abstract value. Abstract money, brings an independency to the commercial relationships. The individual achieves independency in the metropolis and on the other side is getting lonelier. Money deals with the general quality for everyone. It takes the place of all the manifoldness of things and expresses all qualitative distinctions between them in the distinction of how much.

Exactness and punctuality gain importance since small delays could even cause big loss. The life in the metropolis has to be rational. The metropolis drives the individual into standardization and equals with others.

3.2 Objective Culture

In the metropolis, while the individual culture is getting through an atrophy, objective culture which is supported by 'education' is in an hypertrophy. So the individual rationalizes his existence, while abandoning his individuality. However, objective culture is necessary to form a common terminology and to make scientific argument possible.

3.3 Anonimity

In a small environment, producer could possibly meet the purchaser while in the metropolis, in the relations of mass production, purchaser is anonymous. Tehereby, producer and purchaser stays far from an emotional contact besides they are easily oriented to rational targets like earning the maximum profit. In the rational relationships, the individual is a part of a calculation and the only significant progress of him could be a measurable and objective one.

3.4 Reactions: Blasé attitude, external reserve

The continuous and contradictory stimulations of the mind and repressing these stimulations gives its results as an insensitivity and an indifference to the external milieu. The individual can not react to new stimulants with enough energy as well. Things appear to the blasé person in a homogeneous flat and grey colour with no one of them worthy of being preferred to another. Therefore, metropolitan man is usually thought to be cold and uncongenial. However this intensified mental life enriches the metropolitan intellectualism.

The mental attitude of people to one another is a kind of reserve in the metropolitan life since if the external contact of numbers of persons in the city should be met by the same number of inner reactions, one would be completely atomized internally. This external reserve of the individual is both an indifference and a slight aversion and repulsion towards other people. (Simmel, 1903)

4. Communication

The relation types of modern society and traditional community are different since the prevalence of indirect, mediated relations over direct, face-to-face relations, which are typical of traditional and early modern societies, signifies a constitutive characteristic of modern societies. The dominant function of communication in the modern society is to achieve firm goals through flexible social relationships.

The cities are not the areas of activity to provide maximum face to face accessibility of people to one another, but rather constitutes structures and institutions to provide organization of accessibility. (Mitchell, 1996)

It is questionnable whether the massive expansion of indirect social relationships that has been facilitated by the advances in the information and communication technologies could help social integration. (Boudourides, 1997)

When we think about internet as a public space, severe doubts has been raised about the extent to which the public and urban places of social life could be reconstructed inside the electronic regime....Public interaction on streets and in public spaces offers much more than can ever be 'telemediated' and it is very hard to substitute real face to face interaction, the chance encounter, the full exposure to the flux and clamour of urban life-the richness of the human experience of place. The street is in real interaction with the individual.

5. Expansion of information

While the communication between people increases, and information runs fast by the innovations in the communication technologies, the sociality changes its dimensions resulting in techno-sociality. People are with themselves but they are with everyone and in every place on the world. The increasing of information and knowledge is creating a 'depth of field' in space and a 'depth of time'. The individual can understand his position better in the time period.

Both the depth of field and the expansion of information have an important result: the universalisation of 'culture and civilisation' is unavoidable. This situation happens in the cosmopolitan metropolis which is highest level of the urban existence.

5.1 Depth of field and time

From the beginning of the 20th century, modernism has brought the depth of field to the city. The concept of 'depth of field', used basicly in the field of photography, which means a clear and focused depth in space, could possibly be achieved in the modern city by the clearness of maximum area in the mind and circulation facility.

However, in the beginning of the 21st century, we should be talking about the 'depth of time'. Depth is discovered and experienced related with the fourth dimension: time. Depth of time, with the help of technology, is the possibility of having a long time period cleared in the mind by the documenting, recording and transferring the events appearing in the time period. It could also be defined as a 'folding' of events at the same moment. (Virilio, 1991)

6. Individual is unique

The individual does not belong to a 'place' anymore, he and his culture is universal, this is an inevitable result. It is questionnable to try to preserve local cultures. It is no longer the 'general human quality' in every individual but rather his qualitative uniqueness and irreplaceability that became the criteria of his value. The individual will be nearly equal and his culture might be the same with others in the infinite relations of the network. But he is going to keep the qualitative uniqueness by his subjective values which come from the inside.

7. Conclusion

It is not possible to deny that the complex and dynamic structure of the city makes it hard to define. However due to this reason, the city becomes the starting point and application field of all the artistic and philosophical visions. The city and the metropolis are the focal points of philosophy, architecture and art, because of the fact that they accommodate a rich

background that encourages people to think. Altough metropolitan life is challenging for the individual, the rich and intensive background it offers is irresistable.

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Rebuilding After An Earthquake: The Downtown Recovery Program of Santa Cruz, California, Usa

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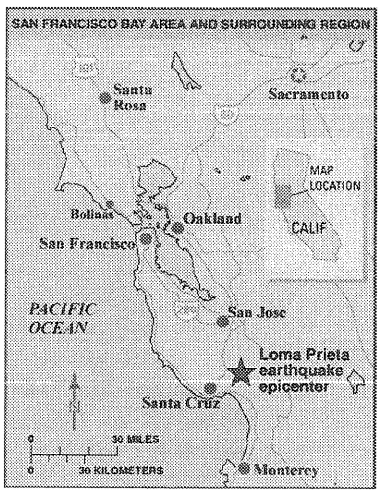
Abstract
This article focuses on the results of the reconstruction efforts in the City of Santa Cruz, California after the Loma Prieta Earthquake of 1989. It gives a summative description of the design and management of the Downtown Recovery Program's efforts to recover and reconstruct a livable environment after a major disaster. The institutional, participatory and environmental dimensions of the recovery process will be discussed and will be the basis for the preliminary evaluation of the success and the effectiveness of the program. The interrelationships and interactions of these dimensions are reflected in livability issues of the community. In addition to these issues, the paper will summarize the influence of the program on the architecture of the city in the post-disaster era.

One of the important aspects of the recovery has been the issue of sustaining the vital aspects of the program area after the disaster. The emergency response, and the short-term recovery efforts have played an influential role in the long-term program in the Santa Cruz case. Lessons from these efforts can provide useful information for an integrated approach of hazard mitigation planning, design and implementation. While the primary component of the program has been economic recovery, the architectural/urban design elements, from land use to urban and architectural form also has been a major component. Therefore, the Santa Cruz case study can be useful to comprehend the relationships of architectural and urban design issues for post-disaster recovery and reconstruction of livable communities.

Introduction
The Loma Prieta Earthquake (magnitude 7.1) struck Northern California at 5:04 P.M., on October 17, 1989 (Map 1). The city of Santa Cruz was located 14 miles from the earthquake epicenter. The main structural damage occurred in the downtown, where the majority of the buildings, where unreinforced masonry buildings (URMs) without proper pre-disaster retrofits[i]. 'The buildings simply fell down'[ii]. Life casualties and injuries were relatively low, but the structural damage was high enough to halt the functionality of the downtown.
After the initial response to the earthquake, the reconstruction efforts in Santa Cruz concentrated in the downtown area through a program named the *Downtown Recovery Program*. The Downtown Recovery Program (DRP) is designed and managed by the Redevelopment Development, which was created by the City under California Laws right after the earthquake. Besides the Redevelopment Department, a public participation process and the private/public partnership characterized one of the main features of the program. The key aspects of the program was the establishment of the 36-citizen-member *Vision Santa Cruz*, the preparation of the recovery plan, and the initiation of a multi-faceted financing program. The overall process involved a cooperation of specially established committees and commissions such as Vision Santa Cruz, The Technical Advisory group (T.A.G), the Streetscape Task Force, the Planning and Downtown Commissions, City Council and the public-at-large.



Map1. Santa Cruz Location
(Source:http://geopubs.wr.usgs.gov/fact-sheet/fs151-99/

Photo1. Buildings simply fell down.
(Source:http://geopubs.wr.usgs.gov/dds/dds-29/web_pages/scruz.html)

The primary research question in this study is; 'how the downtown of Santa Cruz was reconstructed with the help of the program'. Other questions that guided this research are 'how the program was designed and managed,' and 'how it has affected and regulated the reconstruction process therefore the design of the city'.

Following the first question, the second inquiry is on the nature of the transformation after the earthquake in this urban area. Has the downtown Santa Cruz been transformed after the recovery? What have been the primary issues in the nature of this transformation? The disaster literature usually speaks of this transformation phenomena as a 'window of opportunity' to redevelop a more livable environment. Did this 'window of opportunity' exist in Santa Cruz and did Santa Cruz officials and the community use it?

The unit of analysis will be the downtown recovery program, that is its elements, actions, and its critical dimensions in creating the downtown as an environmental design work. Focusing on the institutional, environmental and participatory dimensions can generate environmental design evaluation criteria. Discussing these dimensions can lead us to relate the livability issues concerning the architecture of the downtown as a whole. Analyzing the DRP will provide a discussion of seismic safety, historic preservation, aesthetics, public participation and the role of local/state/federal government policies in the field of disaster recovery and reconstruction.

The methodology for this research uses Evaluability Assessment (EA) Method[iii](Smith, 1988). With EA, the structure of the paper will consist of program's boundary (geographical, temporal-action boundaries and resources), its perception by different groups and stakeholders and lastly its theory and logic.

The selection of Santa Cruz involves four criteria; (i) *The time scale*: 10-11 years is an appropriate time period to see the physical improvements and the redevelopment, (ii) *Defined program objectives and boundaries*, (iii) *Availability of information:* documents, policy makers, stakeholders, first-hand information, (iv) *Most of the outcomes have been accomplished:* infrastructure, streets, buildings, etc... The case study research was conducted in Santa Cruz in 2000. The data for the study is obtained by (i) reviewing and analyzing of program documents, and the literature about Santa Cruz and Loma Prieta, (ii) interviews with policy makers and stakeholders, and (iii) site visits to projects contained in the boundary of the recovery program.

CONTEXT

The City of Santa Cruz is located in Santa Cruz County at the northern edge of Monterey Bay in central coastal California, in a favorable seaside and climate. The population was approximately 48,000 just before the earthquake. State Route 17 to San Jose, San Mateo County and San Francisco connects the city to the north, and to the Monterey Peninsula in the south. The town is established in the nineteenth century adjacent to the San Lorenzo River. With the existence of a university culture and a local community characterized by tolerant and progressive outlook, a liberal lifestyle and ambiance, Santa Cruz has been a highly favorable place to live.

The downtown's major axis is the Pacific Avenue. This street had started to flourish as a central business district starting from the 1870s. The Pacific Avenue and its connecting streets started to site various office and retail buildings and hotels, which gained historical value and gave an urban image to the downtown and the community. Pacific Avenue was first a traditional gridiron plan Main Street. This typology then was transformed to a mall concept defined as a commercial strip with parking lots on either side. The mall idea began to be conceived as early as 1958 opposed to decaying commercial core at the time but waited for the design and implementation by 1969-70. In 1967 a committee was formed to study and implement the idea, and was supported by seventy percent of mall owners to join this special assessment district. This semi-mall idea named The Pacific Garden Mall was constructed with winding sidewalk, with its use of both tile and concrete, varied plant material, and geometric shapes. The cross traffic was flowing through on one-way streets while through traffic is slowed by a single winding one-way traffic with frequent crosswalks for pedestrians (Chase 1979: 154-155).

Right before the earthquake, the downtown of Santa Cruz was mixed-use retail, office and residential with new and old mixed buildings. The retail mix of the Pacific Garden Mall consisted of two local department stores, Ford's and Gottschalk's, and various community uses like restaurants, cafes, bookstores and clothing stores. The residential was very few, and basically SRO (Single Residency Occupancy) housing located in the single rooms transformed from old hotels like St. George Hotel and Hotel Palomar. The downtown Santa Cruz was sharing a similar fate of downtowns around the country (ULI 1990: 6). Before the earthquake the downtown was already challenging structural and functional obsolescence, social problems, poor access, inadequate infrastructure (parking utilities), ill refined retail mix, a lack of housing, security problems and uncoordinated management and marketing. "The community in 1989 was engaged in acrimonious debate about whether street people, overgrown and dated landscaping, and perceived anti-business and change resistant politics were threatening the long term viability of the 20-year old mall" (Eadie 1998: 286).

The downtown mainly consisted of historical buildings originating from the late 19th century onwards. The Cooper House, Hotel Palomar, The Courthouse were examples of these. The urban image of the downtown was shaped with this historical outlook, which was characterized with an eclectic Neo-Classical, early 20th century Californian coastal town outlook. Most of these buildings were constructed out of masonry and had not been retrofitted until the earthquake. This was the major reason for the drastic damage in the downtown. The damage included; (i) About 267,000 of the reported 707,000 square feet of retail space has been destroyed, including both department stores (never rebuilt); about 250,000 square feet has been severely damaged or is in a danger zone; and about 190,000 square feet of

retail space has remained structurally sound and occupied (ULI, 1990: p.14). In short, the earthquake totally damaged, one-third of the City's one million square feet of downtown commercial square footage, and another third was heavily damaged. In addition to the loss of 25 commercial structures, four residential hotels with approximately 400 units were lost of which three of these housed low-income elderly tenants (Philips 1998). Santa Cruz lost some of its historic buildings, like the Cooper House, which was the historic heart and an anchor of downtown was demolished (Eadie 1998: 286).

The short-term recovery to the restoring the economics of the downtown was one of the primary problems. The merchants wanted to enter the downtown after the earthquake, but it was cordoned off because of safety issues. The 'business as usual' proposal did not work, because the extent of the damage and the life-safety issues were critical. Keeping the business alive was the major issue and it resulted in conflict between the merchants and the city officials (Eadie 1998, Wilson 1993). The resolution of relocating the business and enabling them to continue business, especially just before the Thanksgiving Day, was accomplished by collaborative efforts of officials and the volunteer citizens. This cooperative effort resulted from relocating the businesses in seven temporary pavilions in the downtown area. These pavilions had about 41,700 square feet of space serving retail shops. Volunteers citizens from professionals to public-at-large help to design the interiors and move the retails to the pavilions. The result of this effort was not just an economic success, but also created a community bond and feeling of achievement[iv]. The provision of these temporary shelters to businesses enabled the short-term recovery of the economy. It also gave way to a less pressured long-term recovery and reconstruction process guided by the DRP. This process was an indicator of the critical actions of short-term decisions of recovery operations for better long-term policies even though at post disaster periods.

Photo 2. The pavilions 'saved' the businesses and also enabled a more sound planning process (Photo: Charles Eadie).

THE DOWNTOWN RECOVERY PROGRAM

Program Perspective

"The concept of the program is fundamentally a question of perspective as seen by policy makers and/or implementers" (Smith 1989: 39). A *program* can be more or less defined in terms of the functions it performs, the subject matter it covers, the geographical areas and/or the population characteristics of those it is designed to serve (Smith 1989: 40). Ceil Cirillo, the head of the Redevelopment Department in the city of Santa Cruz summarizes the collaborative and communicative perspective of the program: "Many agencies, organizations and individuals, collaborated in the process of revitalizing our downtown to make it 'clean, safe and friendly'" (McMorrow 1996: 4). Actually, Cirillo was reflecting what the community public participation process.

> "Vibrant, vital and active, the central business district constitutes the primary retail, commercial, professional, and employment center for the City of Santa Cruz. This compact high-density area is home to unique businesses, offering residents and visitors a diverse and wholesome environment for commercial, cultural, civic, and social pursuits... The pedestrian-oriented environment is characterized by convenient access, a garden like setting, and human scale buildings. The visual and physical relationships to the San Lorenzo River, the surrounding landscape, and Monterey Bay make downtown Santa Cruz among the most beautiful urban places in California. The architecture captures the best of the City's past while integrating new buildings into a coherent and visually appealing downtown... This effective combination is the focus of Santa Cruz public life and is central element in the community's identity. Downtown is safe and clean. It is a multicultural place, attracting all sectors of the community, and serving as a meeting place for children, students, elderly office workers, retailers, shoppers and visitors..." (Downtown Recovery Plan 1991: 1)

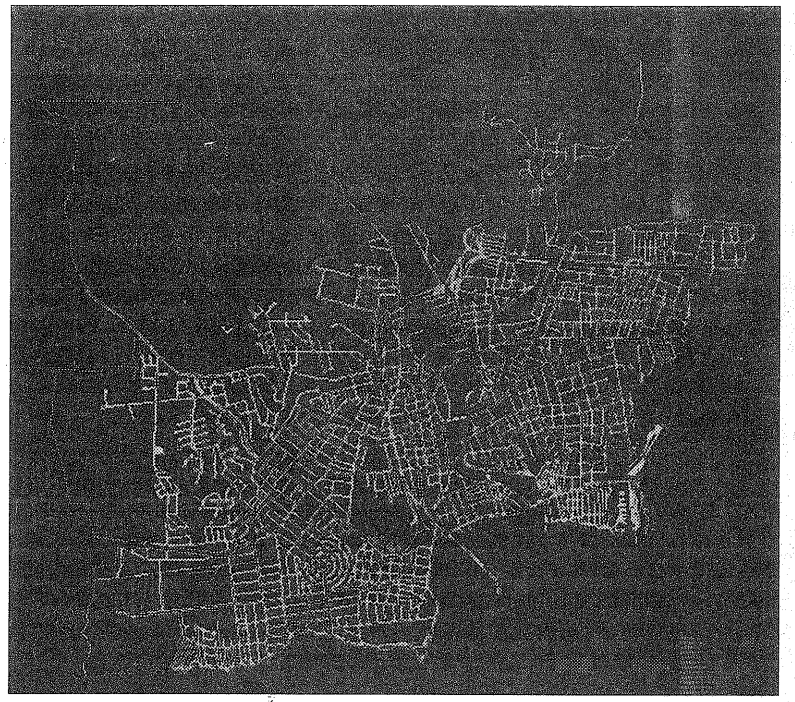
The Program Boundaries

The concept of the *boundary* is crucial for the design and management of the program: "To set boundaries is to define the limits within which one will operate. In this case, it is to define where the program starts and stops. Boundaries can be defined by geographical area, goals, services or benefits provided, clients served, or a combination of these" (Smith 1989: 39). The conceptual extension of the geographical boundary reflects to the goals, services or benefits provided, clients served and a combination of these, and lastly the functions it performs and the subject matter

it covers. In this respect, the boundary definitions of DRP will be analyzed in two categories: geographical, time-line and actions boundaries.

Geographical Context

The downtown area, as a geographical boundary consists of the Pacific Garden Mall as the center with its connecting streets (Map 2). The intensity of the damage required a reconstruction more than a repair of the 'entire' downtown as perceived by the community[v]. It was necessary to rebuild the downtown with its infrastructure and the buildings. This, in a way opened a 'window of opportunity' for an urban design scheme for the downtown, regarding to its vehicular-pedestrian traffic, the density, open space design and finally the new image of the downtown with its streetscape and buildings.



Map 2. The boundaries of the Downtown Recovery Program and the City of Santa Cruz.

The Time-Line and the Actions

An important event in the post-earthquake planning period was the establishment of the *Redevelopment Department* within the city. When the City of Santa Cruz perceived the intensity of Loma Prieta, it tried to improve the agency structure by enabling the Redevelopment Department. California Redevelopment Law enables local governments to create Redevelopment Agencies as governing bodies under their jurisdiction to designate redevelopment project areas, supervise and coordinate planning for a project area, and implement the development program. Redevelopment Agencies are pro-growth in comparison to the planning departments, which regulates growth[vi]. The Redevelopment Department designed and managed the program and formed the necessary media for communication and implementation between public and private entrepreneurs.

Besides the geographical context, the program boundary can be defined by the actions and operations that it makes. The actions, operations and the time-line or the schedule of the program creates another boundary for a program. The coordinated action boundaries of the DRP around were divided into five quarters[vii]:

The first quarter consisted of developing a streamlined permit-processing program to ensure rapid processing and review of commercial and residential earthquake reconstruction projects. Following this program change, the city prepared requests for proposals for *economic analysis* and *design and planning studies* for the recovery plan. First quarter of actions included also ensuring the retention and proper marketing of the temporary commercial space used for the relocation of downtown businesses.

The second quarter was the stage to implement the economic analysis of the downtown. Due to the earthquake and pre-earthquake conditions, the study was a crucial stage in the recovery program. The conclusion of this economic study decided that the downtown could remain in its location from an economic point of view due to the existence of market strong enough to support the disaster recovery[viii]. This study provided background guidance for new residential, and commercial construction and provided information of economic viability for stakeholders.[ix]

The third quarter consisted of the initiation of the design and site planning studies for the plan. With the directorship of Vision Santa Cruz, the community prepared its '*First Principles*' (Table 1) to guide the public and private development in the downtown area. Vision Santa Cruz was a committee charged by City Council, composed of 36 members with an active involvement of major interest groups of the downtown (labor, neighborhoods, investors, arts, historic preservationist, business owners, property owners, SRO tenants, governmental agencies). The task of the

Vision Santa Cruz Committee was to 'create an open planning process and provide structures such as task forces and public workshops to consider ideas of Santa Cruz residents'[x].
Among these events in this "open planning process", was the formation of a panel by Urban Land Institute (1990) that resulted in an advisory report on downtown reconstruction. Another series of events were lecture series by the partnership of City of Santa Cruz and U.C. Berkeley, called the "The Idea of Planning" was held bringing names and ideas like William Whyte, Christopher Alexander, and Peter Calthorpe.

Parallel to the urban design and planning development, the marketing and business development plan was underway, seeking to identify market opportunities. This plan consisted of a survey of existing business in the City's downtown area and recommendations as to the businesses that would complement and enhance the downtown market area. The Environmental Impact Assessment (EIA) of the plan followed the draft Downtown Recovery Plan in the third quarter. The EIA process evaluated the DRP's impacts and benefits and also provided the community with alternative developments. It also helped the downtown recovery process and the officials to reevaluate major/minor issues in relation with the plan.

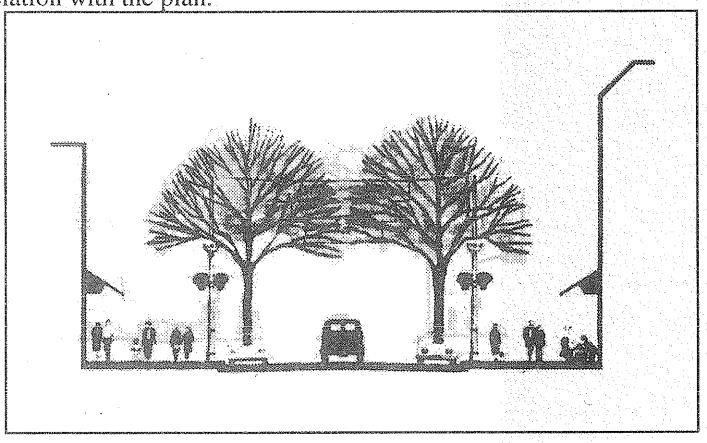


Figure 1. The Pacific Avenue sketch in the Plan (Downtown Recovery Plan 1991)

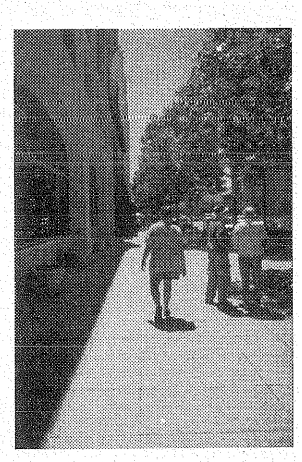


Photo 3. The Pacific Avenue pedestrian detail after reconstruction (Photo: Izzet Ozkeresteci 2000).

The fourth quarter consisted of finding the financing for the reconstruction of the infrastructure. The nation's disaster management agency is Federal Emergency Management Agency (FEMA). FEMA's correspondence at the state level in California is Governor's Office of Emergency Services. Both institutions provided the technical and funding for the recovery process. The share of the state funding for the program was (25%) and federal funding supplied the remaining 85% of government grant (total was approximately $18 million)[xi]. As a local funding resource for the program, the City passed Measure E, a six-year half-cent tax for earthquake recovery and adopted *Merged Earthquake Recovery and Reconstruction Redevelopment Project* in November 1990.

The fifth quarter included the adoption of the Downtown Recovery Plan by the City Council and the finalization of other planning for work to initiate reconstruction. The reconstruction responsibility of the City consisted of two major phases, the infrastructure and the streetscape construction. The City also incorporated the building of parking structures in the downtown as public investments.

The primary environmental dimension has been reconstructing the architectural and urban image of the downtown, mainly the Pacific Garden Mall. The *Downtown Recovery Plan*, prepared by ROMA Design Group of San Francisco, was responsible for this task. The Plan's vision was based on the studies of Vision Santa Cruz and related Task Forces and agencies "Major changes proposed in the plan include a revised circulation pattern for Pacific Avenue to make it more inviting for both pedestrian and vehicular traffic, wider sidewalks, and landscaping to complement commercial and public space" (DRP Final Report 1991: 2). This broad vision was then formulated to the '*First Principles*', which represented the community's formal preference for the environmental design of the downtown (Table 1).

The Plan consisted of five categories: the Land Use Plan, Development Standards and Design Guidelines, Circulation and Parking Based Plan Streetscape and Open Space Plan, and Implementation Plan. The plan recognizes the recommendation of the economic study and proposes a higher density of use for the reconstruction to obtain its economic vitality.

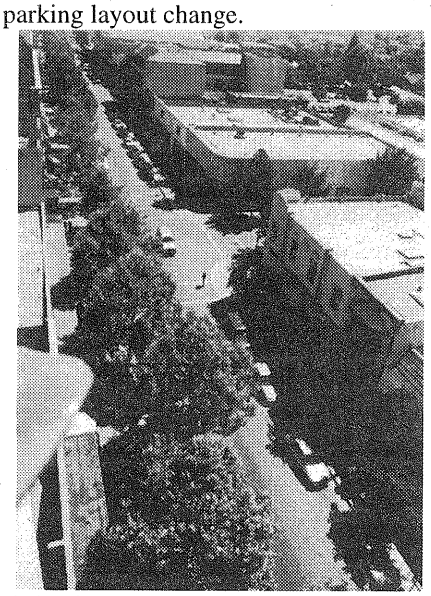
TOPIC	*ISSUE DESCRIPTION/DECISION*
Form and Character	New Buildings should be allowed to develop individual character while retaining qualities of historic townscape. Issues of articulation, material, signage, setbacks, scale, massing, form, bulk, solar access and height are critical.
Building Height	Two-to three-story buildings should maintain the scale and character of the existing downtown, with explicit criteria for additional height up to five stories and provisions to ensure that buildings do not shade key public open spaces.
Housing	Significant new housing opportunities should be targeted through out the downtown including Pacific Avenue, the San Lorenzo Riverfront, and South Laurel. Housing should be compromised of a mix of apartments and condominiums. SRO housing should be replaced and dispersed and through out the downtown area.
Accessibility	A downtown that aesthetically integrates access as a primary design criterion for all improvements to ensure increased opportunities for the public to participate in commercial, governmental, residential, social and cultural activities.
Open Space and Streetscape	A strong network of public and private open spaces (streets, sidewalks, public parks, plazas, passageways and courtyards) that creates a socially active and pedestrian-oriented downtown core should be emphasized.
Circulation	Downtown should be predominantly pedestrian in nature; movement should be carefully structured to reinforce the character of the place. Pedestrian, bicycle and transit access to the downtown should be enhanced.
Parking	Parking in the downtown core should continue to be provided by Parking District in a centralized fashion, to maximize shared use and minimize the quantity of stored vehicles.

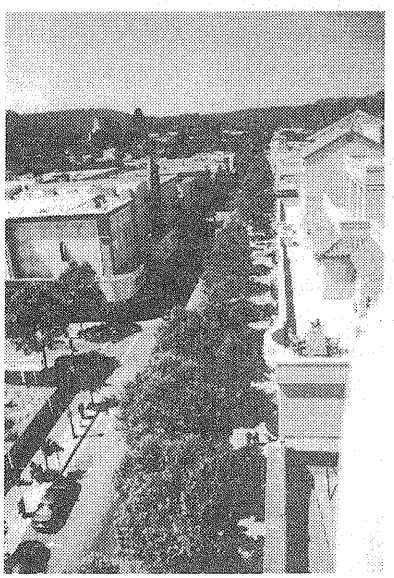
Table 1. The First Principles: Community objective for the reconstruction of the downtown Santa Cruz (Downtown Recovery Plan 1991)

In addition to this "First Principles" and the five categories, in the final Downtown Recovery Plan the planner/urban designer team included four other key components. The DRP from an environmental design point of view can be analyzed by analyzing what happened in the downtown area in relation to these components (Downtown Recovery Plan 1991):

1. *The pattern of downtown streets and blocks, which provide the principal organizing structure for public life and private activities within the downtown*:

In the overall structure of the downtown the basic layout has been kept. One of the most discussed topics has been the pedestrianization of the Pacific Garden Mall. Mainly, the business community along the Pacific Mall had rejected the idea. Vision Santa Cruz and the City has adopted a one-way traffic circulation with pedestrian paths on each side. Therefore the pattern did not change in nature except some for some minor improvements. The traffic flow has been kept with a parking layout change.





Photos 4 and 5. The reconstructed Pacific Avenue (Pacific Garden Mall) from the roof of the Palomar Hotel (Photo: Izzet Ozkeresteci 2000).

2. *The pattern of public private ownership, which establishes the texture and "grain" of the downtown fabric, and the boundaries within which public and private sector participation will take place.*

The downtown buildings are mainly privately owned. During the recovery and reconstruction phase, the property owners had to deal their own funding from both federal sources (The Federal Emergency Management Agency [FEMA]) plus their own investment opportunities. At this stage FEMA funded some portion of repairs and reconstruction. The remaining decisions were left to the property owners' individual decision. The banks at these stages of recovery have been hesitant to give mortgages for new investments. In addition to this, the existence (or non-existence) of insurance was a crucial issue at this period[xii]. The City, with the Redevelopment Department provided assistance in the arrangement of conflict between the city and the ownership and guided the redevelopment in the individual property basis in issues of designing, application of building permits, and finding and locating tenants[xiii]. An important contribution of the public entities was to provide an economic analysis and survey of existing business in the City's downtown area. The city, especially with the Redevelopment Department, passed on this information to private owners for their own redevelopment projects.

3. *Buildings of architectural significance, which provide for strong continuity with the past and context for future development.*

This component was the basis for the historic conservation schemes in the Plan. Downtown Santa Cruz was a registered historic district but and most of the buildings that were demolished were historic landmarks. Restoring or retrofitting the damaged historic buildings was a great issue in the program. The property owners were hesitant to restore because of the issues of old buildings and costs of repair. "Ultimately the historic preservation falls to the property owner. The government could not force someone to fix a building when it is economically infeasible to do so" (Eadie, 1998, p.296).

In one case, the street façade of the building was preserved entirely and a modern structure was built inside the historical shell (Photos 6 and 7). Some buildings had to be demolished even though they could be repaired. In terms of trying to preserve the architectural heritage, the plan worked well. Some URM buildings had to be repaired and in some cases were totally replaced with new structures (Photos 8 and 9).

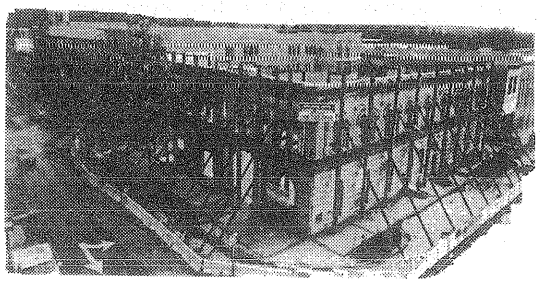


Photo 6. Historic Building Façade preserved (Source: The City of Santa Cruz)

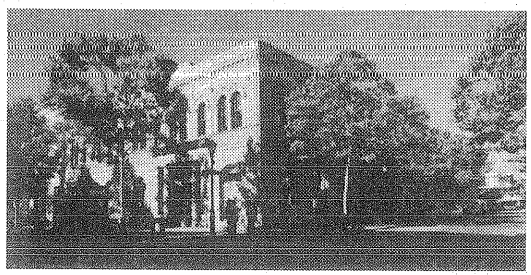
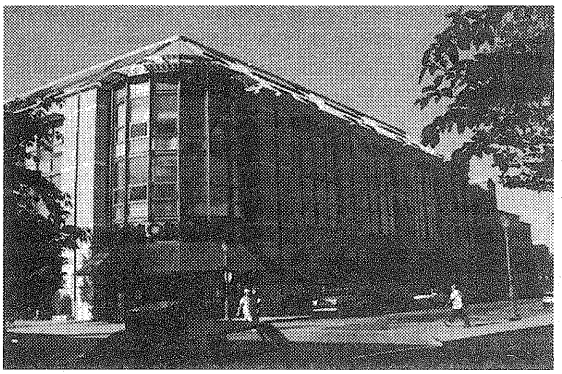
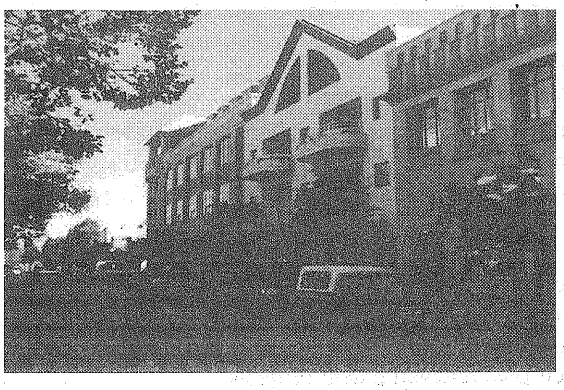


Photo 7. The reconstructed historic building (Photo: Izzet Ozkeresteci 2000)

Eadie believes that Santa Cruz has kept the historical character (Eadie 1998). Preservation of the architectural heritage was one focus of great discussions in the downtown recovery process. In order to achieve this goal, the City's policy actions can be listed as follows:

- In order to address the historic concerns the Santa Cruz adopted modified building codes that have more flexible standards to facilitate repair and retrofit.
- Post earthquake design guidelines and some of the new buildings adopted design features that reflect the historic character. *Development standards and architectural guidelines* element consisted of two modes. The standards were developed as mandatory design principles and the guidelines were voluntary and were for a more creative action. The Plan was then adopted by the city and necessary amendments on the city ordinance for the downtown were made. The developers and environmental design professionals were guided with the plan elements and details on their reconstruction of the downtown.
- The new streetscape was designed to enhance the historic image.
- Elements of the historic buildings were saved. In one case the entire façade was kept. In the Cooper House, pieces of the building were turned over to the city museum.





Photos 8 and 9. New Buildings replaced the old structures. The Downtown Recovery Plan prepared by ROMA Design Group guided the urban image and pattern (Photos: Ron Swenson 2000)

4. *The opportunity sites include earthquake damaged or demolished sites and vacant and built sites, which may be redeveloped in the future, and upon which the Plan can exert, influence.*

An example for this is the cinema complex project. In fact, the cinema project was conceived in this plan, and was implemented with the efforts of the Redevelopment Department. The project brought life and attraction to downtown. Yet, 11 years after the earthquake, there are still some vacant sites waiting to be developed. The development of a project is the property owner's own decision, but the sites in the downtown area have not been transformed to either public or a private use.

> "In May [1995], a nine-screen cinema complex opened... The project was an immediate success and has exceeded all expectations, bringing upwards of 750,000 people a year into the downtown... The evening foot traffic generated on Pacific Avenue by the theaters has allowed other retailers to extend their hours and has created a lively and youthful atmosphere in the downtown. This is a far contrast from the pre-earthquake situation where evening business was limited and the downtown was not a comfortable place at night for many people" (Eadie 1998: 289).

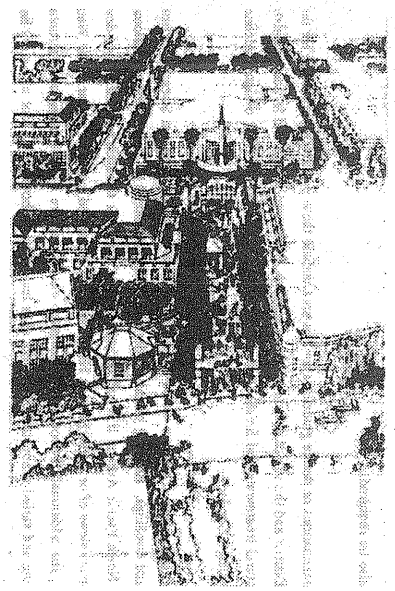


Figure 3. An aerial sketch of the downtown (cinema project) from the Plan (Downtown Recovery Plan, 1991)The Cinema Project (Photo: Izzet Ozkeresteci 2000).

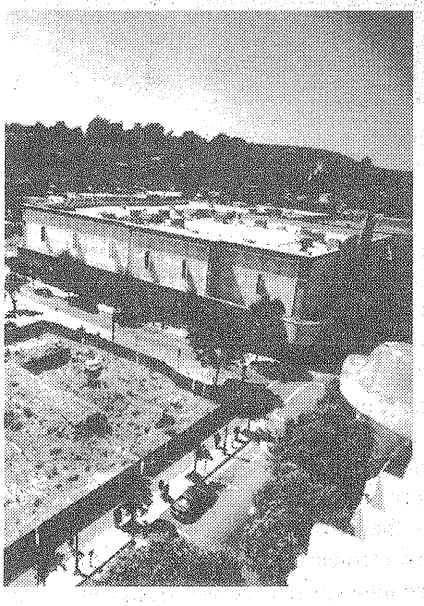


Photo 10. The Cinema Project (Photo: Izzet Ozkeresteci 2000).

A Logic Model of the Program

The intent of describing the program theory is to identify the assumptions about how the program is supposed to work and why, as well as to identify any gaps in means-ends connections (Smith 1989: 49). It may not be easy to develop a complete relational structure for causality in the program. "Causality in any absolute sense cannot be established because programs contain a variety of components, resources, and procedures which come together in as many ways as there are people who run them and clients who are served by them" (Smith 1989: 49). Therefore a

program's theory consists of a description of the structural and operational characteristics of what is being evaluated. Program theory suggests that there is a rational basis for believing certain outcomes will occur as a result of implementing certain activities (Smith 1989). Smith suggests that program theories are micro-theories in nature than being macro. Figure 3 outlines the essential components of the DRP connected in a casual sequence to ultimate outcomes.

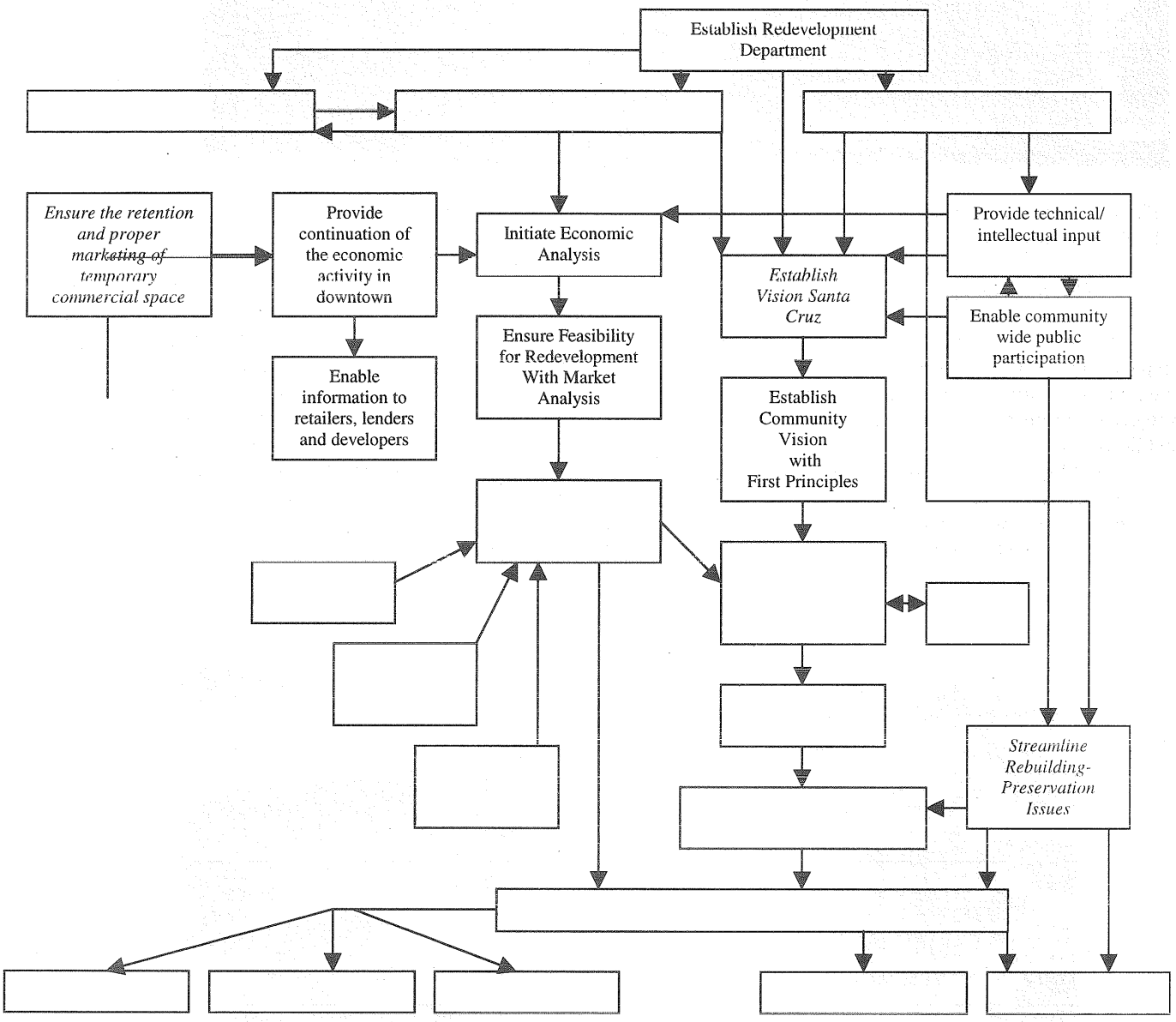


Figure 3. The logic model of the Downtown Recovery Program.

CONCLUSION

Studies in earthquake recovery after Loma Prieta around the region reflected three major issues in the policy environment in relationship with the built environment: life safety, economical vitality and historic preservation. In Santa Cruz all of these three issues were relevant, too. In addition to this, the Redevelopment Department's role and the public participation process makes Santa Cruz a unique case.

Seismic Safety as a planning requirement is mandated in California by all jurisdictions. The safety requirements bring the issue of land use regulations and mapping of high seismic risk areas subject to liquefaction and landslide potential. The second safety requirement is the building code enforcement. The low casualties of life and damage to built structures in California earthquakes with respect to other parts of the world are due to the modern earthquake codes applied and enforced by the jurisdictions. Existence of sound seismic codes also ensured a sound recovery and reconstruction in terms public safety in Santa Cruz.

After the issue of life safety, the primary goal, or the heart of the matter in Santa Cruz was the economic recovery of the downtown. "Long term recovery is primarily economic. All other objectives (political, social, urban design) must recognize and incorporate economic understanding into recovery planning" (Eadie 1998: 282). Even though the earthquake recovery period has coincided the with the economic recession in the early 1990s, the economic well-being in 1995 was tied to the appearance of new businesses like e-businesses and their selection of Santa Cruz provided the city with a chance for economic recovery[xiv].

The historic buildings have a different dimension of safety issues. Due to their construction characteristics and aging, the structures are more vulnerable. The Downtown Santa Cruz basically was a case example of this. The risk levels have been the primary issue in retrofitting the old buildings and negotiation of their permanence and economic feasibility.

The establishment of the agency specific to the recovery process has been a great achievement for the program, and may explain a good deal of the success in this redevelopment program. The agency has tried to balance economic and planning decisions with its inter-organizational role. The DRP has helped to set achievable goals both for the government and the community and to implement them. The perception of the well-established program with objectives has enabled the program to find support from different levels of government and community.

The participatory dimension is one of the unique features of the Downtown Recovery Program. This component of the case study presented the analysts with one of the most complex problems due to the nature of the community itself. "Like many small towns, no decision is made without public participation, discussion, and compromise" (McMorrow 1996: 4). The public participation and technical coordination processes for the design of the reconstruction has been the task of Vision Santa Cruz. "Vision Santa Cruz embarked on a frenzy of planning activity, including two major studies, several issue papers, and a number of community workshops that resulted in principles to guide recovery planning...Altogether, the process involved more than 251 meetings and events, including six public hearings, one weekend character, five workshops, six block meetings, 11 consultants, seven task forces, four VSC chairs, and 50-plus board members" (Eadie 1998: 302).

Besides these successes, some of the issues related with the program and the downtown' redevelopment are still being questioned. For example, in terms of a mixed-use strategy, the Santa Cruz downtown has not improved much. There are several reasons for this including the overall persistence of the historical image of the downtown, and the unwillingness of the private entrepreneurs to invest (especially in the recovery period), for newer projects. Housing is a crucial element of mixed-use planning and urban design and also is one of the indicators of the social dimension. Even though the Plan consisted of provision of mixed-use and more housing units, the downtown continued on SRO housing and the former housing units were reconstructed. Affordable housing issues, the rents in the downtown and scarcity of housing projects have not enabled downtown to become a real mixed use downtown until now.

The program has worked well within its boundaries. By nature, downtowns become the center. This concept of centrality has not been extended throughout the city with alternative transportation models and the links of this section to other sections have remained almost identical in terms of urban connections. This window of opportunity has not yet been utilized.

In terms of green development schemes, energy issues, solar designs, innovative projects have been discussed, but there has not been a successfully implemented project yet. The transformation to this type of sustainable paradigm into the planning and urban design environment of Santa Cruz has not taken place in part because that environment has not been mature enough to consider or implement it.

The answer to the question of whether Santa Cruz used its window opportunity is relative. The idea of change or windows of opportunities have been discussed in the literature (Bolin 1998, Haas, et al. 1977). Many authors concentrate on the issues of communities that are not willing to change. The reason behind this reluctance rests in both real issues like cost, structure and action characteristic of the community and organization, as well as reasons tied to myths. As a general rule it can be stated that the communities would like to rebuild identical to pre-disaster period. This desire to rebuild itself as it used to be is also true in the case of Santa Cruz. The persistence in form and context and willingness to remain the same is reflected in its aesthetical dimension in the urban and architectural forms of the downtown. Of course, this proposition is hypothetical and needs future study. The community has decided to keep the same land-use pattern with minor changes; historicist and conservationist views have been predominant in the architectural and urban design. The aesthetical preferences reflecting these views and visions dominated the Plan's formal elements.

Overall, the Santa Cruz case gives a colorful picture of post-disaster recovery process. Santa Cruz is an example of programmed activity that has been implemented successfully and is consistent with the directions of the community and local government decisions. In this sense Santa Cruz's recovery is a good example for a design and management of the recovery process as this paper tried to illustrate. The community has discussed these livability issues within the process. At the end these issues were less prioritized in the major issues of life safety, economical vitality and historic preservation. The program officials have provided the 'a comprehensive participation' environment. Therefore, at the last instance, it can be stated that the outcome was the choice of community decision. The case of post-disaster recovery and reconstruction in Santa Cruz and the downtown area is also the representation of this communicative action and participation.

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The results of ill-constructed buildings in the Marmara and Düzce earthquakes and suggestions

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Abstract

It is essential in order to create a liveable environment that the buildings must serve people safely. This can be obtained by buildings having durable soils, and by the realization of present regulations in design and construction stages of structures.The reason why the extend of the damage is so big in Marmara and Duzce Earthquakes is that design procedures were not applied properly, soft soils were used for the buildings, the ill-workmanship, the choice of ill-load-bearing systems not suitable for the soil structure and height of the buildings and not providing enough spaces for the adjoining buildings etc. In the paper, the behaviours of reinforced concrete, solid block, steel and prefabricated constructions have been examined separately.

The results of our analysis were made by means of using the photographs of the earthquake-stricken areas after the earthquake in Kocaeli, and by way of perception and by consulting earthquake-victims, local administrators and other officials are as follows: Our study area, though having generally filled grounds in the coastal lines and weak soil, have been opened to construction without any soil improvement. In the damaged buildings, a poor quality concrete was used in general and spaces of stirrups in joint sections of columns-beams were large. Walls, having more than a single building element, were damaged owing to the lack of element connections. The joint buildings not having enough dilatation joint openings were damaged seriously. In the paper, it is pointed out that only through the full compliance with the regulations and laws that an earthquake security can be ensured in buildings in a possible earthquake. Also in the paper, the repair of various load bearing and joints of the damaged buildings have been explained.

1. Introduction

As is known, our country is located on one of the biggest earthquake zones. In our country where there countinously have occurred scores of earthquakes so far, Kocaeli, Düzce and the vicinity which are on the Northern Anatolian Fault Line, experienced to big earthquakes having a magnitude of 7.4 and 7.2 on the Richter Scale in 17 August and 12 November 1999. The Northern Anatolian Fault Line which caused the earthquakes is 1200 Km. long and extends from Bingol to Aegean Sea. The tears in the fault line began to move ahead to the west after the Erzincan Earthquake in 1939 and first in Kocaeli on August the seventeenth and then in Duzce Earthquake occurred. 18329 people lost their lives in these fearsome earthquakes and 47950 others were injured (Özmen, 2000; Aydan & all, 2000).

The reasons of the serious damage following Marmara and Duzce Earthquakes can be grouped as follows; The faulty architectural designs, building construction unsuitable for soil bearing capacity, ill-workmanship, wrong building material, the choice of unsuitable load bearing systems, the building density and failure to follow of the standarts...In the paper, it has been emphasized that the building construction were not suited to the regulations in the design and construction levels and also this ill-construction were examplified. Moreover, the repair processes of the damaged buildings have also been included in this paper.

2. Reasons of the Damages

The reasons of the damages are the shortcomings in the design process, and the mistakes in building soil during the foundation level, in construction stages of structures and the selection of load-bearing systems (Aydan, 1999).

2. 1. The Design's Shortcomings

2. 1. 1. The Design Shortcomings in the Choice of Plan Form

The simpler and the more symetrical building forms are designed, the more resistant they have to a possible earthquake. For this reason, the most suitable form are square, triangle and circle. These forms, called as regular buildings, vibrate without rotating, whereas complex building constructions which are not symetrical and called as irregular buildings, vibrate both in their own axis and more lateraly and thus cause damage (Bayülke, 1989; Coburn, 1992). In our study areas, such building forms were unable to combine the stiffness and mass centre together and thus caused, as seen in figure 1, torsion and damage in these buildings.

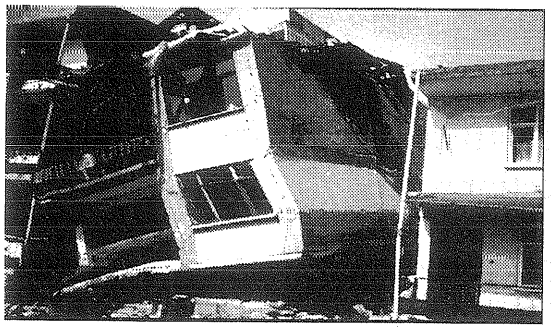


Figure 1. The building exposed to torsion force in İzmit

2. 1. 2. The Design's Shortcomings in Terms of Height

A building must be equally well balanced in terms of stiffness and weight. That the buildings have big cantilevers are against the physics and thus causes the centre of gravity to go away, which is why contradict with earthquake resistant buildings theory (Bayülke, 1989; Coburn, 1992). In our study areas, starting from the ground floor, majority of the buildings were added cantilevers and the buildigs were vertically widened. This has caused, in earthquake, different structural damages in various heights of the buildings .

2. 2. The Effect of the Ground Conditions

It is essential that the building ground be firm and soil survey be cunducted properly. Because the coastal lines of study areas are generally filled ground, they are considered as risky areas which have weak soil and shear strength. Even though the filled grounds in the region are open to recreational facilities as well as building constraction, any soil improvement work has not been done. In addition, in the plans made following the earthquake in Adapazarı, in 1967, building construction were restricted to only three floors but later construction pardon laws were put into effect. Thus, high rise buildings with 7 to 8 floors were appeared (Kurtay & all, 1999). In Adapazarı, Yalova, Gölcük, İzmit and the vicinity, the land is soft, clay, sandy and the constructions that were started in this area without sufficient soil survey, and this turned out to be a serious mistake following the earthquake. In place where soil surveys were conducted, it has been observed that the building and ground suitibility were not montaged properly (Figure 2). That the pile work foundations in Adapazarı were not damaged in the earthquake proves this.

2. 3. The Effects of the Ill-Workmanship and Insufficient Materials

Poor quality construction materials and bearing systems which were not properly designed caused serious damages in buildings. In our study areas; the number of stirrups providing flexibility between columns and beams were not enough in joint section of the column-beam in the visible parts of reinforced concrete bearing under the ruins. Also the stirrup brackets were bended 90^0 instead of 135^0. As a result of this, the concrete covering the stirrups was badly damaged. Moreover, it has been observed that chips, pieces of papers and debris were not cleared from the concrete mortar. During the concrete work, coarse gravels were used and this caused cavities in joint sections of the bearing system. Such mistakes were also caused by turning the mortar with hands (Aydan, 1999; Aydan & all, 1999).

2. 4. The Effect of Multilayers Walls

Multilayer walls generally consist of brick walls and strafors which are used for the heat insulation. In our study areas, the walls, consisting several layers were damaged during the earthquake because there were no binding agents between the walls. As seen figure 3, the brick walls consisting of strafors did not have binding agents and thus moved in separate directions and collapsed.

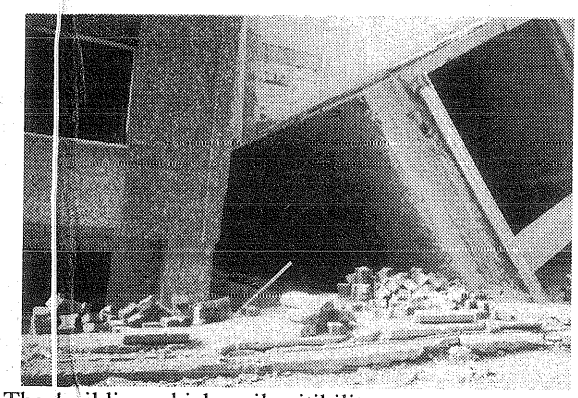


Figure 2. The building which soil suitibility were not montaged properly

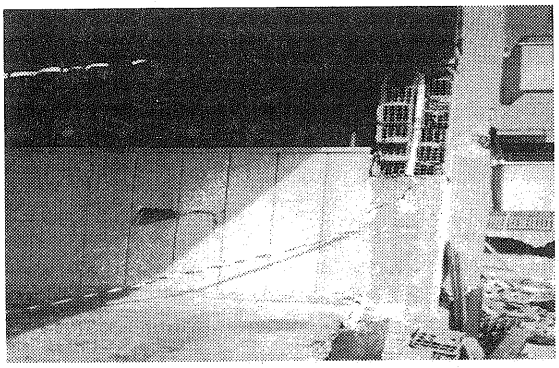


Figure 3. The damaged multilayers wall in Gölcük

2. 5. The Effect of Construction Defects on Bearing Systems

2. 5. 1. Prefabricated Buildings

In various countries, many experimental or analytical studies have been done about earthquake resistant prefabricated building elemennts and its compounds. However, these studies have not been included to the earthquake regulations since they are not based on systematic work (Ersoy, 1994).Because prefabricated buildings are more flexible than the others, they became more resistant to the earthquakes in our study area. Nevertheless, in cases when joint sections of bearing systems were fastened well enough, some fractures or slips were observed. In our study areas few prefabricated buildings were observed to have serious damages in inside walls (Figure 4).

2. 5. 2. Timber Framed Buildings

These are the buildings, constructed by filling the cavities with the building materials like stone, adobe, solid brick and these cavities appear among the structures which are formed by placing various timber columns at various lenghts in horizantal,vertical, and diagonal ways. Also in these buildings, heat and sound isolation are provided by daubing the both outside and inside walls. The durability of post and pane walls can be normal or below, depending on the building quality (Aydan & all, 1999). In our study area, though the majority of timber–framed buildings were old, none of them collapsed completely during the earthquake. Genarally, non-load bearing walls were damaged (Figure 5). The biggest reason why damages were not much during the earthquake was that these buildings were only two floors.

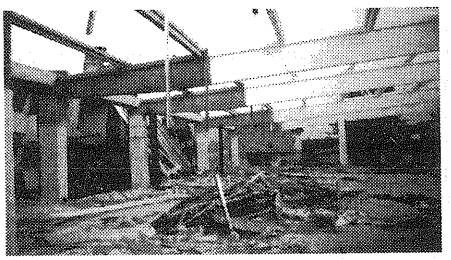


Figure 4. Damage occurred in the prefabriced building in Adapazarı

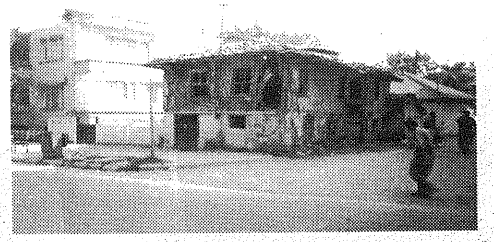


Figure 5. The damaged non-load bearing timber wall in Adapazarı

2. 5. 3. Stone and Brick Solid Block Buildings

In earthquake zones, the buildings were generally brick furring buildings. Because perforated bricks are the most fragile materials, the biggest damages were recorded in brick furring buildings. Solid-block buildings were few in our study areas. Yeni Mosque, in Adapazarı, is one of solid-block buildings and was not damaged much, though it was built on a

adobe, post and pane were used were damaged more. Such buildings whose angles were not covered with smooth stones were damaged easily (Figure 6), (Aydan & all, 1999).

2. 5. 4. Steel Framed Buildings

Steel frame constructions have high durability and flexibility. They are lightweight, that is why they are not liable to damage in earthquakes. In Adapazarı, T.C.D.D Coach Factory, built on 1950's, were damaged heavily (Figure 7). Steel electric columns were not damaged at all in spite of having been placed on faulty lines.

2. 5. 5. Reinforced Concrete Framed Buildings

Stell rods bars and concrete have the capacity to combine strongly. Concrete provides suitable flexibility when prepared properly. However, it is a heavy material and this is a big disadvantage. Concrete protects steel from rust and prevents torsion and cracks by surpassing tensile stress which the concrete can not carry. It can be used safely in 8 to 10 floors buildings in terms of economy and earthquake resistance (Pampal, 1999). However, these buildings are the mostly seriously damaged buildings in the earthquake zone due to the reasons given below.

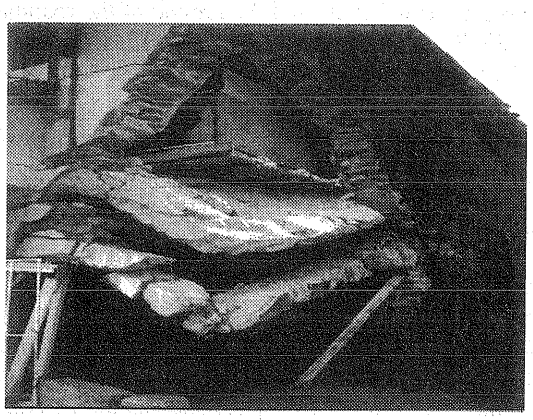


Figure 6. The damage in a solid block building which do not have proper joint walls in İzmit

2. 6. The Domino Effect

In buildings, there should be a distance in order not to collide with each other in oscillations, resulted from the seismic movements during the earthquake. The distance, called as cross joint, must be 3 cm, at least in buildings up to 6 metres height. In buildings higher than this, in every 3 metres, there should be added 1 cm. to cross joints. In our study areas, adjoining buildings and in particular those in the street corners vibrated at different periods and collapsed as a result of the load called as the domino effect which takes place during the collision. The reason for this is failure not to comply with above mentioned limitations due to the wish to maximize used-interior space or aesthetic considerations. Figure 8 examplifies such a place (Tezcan, 1998).

3. Suggestions Concerning Repair of Damaged Buildings

Various repair methods are applied for the damages took place in load bearing systems and inside walls of the building. Our suggested repair method is given below depending on the columns, beams, their joint sections and in the non-load bearing wall systems.

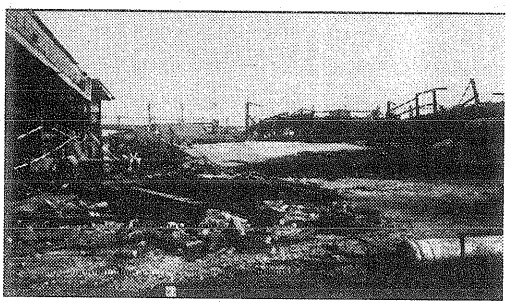


Figure 7. Damage occurred in The Railway Car Factory of TCDD with steel frame in Adapazarı

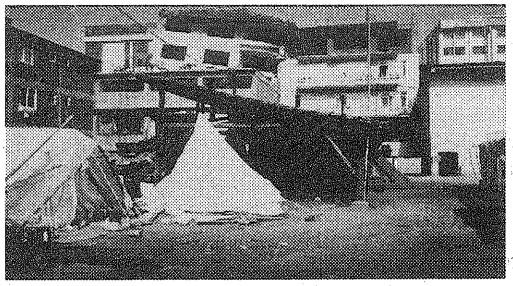


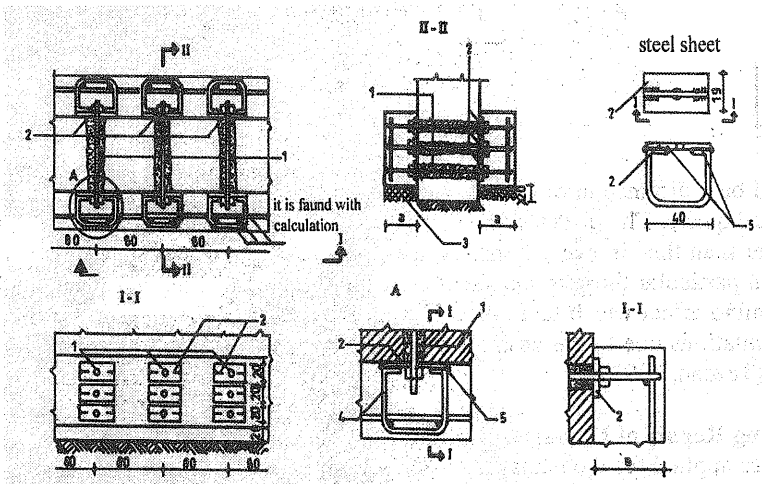
Figure 8. Damage occured due to not having enough space between buildings in Adapazarı

3. 1. The Repair of the Cracks in Reinforced Concrete Foundations

The soil, surrounding the foundations are carried away and the ground of the foundation on a level of 20 cm. in height is pressed. The holes are opened with 50-80 cm. apart from each other in row of two or three depending on the height of the foundation. The bolts, passing though these holes are stretched. The steel sheets, attached to the bolts are welded to the armatures which were prepared in advance. First, the holes having forked ties are filled in pressure mortar and later, the foundation is filled by concrete on both sides by way of using the necessary moulds (Figure 9), (Abdülrahimov, 1999).

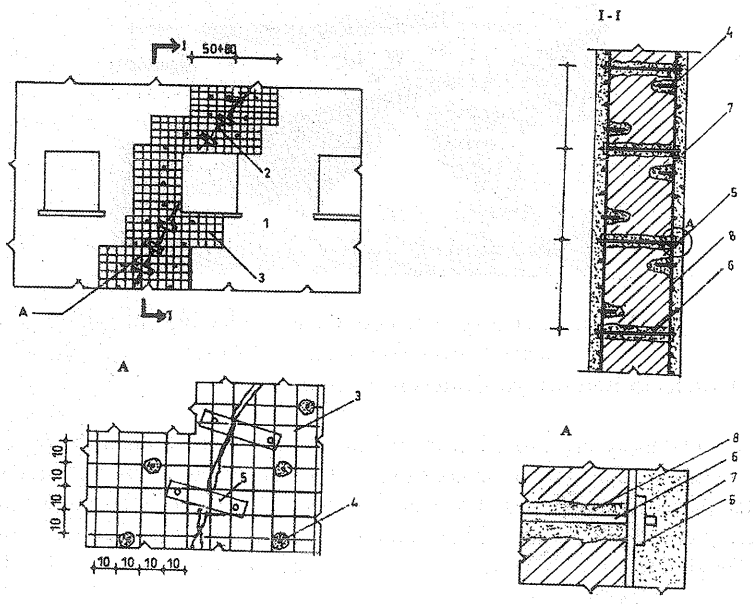
3. 2. The Repair of the Cracks on the Walls

While the capillary cracks, seen on the walls and bearing systems are repaired by applying resin injection, larger cracks are repaired in methods given below. The horizontal, vertical and slope cracks are repaired both by covering them with a 50-100 cm. metal gauzes on both sides of the crack and by attaching forked ties which are embessed to the wall at least 25 mm. If the cracks are large, in addition to the above operations, metal sheets that are perpendicular to the cracks should be embessed to the wall 25 mm. with 40 to 50 cm. space and should be attached to the wall with bolts. After the corners of bolts and strip plates are filled in pressured mortar, the metal gauze and metal sheet are coated (Figure 10), (Abdülrahimov, 1999).



1. Bolt 2. Steel sheet 3. Firm ground 4. Armature 5. Weld

Figure 9. The repair of the cracks in reinforced concrete foundation (Abdülrahimov,1999)



1. Wall 2. Crack 3. Metal gauzes 4. Forked tie 5. Sheet metal 6. Bolt 7. Plaster 8. Pressured mortar.

Figure 10. The repair of the cracks on the walls (Abdülrahimov,1999)

3. 3. The Repair of Cracks in Columns and Beams

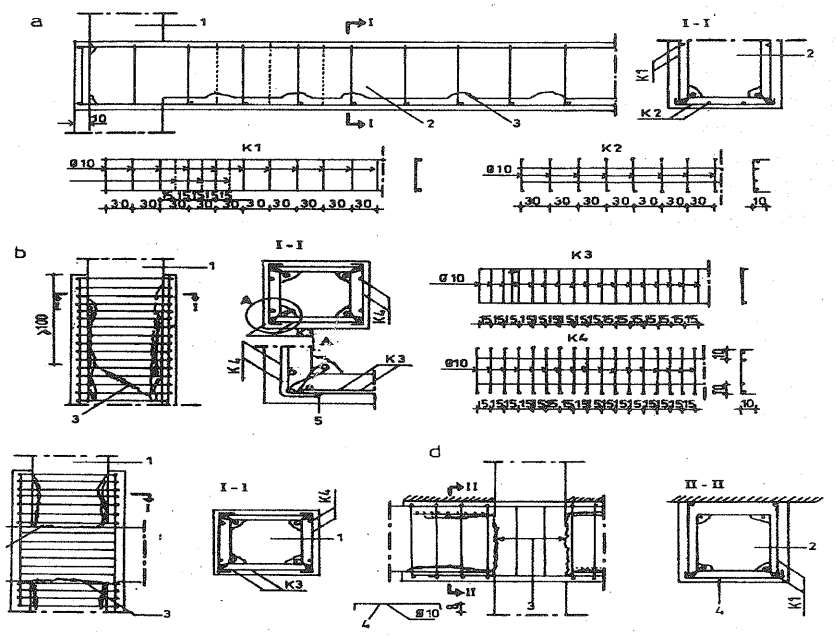
When there are vertical and slope cracks in beams close to columns, K-1 and K-2 metal gauzes are used to circle the beam in all three sides (Figure 11.a). The diameters of armatures used in grillages should be adjusted to the loads and attached to the beam bearing steels with a wire or strip plate. Later, it must be filled in pressure cement mortar. In the repair of sloping or cross like cracks, on columns, both sides of the column should be circled by K-3 and the opposite sides should be circled by K-4 metal gauze (Figure 11.b), (Abdülrahimov, 1999).

3. 4. The Repair of the Cracks in the Joint Sections of Columns-Beams

The repair processes of the horizontal cracks in joint sections of columns and beams can be made by method, shown on figure 11.d. The repair processes of vertical cracks can be made by method, shown on figure 11.c. The repair of sloping cracks in joint section columns and beams can be made by the perpendicular and horizontal methods shown on figures11.c and 11.d and by the usage of K-1, K-2, K-3 metal gauzes. At each 25 to 30 cm, reinforced concrete beams and columns should be cleaned by 5 to 10 cm. width and should be attached to the reinforcement grillage by wire or strip and cracks and grillages should be embedded in concrete by using pressure mortar (Abdülrahimov, 1999).

3. 5. The Repair of Reinforced Concrete Floors

The repair of the damages on floors are made either on the down side or the inner side depanding on the damage. If the adherence of the newly built and the damaged concrete is provided were enough, at least 3 cm. thick concrete should be placed on the upper side. If adherence is not well enough, then at least 5 cm. thick concrete must be placed upper side (Figure 12), (Çamlıbel, 2000).



a. The repair of horizantal and sloping cracks in the beam, b. The repair of the column's cracks, c-d. The repair of the cracks in joint section column and beams

1. Column 2. Beam 3. Crack 4. Stirrup 5. Weld

Figure 11. The repair of the crack in column, beam and the joint sections of columns-beams (Abdülrahimov, 1999)

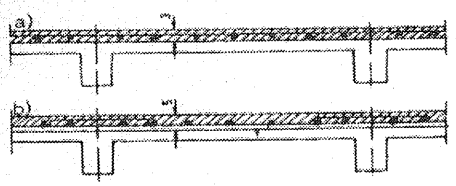


Figure 12. The repair of reinforced concrete floors (Çamlıbel, 2000)

4. Conclusion

Following the Marmara and Duzce Earthquakes, in the region where we conducted our researches, the reason why the loss of life and property is so high can be given to three causes. Failure to comply with the architectural design principles in earthquakes zones, the mistakes made in application process and the ill-constructed buildings, building construction unsuitable to soil bearing capacity. Nevertheless, steel, prefabricated and many solid block buildings which were designed following soil surveys were observed not to have been damaged seriously. It has been concluded that, in order to prevent damages in buildings, architectural and static design principles should be obeyed fully and the suitable detection should be made. Moreover, in the paper, it is given room for the repair methods of the various load bearing systems of the buildings damaged as a result of earthquakes.

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Fire safety for livable environments

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Abstract

Fire is a very important hazard which is quite unpredictable as to when it will begin and how much damage it will cause. Many fire occurrences taking place in structures owing to insufficient fire safety acquisition, inadequate application of the regulations and lack of control regarding to fire safety have resulted in a great deal of monitory loss. Fire risk which pertinent for all the building, designed by architects or not has caused too many losses of lives and properties. Especially in recent years, huge and complex buildings using advanced technology, flammable materials have extended the limits of fire hazard to large number of populations who inhabit them. In our age the life and property of more people are threatened. But unfortunately, the obligation providing fire safety in buildings is considered when the loss becomes a reality. Afterwards terrible results which fire had caused are forgotten and people pay insufficient attention to the importance of fire safety precautions, which are actually required in buildings.

Architects ought to take necessary precautions. Such precautions include determining the fire load for building, controlling construction material used in building, smoke controlling, fire venting, fire compartments, protection for structural frame and design of fire exits. All these precautions are mandatory design features. Furthermore fire safety precautions do not radically affect architect's decisions of design. They are easy to consider.

Although it is impossible to completely avoid fire risk in buildings thanks to precautions taken to prevent fires in buildings, it can be reduced to a smaller degree and the spreading of the fire can be controlled.

Introduction

The word "environment" which has different interpretations in different disciplines, means an existential structure around humans in the architectural terminology (Gür, 1996). Besides meeting the physiological and biological needs of man, this environment, which embraces human beings, must also meet the psycho-social needs of them as well. The human needs have been classified in an hierarchical order by Maslow (1935)(Fig. 1).

The physiological and biological needs give way to concepts such as shelter, comfort, continuity of the race, subsistence and permanence. The psychosocial needs are discussed through terms such as the need for security of life and property, protection, privacy, the prevention of sense of crowding and the feeling of loneliness, territory, route finding, etc., (Gür, 1996).

The need for security is one of the basic necessities of human being and the basic function of the building. The building's structural durability must be suitable and the protection against natural phenomenon, theft or accidents must be provided, as well as the fire security, which is also an important safety and security factor.

Fire is possible in every building whatever function it has. It is not possible to ignore the risk of fire completely. However, precautions taken beforehand, can prevent the spreading of the fire and both the inhabitants and the building itself suffer smaller loses.

In the designing process for fire security in buildings, architects also have responsibilities. The risk of fire and the consequences of it vary depending on the positions, functions, heights, total square, bearing systems, building materials, the number of users, and the physical characteristics of users, heating systems of the buildings. That is why, the security measures needed for every building vary from one another.

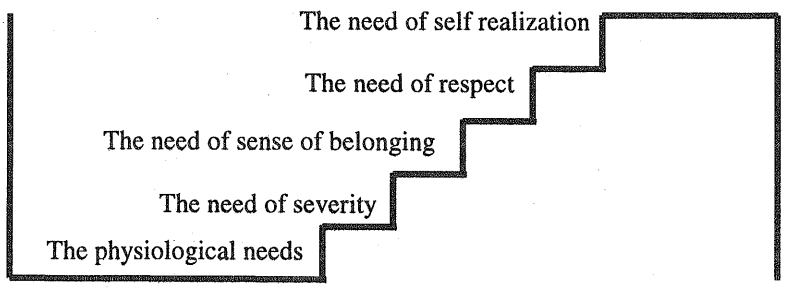

Figure 1. The steps of human development–The hierarchical steps of Maslow

Passive fire safety precautions

The precautions taken during the design process in order to ensure fire safety in buildings are called "Passive Fire Safety Precautions". These are:

1. To reduce probability of beginning of fire
2. To obstruct spreading and widening of fire in the event that the risk becomes reality
3. To transport occupants under the fire hazard to a safe area through the shortest way
4. To make simpler intervention to put out fire,
5. To impede losing stability of buildings because of fire and to conclude the hazard with minimum damage.

Fire safty design forming according to these aims is summed up within a hierarchic sy stem (Stollard & Abrahams, 1991)(Fig. 2).

It is also possible to suggest a set of precautions which have influence on design decisions for architects:

1. Determining fire loads related to buildings,
2. The precautions due to site planning,
3. Protecting structural system of building against fire,
4. Design criteria of building components,
5. Choosing criterions of building materials,
6. Providing of smoke control,
7. Planning escape routes.

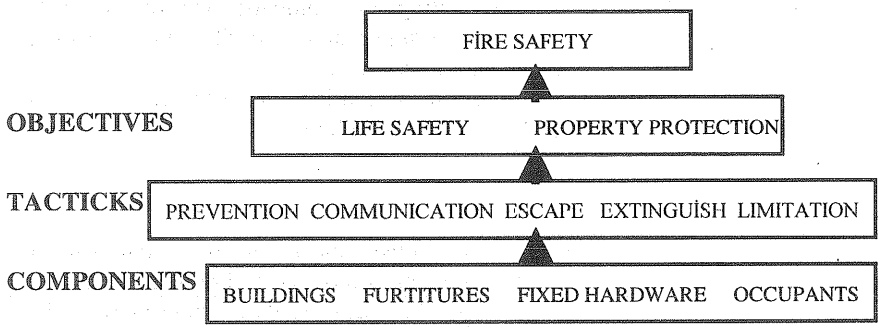

Figure 2. Objectives – Tactics – Components Hierarchy

Determining fire loads related to buildings

Fire load is a value obtained by counting thermal values of all combustible materials in buildings. It is a very important factor because the probability of risk and the speed of fire spread are very high. Fire loads in buildings have been graded as four categories to give architects some guidance (Stollard & Abrahams, 1991 and Egan, 1978).

The precautions due to site planning

Dense settlements and road capacities: Because of dense settlements in cities, many buildings having different fire load are affected from one another in the event of fire. In this way it frequently appears conflagration fires and it is an important problem capacities of roads near the buildings for fire apparatus maneuvers and arriving at buildings. Especially ancient settlement regions, shantytowns and city centers closed traffic undervalued obligation going in there in any fire have many problems these subjects (Table 1).

Table 1. Classification of fire loads for building types

FIRE LOAD CLASS	BUILDING TYPES
LOW	Residences, parking garages
MIDDLE	Apartment houses, wooden residences, hotels, schools, retail selling stores, factories, furniture stores, clothing - shoes stores, dormitories, managerial buildings, hospitals, office buildings, restaurants
HIGH	Shopping centers, grand bazaars, huge stores, large rooms for meetings, sport center, workshops, small factories, storage
VERY HIGH	Industry buildings, storage of chemical material

The buildings should have a road, having enough width connected with buildings. To allow full extension of aerial ladders at safe climbing or elevation buildings should have a sufficient space in front of a side of them at least. This is a big necessity to give an opportunity to help people who are stuck in especially tall buildings under the risk (Egan, 1978).

Buildings height / road width ≤ tag °80 Formula 1

In site planning it is another problem that impediments are located in buildings neighborhood. But site design must discourage vehicle parking at locations that will prevent placement of apparatus. City equipment (street lambs, electric beams, trees, benches, sidewalks...), to take top stores back to the stores below, console tables being located in middle part of side surface can impede effective fire-fighting and rescue operations.

Relation between buildings and design principles of building site

Mass and void rates (doors-windows-wooden surface) created in building exterior walls and separation distances between buildings have an important role in interaction between buildings in the event of fire. In this context mass and void ratios allowed, are connected with separation distances between buildings determined in regulations (Table 2).

Table 2. In exterior walls mass and void ratios which can be allowed for fire safety (EGAN, 1978)

DISTANCE BETWEEN BUILDINGS, (m)	MASS AND VOID RATIOS, (%)
0 – 1	0
1.01 – 6	20
6.01 – 9	30
9.01 – 10	40
≥10	≥40

For that fire in a building affects others, it is very an important factor that buildings are located in direction to be parallel with dominant wind. There are four methods that this affect can decrease (Egan, 1978):

1. To use fire resistant material and sprinkler system in side,
2. To put impediments between buildings,
3. To arrange opening rate in limits of regulations,
4. To increase distance between buildings.(in normal conditions separation distance must be minimum 6 – 8 m and for wooden buildings it is 10 m)

Protecting structural system of building against fire

Structural systems must be stable while evacuating all people in buildings and fire- fighting operations. Materials used in structural systems must be fire resistant and be chosen among non-combustible material or structural elements must be insulated against fire so that their resistance increases.

In buildings whose height is 60 m, fire resistance time of structural system must be minimum 60 minutes, in others which is more then 60 m it must have fire resistance minimum 120 minutes. Compartments can be designed in huge buildings in order to reduce fire load, which affect structural systems (TUYAK, 1994). Compartmentation is classified with building walls and floors, which are resistant to fire as this space measures have been determined in regulations and researches (Stollard&Abrahams, 1991)(Table 3).

Table 3. Compartment space, which must be in building types

BUILDINGS TYPES	COMPARTMENT SPACE(m^2)
Residences, apartment houses, housing estates	Every house is a compartment.
Hospitals, assembly saloons (theatre, cinema...), prisons, storage.	900 m^2
Hotels, wooden residences, offices, commercial buildings, shops.	1600 m^2
Industry buildings, 1.Buildings having high ignition risk (petroleum, furniture, plastic...) 2.Buildings having moderate ignition risk (textile, printing office) 3.Buildings having low ignition risk	400 m^2 900 m^2 1600 m^2
Car park	Sınırsız

Design criterions of building components

Vertical interior walls and fire walls: They must have following features (TS 10546, 1992):

1. The distance of vertical interior walls must be maximum 40 m.
2. They must be designed not to have openings and to be resistant minimum 90 minutes against fire. If there must be door or window, they must have details of impermeability smoke and toxic gases; must resistant minimum 45 minutes to fire and can close automatically.
3. Installation holes must be insulated against oozes of smoke and gases.
4. If the wall is built as firewall, it must have capacity to stand to oneself, be continual throughout building height and overcome about 50 cm to roof height .

Horizontal partition – floors. All floors must be resistant minimum 60 minutes and basement floors must be resistant against fire minimum 120 minutes. All of them must have precaution of blocked fire. Except for detached houses arranged separated, suspended ceilings, which contain flammable material, shouldn't be used in any place. Conjunction places of walls and floors must obstruct to transition of flame, toxic gas and smoke (TUYAK, 1994).

Choosing criterions of building materials

That fire begins, grows up and spreads in buildings and even loss exposed connect with materials in buildings. With this in mind, standards have been produced about characteristics of building materials under the influence of fire (TS 1263, 1983). According to these standards building materials are classified into two groups:

Class A materials : Inorganic materials which do not burn.

Class B materials: Organic materials, which can be burned.

A conscious design formed by knowing flammable groups and fire resistant classes of materials limits probability of fire risk to a great extent. Even if the risk is reality, spread of fire is impeded and the property losses and deaths are limited in minimum. Materials of public buildings that serve for too many people, such as hospitals, homes for the elderly, dormitories, schools must be chosen from materials of A1 or A2 classes. It is also necessary that these materials should not produce toxic gas and smoke during the fire.

Providing of smoke control

Smoke curtains (Smoke barriers): Curtains of sheet metal, asbestos cement board, or gypsum plaster, which extend down from the ceiling level, can be used in large single-story buildings to contain the spread of smoke and hot gas. The principles of smoke curtains formation have been explained build have explained below (TUYAK, 1994):

1. They must be continuous from ceiling to ceiling, from floor to ceiling or from a barrier to another.
2. The splits on the smoke currents must be closed by a material which resists minimum 30 minutes against fire and close automatically.
3. If windows are on these doors, they must have wired glass and are insulated as not to ooze gas and smoke.

4. Conjunction points of smoke curtains and other building components must be insulated by materials, which are fire resistant and smoke-proof.

Particularly in galleries or corridors that can't apply system of smoke shaft must construct smoke currents, which extended down from the ceiling together with doors, which impede fire.

Fire venting: For expanding fire severity, ventilation creates suitable environment for fire fighting and escape possibility. Oxygen insufficiency produced more smoke and carbon monoxide and heat reaches high levels. Therefore every space must have ventilation opportunity (TUYAK, 1994).

Ventilation in spaces is provided as natural aeration by means of windows, smoke shaft or airshaft. If this is impossible, mechanic ventilation, which obtains with support of a power source non-affected from fire is carried out in spaces. The distances between ventilation shafts or windows suggested in result of experiments and the proportion of clear area of ventilation void to space area are given in Table 4 (Egan, 1978).

Table 4. Conditions wanted for necessary ventilation void in space

HEAT REALISE OCCUPANCY	MAXIMUM DISTANCE BETWEEN VENTILATION(m)	AREA OF VENTILATION VOID / SPACE AREA
Low	45	0.0066 (1/150)
Moderate	35	0.01 (1/100)
High	20-30	0.033 - 0.02 (1/30 - 1/50)

Ventilation shaft must especially be built in buildings where many people live in, keep very much valuable things within, i.e. museum, contain a stage tower and underground arrival stations because of the objective to direct flame and to take out smoke from space. In the same way smoke vacating voids that is opened by being influenced from smoke alarm systems must be built in building like Atriums usually used in covered markets. Basement, space of stored burning materials etc. must have enough ventilation facilities (TUYAK, 1994).

Planning escape route

Exits from space:

1. Every space must be connected to a corridor with minimum one door, which is opened in the direction at common buildings. Crossing must not be to room from room (TUYAK, 1994).

2. There are minimum two exits connected the number of people in big space as saloon and these exits must be set in way that they are not to be seen within the angle °45 in not any point of saloon at all (TUYAK, 1994).

2. The widths of saloon doors must be limited within 120 – 240. Box doors in theatre must be minimum 100 cm. The minimum widths that must be between armchairs are 45 cm. If the armchairs, in successive rows, have the exits on both sides, the number of armchairs must be maximum forty, if not, the maximum number must be eighteen (Abdulrahimov, 1998).

3. In residence, distance that is to exit door from every bedroom's door must not exceed to 7.5 m. or this room must have a alternative exit. Nevertheless Bedrooms are preferred to be closer to the exit points besides kitchens and living rooms.

4. The criterions which designate exits from space have been given below (Stollard&Abrahams, 1991 and Egan, 1978)(Table 5).

Table 5. The number of the exits that must be in spaces at least and bottom limits for persons per unit of the exit width

NUMBER OF PEOPLE	MINIMUM EXIT REQUIREMENTS	NUMBER OF PEOPLE	WIDTH OF EXIT (m)
Basement	2	1 - 50	0.80
1 - 50	1	51 - 110	0.90
51 - 500	2	171 - 220	1.00
501 - 1000	3	221 - 240	1.20
1001 - 2000	4	241 - 260	1.30
2001 - 4000	5	261 - 280	1.40
4001 - 7000	6	281 - 300	1.50
7001 - 11000	7	301 - 320	1.60
Every single floor	2	321 - 340	1.70

Design principles for corridors

1. All the corners, corridor junctions, stairs landing, exit doors must be lighted in minimum 10 lux level (TUYAK, 1994).
2. Corridors in especially huge buildings have to have minimum two direction for escape and all of common spaces must not be covered with carpet.
3. A fire safety corridor connected with stairway tower must be created on floors in especially tall buildings. These corridors have to be smoke-proof and separate from other spaces under the fire risk with a door that can close automatically (TUYAK, 1994).
4. Principles of determining corridor's length are given in Table 6 (Egan, 1978).

Table 6. According to buildings types travel distances that must be in corridors

BUİLDİNG TYPES	MAXIMUM TRAVEL DISTANCES (m)		LIMIT FOR DEAD END (m)
	NOT SPRINKLERED	SPRİNKLERED	
Residential 1.Apartment houses, hotels 2. Dormitories	30 30	45 45	10 0
Educational 1. Enclosed plan 2. Open plan	45 30	60 ---	6 ---
Institutional	30	45	9
Assembly	45	60	---
Office buildings	60	90	15
Commercial buildings	30	45	15
Industrial buildings	30	45	15
Storage - Hazardous	23	23	---

Vertical escape route – Fire stairs: Fire escape must be in these buildings:

1. Especially in common buildings where people density is big; for example hotels, schools, hospitals, offices, shopping centers, assembly rooms, dormitories, restaurants that have more than 10 tables, factories, public baths, saloons, presses, museums, crèches, storage and all of risky buildings (TUYAK, 1994).
2. The apartment buildings, which are used by twenty or more families, using a common stairs, except for the ground floors, and the apartment buildings, which have ten floors or more or those which are larger than 600 square meters for each apartment (TUYAK, 1994).
3. All the offices, shopping centers, or public buildings which have multi-stores (Mezzanine are not included) with a disregard to limitations .
4. Minimum three fire stairs have to be built in case there are more than 500 people on a floor. When there is more than one fire stairs, they must be located in a way that the people on that floor will be able to reach at least one of them easily(TUYAK, 1994).

Fire stairs can be designed either in or outside the building. Especially on multi-stores buildings, the fire stairs must be designed in exterior part of the building as it may increase the possibility of panic or fear of altitude and decrease the speed of evacuation. If the fire stairs is built inside the building, the negative effects of the weather, frost for example, are also prevented (TUYAK, 1994).

The outside steel fire stairs are only allowed in buildings no more then seven floors. But such stairs have to be located 1.80 m away from the doors or voids if they are protected from the fire and if not, they have to be located 4.5 m away.

The doors of the fire stairs must be directed to exit, they must be smoke-proof and be resistant to fire for at least thirty minutes. It must be clearly signed as a "FIRE DOOR" and there must be a mechanism to keep the door closed continuously and there must be no door-sills at all. Also, through a fire security hall, reaching the fire stairs must be preferred in interior fire stairs of the common buildings (TUYAK, 1994).

The elements of the fire stairs must be chosen among materials, which can resist against a fire for at least 120 minutes. The hollow-newels of the basement floors and the others must be separate and for each basement floor a separate fire stairs must be built. On both sides of the fire stairs, there must be quard-rails and handrails and they must extend from the lowest level to the highest level, where security is provided (Table 7).

Table 7. General measurements for fire escape dimensions

STAIRS COMPONENTS	DIMENSIONS (m)
Stair width (minimum - maximum)	0.90 - 1.20
Width between handrails (minimum – maximum)	0.70 - 0.92
Tread width (minimum) In turning and narrow margins (minimum)	0. 28 0.20
Riser height (maximum)	0.18
Landing length (maximum)	110
Landing height (minimum – maximum)	275 - 370
Height to ceiling from over riser (maximum)	200
Exit width for stairs: * Residence or office buildings * Common buildings	0. 80 120

Suggested design decisions

Architects who are responsible for obtaining fire safety in building should follow a model that is composed 3 level.

1. Data base must be constituted for determining characteristics of buildings and conditions which buildings are in. This is a interrogation process and this process is based on 13 questions.
    1. What is the function of the building?
    2. How much square meter is the building area?
    3. How much height is the building?
    4. What is the bulk of the building?
    5. How is building settlement, relation of building with other buildings in near it and road capacity ?
    6. What is structural system of building?
    7. What is heating system in building?
    8. How many people live in there?
    9. Are there multilevel car parks in building?
    10. Is there any space, which is in special risk class?
2. Data bank which contains passive fire safety precautions that have been regulated by expert connected with fire safety is achieved by researching
3. Data base and data bank are interpreted eliminating through a logical interpretation filter and achieved fire safety precautions which are specific for building that is projected at that moment (Fig 3).

As a result of the logical interpretation process, the data that will be gained is as follows; the fire load of the building, depending on its function, the probability of the vehicles approach to the building, the necessary characteristics of the bearing systems, the number of the people who will be under a risk, and the formation of exit route, the existence of spaces which constitutes a bigger risk or the use of suitable materials. And with the information obtained, an architect have to determine his architectural design models.

The computer model has been created based on the theoretical model in my doctorate study, and it has been completed a ready package program. In this computer model, architect will only assign answers, determined in interrogation step by expert at first. After architect loads dates which is about his project, all operations run in this computer model and architect achieved a original fire safety report for his project.

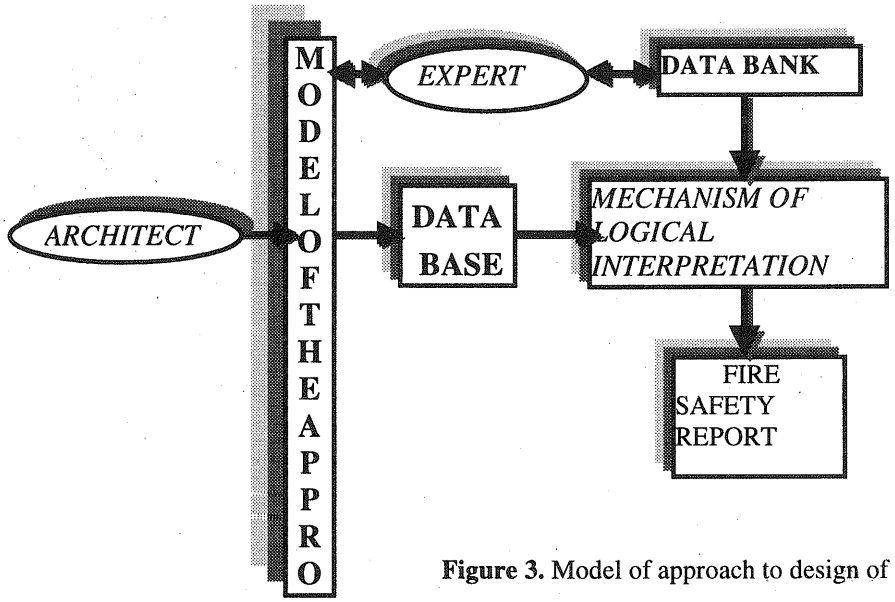

Figure 3. Model of approach to design of building safe against fire for architects

In this computer model, the designer is only responsible for choosing the suitable right answers in the interrogation step which has been prepared beforehand. After the data has been loaded, all the operations are processed within the model, the designer, in a short time, will be able to reach the fire cautions, typical to the model, as a report.

Conclusion

Fires, now, bring about a higher death tolls and loss of property especially due to the fact that rapidly growing technology has brought about a population increase and thus various necessities appeared and that the changing architectural understanding have brought triggered big and complex structures. The architects have a great responsibility because life and property securities are not included adequately in the building construction regulations. The architects who bear the responsibility to create livable environments for people, have to be conscious of fire safety. With this in mind, in the designed process of the buildings, fire safety precautions, in addition to the functional, aesthetic, economic etc. concerns, must also be provided.

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[i] Before the earthquake, no mitigation measures were taken except an inventory (http://www.santacruzsentinel.com/specquake/quake10.htm).

[ii] Joe Hall, Planner, Redevelopment Department, the City of Santa Cruz, interview (July 2000).

[iii] This analysis method helps to make preliminary program evaluations and provides to draw a framework of the program under study. Evaluability Assessment (EA) is a systematic research process to describe the structure of the program (objectives, logic, activities, indicators of success) and for analyzing the plausibility and feasibility for achieving objectives. By using this method certain features of the program can be described; (i) The program's design, (ii) the program as implemented (iii) plausibility of the program (iv) description of the theory (micro-theory) of the program, and finally (v) the lessons that can be derived from the case study (macro-theory) (Smith 1998).

[iv] Interview with Charles Eadie and Mark Primack.

[v] Richard Wilson, the City Manager of Santa Cruz, interview (March 2001).

[vi] Ceil Cirillo, he head of the Redevelopment Department (July 2000)

[vii] The City Of Santa Cruz, Redevelopment Department, undated, Downtown Recovery Plan Final Report.

[viii] The economic analysis has resulted in recommending a 40% density increase in the density to compensate the economic losses (Joe Hall, interview, July 2000).

[ix] Ceil Cirillo (July 2000).

[x] Joe Hall (July 2000).

[xi] Richard Wilson, interview, March 2001.

[xii] Interview with several property owners (stakeholders) (July 2000).

[xiii] Ceil Cirillo (July 2000).

[xiv] Joe Hall (July 2000).

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