

Important Built-environmental Factors of Open Public Space in Kish Island - Iran

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ABSTRACT

Urban open public spaces are supposed to meet peoples' needs in contemporary thinking of urban design. This study posits that urban design can meet users' needs while identifying factors affecting the needs. Thus, the study clarifies the environmental factors as a part of these affecting factors and specifically focuses on built-environmental factors. It also takes Kish Island in south of Iran as a case, where assumed to enhance the open spaces and public zones due to its current plans of development. The methodology of this study firstly involved reviewing the comprehensive literature and documenting the concepts. At the second it drives an experimental study including field observation and interview with the experts. The results of the study clarified the built-environmental factors that should be considered to meet people's needs for urban open public space in Kish. Hence, some suggestions for design of these spaces would certainly contribute towards improving the quality of urban open public spaces in Kish Island. The final recommendation can be generalized to other cases with similar characteristics.

Keywords: *Built-environmental Factors, Peoples' Needs, Urban design*

INTRODUCTION

According to Lang (2005), if 'urban design' is supposed to serve the people well in long-term, it must be established on increasing the knowledge of interactions between the environment and human behavior (natural and built world). Lang (2005) also relates its interaction with the needs of the people in an urban space. Urban open public with an expanded interface between two conceptual domains of 'open space' and 'public space' (Doorn, 1998), can serve public sphere for connecting to the environment and achieving some social needs (Madanipour, 1996, 2007). On the other hand, among the contemporary thinking of 'urban design', a lot of researches have notified a gap between research and design which should link urban design to a user's need (Smith, 1997; Naderi & Barani, 2005; Chaplin, 2008). In the current literature, there is an agreement that the success of urban spaces does not apply while it meets peoples' needs (Mean & Tims, 2005; Chaplin, 2008). Consequently, it needs that peoples' needs be identified in relation to the factors affecting them in an urban space (Lang 2005). The factors affecting users' needs in an urban space have been referred to people (Maslow, 1987; Lang, 2005; Madanipour, 2007) and environment (Lang, 2005; Carmona et al., 2003, 2010; Madanipour, 2007). Therefore, there are several human and environmental factors that affect peoples' needs in an urban space. This study specifically investigates the built-environmental factors in relation to peoples' needs for an urban open public space.

This investigation was conducted at Kish Island in the south of Iran. Kish Island is an important sea and beach recreational holiday and tourism destination in Iran. It is located in the northern part of the Persian Gulf. The current development of the Island involves improving open spaces and developing public domain (refer to the master plan of Kish approved 2007). On this base design of urban open public spaces in Kish as an objective behind the development of the island is considered in this study. This paper, firstly, reviews literature related to designing urban open public space to meet people needs. It also develops the general findings in a traditional and current context of urban design in Kish Island. Subsequently, it examines theoretical and documental finding through field observation and interview with the experts who involved urban design in Kish. The paper concludes with recommendations to improve the designing urban open public space of Kish which can support objectives of development in the Island. The outputs can also be used for other islands or tourism destinations with similar characteristics.

URBAN OPEN PUBLIC SPACE

To clarify the term 'urban open public space', the interchangeable values associated with the use of the terms 'public space' and 'open space' need to be examined (Doorn, 1998). In a comparative view, urban open public space contains an expanded interface between two conceptual domains of 'open space' and 'public space'. In this regard, 'urban open public space' could be considered as an 'outside public place' (Doorn, 1998) in an urban domain, which serves public sphere for a connection with nature and achieving some social needs (Madanipour, 1996, 2007). Shirley suggests considering open spaces as a multi-faceted matrix that contains a variety of uses and presents a variety of functions (Moughtin and Shirley, 2005). In conclusion, an open space in public sphere assumes the features of a public space and named 'urban open public space'. It can also be set in different kinds of classifications to contain a variety of functions and uses.

'Urban open public space' as an aspect of 'public space' contains features of it. According to Worpole (2008), there is an agreement in the vital role of the public spaces in the social life of communities. Townshend et al. (2006) define public spaces as places which embrace social life of city or town for social meets and public events. In addition, Golicnic (2004) and Carmona et al. (2003, 2010) consider 'people' and 'place' as the urban components in which the two-way process between them creates the strength of the public space. Due to the mutual relationship between the public spaces and the people, the different societies and cultures cause different spaces. Lynch (1979) demonstrates that different social groups do not perceive the city the same way. Numerous researchers, such as Handy (1996), Smith (1997), Thompson (2002), Arefi (2003), Golicnik (2004), and Madanipour (1996, 2007), have developed Lynch's opinion which emphasizes the relationship between social features and physical features in a public space. Worpole (2008) believes that "people make places, more than places make people." Therefore, future plans and designs of public space should be established in regard to the understanding of people's use of spaces (Madanipour, 2007, Chaplin, 2008, Worpole, 2008).

Despite the growth in the thinking of 'urban design' in relation to people's uses, a lot of research has notified a gap between research and design which should link urban design to users needs (Smith, 1997; Naderi & Barani, 2005; Chaplin, 2008). Smith

(1997) mentions that researchers and designers are more concerned with lifestyles than enhancing the standard of the designed environment which successfully meets the complex level of the human's needs. Furthermore, in the current literature, there is an agreement that the success of urban spaces does not solely rely on the hands of architects, urban designers or town planners while people make place (Mean & Tims, 2005; Chaplin, 2008).

FACTORS AFFECTING PEOPLES' NEEDS FOR URBAN OPEN PUBLIC SPACE

According to Maslow (1970, 1987), although the basic human needs are common between people; they can be changed in different contexts. In field of urban design, the Maslow's hierarchy of human needs have been developed by Lang (2005) who indicates effects of several factors on the basic needs. From the literature, numerous themes have been addressed to the factors affecting the users' needs in urban open public space. The factors affecting users' needs in an urban space are generally referred to either society and individuals (Maslow, 1987; Lang, 2005; Madanipour, 2007) or environment (Lang, 2005; Carmona et al., 2003, 2010; Madanipour, 2007). Thus, the factors affecting the users' needs for an urban open public space have often discussed in two major groups: human and environmental factors.

Apart from the influence exerted by human, users' needs also can be affected by another group of factors which are relevant to environment. Among other, Madanipour (1996) mentions that different people perceive environments differently, and these are usually based on their backgrounds and experiences. Thus, in the process of urban design, it needs to understand the relationship between people and their environment (Carmona et al., 2003; Madanipour, 2007). Lang (2005) and Simonic (2006) sees this relationship in built and natural contexts. Lang (2005) mentions that urban design should be funded on more knowledge about the interaction between the built and natural worlds. On this basis, the environmental factors are usually discussed in two groups, namely, the built environmental and natural environmental. Table 1 shows the environmental factors that may affect user' needs in urban open public space basis on the related literature.

Built Environmental Factors

Lang (2005) considers the built environment as an indicator of people's social position and a symbol of our identity. "For many people the layout of the built environment being in accordance with spiritual beliefs also meets these needs" (Lang, 2005). It is therefore important to recognize the features of the built environment in order to understand users' needs for urban open public space. The literature review (table 1) shows that numerous factors of the built environment refer to people's needs in urban open public space. The factors can be categorized into three terms, namely, 'physical character', 'movement', and 'location'.

Simonic (2006) mentions that the "physical characters of designed landscape" influence people's needs and preferences. According to Simonic (2006), a combination of "particular character, spatial organization, and the character of present natural elements" build people's preferences to use certain space and select landscape scenes. Numerous items have been referred to physical characters which influence people's needs, such as size and human dimension, shape, size, layout, and construction quality (Table 4.6). Furthermore, the design of landscape and natural elements (Simonic, 2006), as well as the aesthetics of space (Carmona et al., 2003, 2010), can be added to this group of factors. This type of factors can influence

different kinds of people's needs in urban open public space, specifically their physiological needs (Lynch, 1979; Carmona et al., 2003, 2010; Ehrenfeucht, Loukaitou & Sideris, 2007), safety (Lynch, 1979; Lang, 2005), and social interaction (Carmona et al., 2003, 2010; Shaftoe, 2008).

. Movement is focused in contemporary literature as an effective factor for users' needs (Zacharias, 1999; Shaftoe, 2008). Movement in public space is a key factor to generate life and activity so it should essentially be understood for a successful urban design (Carmona et al., 2003, 2010). Furthermore, the opportunities for some people's requests, such as social interaction, festival and celebration, being in café and stalls, as well as feeling safety, only occur once the car has been parked (Carmona et al., 2003, 2010,; Shaftoe, 2008). As a result, the quality of movement in UOPS can potentially influence all the three needs of 'physiological', 'safety and security', and 'affiliation'.

Finally, location is another factor which is related to the built environment and it influences users' needs. Among other, Shaftoe (2008) considers location as a key factor that specifies whether or not people are drawn to use a public space. Shaftoe (2008) also refers location to other factors such as geographical factors, density and population, access, function, and age. In fact, location can make a meaningless design look good in reality (Shaftoe, 2008). Thus, location can affect all the needs which are supposed to be met by design.

On this base, this study investigates built-environmental factors that affect people's needs for urban open public space. It takes Kish Island as a case to examine the built-environmental factors and specifically focuses three factors including 'physical characteristics', 'movement', and 'location'.

Table 1: Built-environmental factors affecting peoples' needs in urban open public space

Author (Source)	Themes used in relation to built-environmental factors affecting peoples' needs in urban open public space
Lynch (1979)	- Dimension
Alexander (1977)	- Dimension, distance
Krier (1979)	- Shape
Drakakis-Smith (1997)	- Built environment
Zacharias (1999)	- Real environment (natural environment & built environment)
Moughtin <i>et al.</i> (1999)	- Size
Mean and Tims (2005)	- In city: Soft and hard factors
Gobster (2004)	- Human dimension
Whyte (1980, 1988) Carmina (2003)	- Good location, Being level or almost level with the pavement - Places to sit , movable seats, enabling choice, communication of character and personality (are more important factors). - Sunlight penetration - aesthetics of space - space of space- shape of space - size of spaces (are less important):
Gehl (2003),Shaftoe (2008)	- Dimension, size

Weaver (2004)	- Natural component of site
Simonic (2006)	- Specific physical landscape character of designed landscapes - Spatial organization
Mumford (1964), Sennett (1986), Worpole (2008) Shaftoe (2008)	- Rise and fall of ground, climate, Location, Size , Shape, and type of space
Shaftoe (2008)	- location, size, shape, type, and movement

Prepared by Erfanian, 2009; (Compiled from literature review of PhD thesis)

METHODOLOGY

This study employs two major strategies for research; namely, literature review and case study. The first strategy includes the theoretical principles of the subject as well as concentrates on documental data describing the people's needs for an urban open public space at Kish Island. As for another strategy, an experimental study is performed to collect the required data at the Island. The experimental study is based on field observation and semi-structure interview with the experts.

The procedure of field observation was planned with attention given to the actual reality, the conceptual findings, similar previous experiences, and local characteristics (Groat, 2002). This study, therefore, investigates the peoples' behaviours in real situations by considering the environmental factors. The peoples' attitudes are investigated according to their needs in two urban open space of Kish as the study area including the recreational jetty and Saffein coastal park. The site visits were documented in several recording sheets and photographs. The conceptual findings also were examined during an interview with the experts who are involved with the urban design in Kish. The interviews used semi-structured open-ended questions that provides clarifications and offers suggestions. The experts were asked to respond or comment on a list of built-environmental factors affecting users 'needs in urban open public space of Kish. At the end the results of documental and experimental investigation were analyzed based on the triangulation methods for the data analysis as Creswell (2007) suggests.

BUILT ENVIRONMENTAL FACTORS AFFECTING PEOPLE' NEEDS IN URBAN OPEN PUBLIC SPACE IN KISH ISLAND

In order to understand the factors affecting the peoples' needs for urban open public space in Kish, three concepts of 'physical characteristics', 'movement', and 'location' are investigated in three sorts of data: documental, observational, and interviews findings that are explained below.

Documental Study

Firstly, an overview of the main concepts, approaches and current actions has been done. Thus, the study attempted to delineate built-environmental factors affecting users' needs in relation to the theoretical, traditional and current concerns. The aim is to develop the theoretical findings for Kish Island in attention to its individual characteristics.

Krier (1979) believes that today, we have missed our own traditional perception of past urban spaces. Thus, a brief review of the background of the old city and UOPS in Iran is carried out in this study to seek the effective factors on users' needs in the traditional context. Besides, the investigation in this stage concentrated on the regional characteristics (south of the country) of the urban spaces (Table 2). In addition, the study investigates the current development of Kish to particularly extract the factors considered as related to peoples' needs for urban open public space. Thus, the study is satisfied with the plans and documents derived from the local government, and from Kish Free Zone Organization. The information was discussed and categorized based on the theoretical findings previously. Between the built-environmental factors obtained from literature review, physical characteristics have been focused more in traditional contexts as well as the factor of location has been considered in local planning more (Table 2).

Table 2: Built-environmental factors affecting people's needs for UOPS in the traditional and current contexts of Kish Island

Theoretical Items	Traditional Context		Current Context	Resource
	Iran	South of Iran	Local Authority of Kish	
Physical Characteristics of the place	<ul style="list-style-type: none"> - Special enclosing - Scale proportion - Different space - Dimension & hierarchy - Composition 	<ul style="list-style-type: none"> - Location (Vicinity of the long & thin coastline) - Spatial measures - Semi-enclosing - State of the coast line 		Tavassoli (1992), AzariNajafabadi (2006), Poorjaefari(1985)
Location			- Linkage with sea	Baft-Shahr (2002) Master plan (2007)

Source: documental study 2009

Observational Study

The observation tried to recognize the environmental factors affecting the peoples' needs at the sites while criticizing the quality of the environment to meet these needs. The peoples' attitudes and activities are investigated in each study area in relation to the abovementioned factors. The findings of this part help to identify the dependent variables in real situation and assess their importance.

The observation findings are based on the comparison between the actual reality, existing practical framework, and the conceptual framework. Table 3 displays a summary of the observation findings on factor affecting tourists' needs that have been described during previous sections.

Table 3: Summary of observational finding in relation to built-environmental factors affecting people's needs for study areas of Kish Island

Conceptual findings	Observation Findings
- Location - Movement - Physical quality	- Beaches/ nearby the sea as the most favourite location - Walking and cycling as current movements, mixed together - Needs to proper facilities for seating, walking, playing, eating and drinking, thermal comfort, and entertainment, parking.

Source: field observation 2010

Interview with Experts

Basis conceptual findings, three built environmental factors namely; physical character, movement, and location were discussed by experts. The responses definitely confirmed the significance of all three factors. They also pointed to the factor of planning. Moreover, one of the respondents noted that built environmental factors are changeable factors, which may also be linked to planning. In addition, some of the experts believed that, built environmental factors are changeable across time. Below describes the respondents' opinions on built environmental factors in more details.

a) Physical quality of the environment: 100% (n=15) of respondents confirmed the effects of physical quality on the tourists' needs in the urban open public space. One of the respondents stated that constructional quality of environment affects our expectation of the environment and more special quality requires more special needs. In general, according to the respondents, the physical conditions of the urban open public space should be qualified for the following matters:

- i. Motivating people in terms of mobility and immobility in different places;
- ii. Accessibility and walkway, departure and destination points, connection and frequency, and proper borders;
- iii. Shades and lighting using modern ;
- iv. Proper measures, symmetry;
- v. Visual characteristics, especially to the sea; and
- vi. Harmony with nature is very important.

b) Movement: All the respondents agreed that walking is the main kind of movement for the urban open public space of Kish and should be separated from car movement. Some respondents (33%) highlighted pedestrian movement because 'walking' is one of the important peoples' needs in the coastal areas of Kish. In addition, the interviewees, paid attention to cycling as the second movement preferred by the users in the urban open public space. In a nutshell, the experts considered these three kinds of movement for the urban open public space in Kish; walking, cycling, and driving in cars that should be separated.

c) Location: Between the built-environmental factors, location was focused more by the respondents. Majority of the respondents (73%) specified that the best location for users of the urban open public spaces of Kish is the coastal areas. Some respondents believed that the ideal design for the UOPS in Kish could be conducted along the seashore.

d) Planning: Majority of the respondents (80%) considered 'planning' as an important factor in creating an appropriate built environment. Some respondents specifically mentioned that planning is a strong factor to be considered in meeting the peoples' needs. In addition, some respondents emphasized planning for proper location, whereas some others highlighted function of space as an important factor. A number of respondents noted that lack of proper facilities and programming for attracting users influences livability of the open spaces. In addition, one person pointed to maintenance and development of urban spaces, which relate to planning. Notably, the experts related planning to all kinds of needs.

DISCUSSION

Built-environmental factors comprise the characteristics of the environment that are created and controlled by human in urban planning and design. The review of literature indicated numerous items as built-environmental factors, which were generally addressed to the concepts of 'physical character', 'movement', and 'location'.

Among the experts' statements, the physical characters would be considerable due to several reasons which include motivating people to mobility and immobility in different places, accessibility and walkway, departure and destination points, connection and frequency, having shades, lighting, using modern technology, as well as with proper measures, and visual characteristics. The observation findings entirely verified the above and also highlighted proper facilities for seating, walking, kids' playgrounds, eating and drinking stalls/outlets or restaurants, thermal comfort, entertainment, as well as good and organized parking.

As for to the experts' opinions and observation, walking is the main form of movement in urban open public space of Kish, while bicycle-riding is the second common recreational activity. Meanwhile, the findings from the observation and interview indicated that movement could support or obstruct meeting tourists' needs in urban open public space. Therefore, all results confirmed the priority of walking in urban open public space of Kish and emphasized movement segregation for pedestrians, and those using bicycles and cars.

The findings of the study also agreed on location as an effective factor. The findings from the observation confirmed this particular factor since many tourists' activities and attitudes at the study areas were found to be related to the sea. Moreover, several differences were also derived between the peoples' needs in both the study areas as referring to location. The experts recognized location as an important factor for urban open public space in Kish, while giving the first priority to the coastal areas, particularly the eastern shore.

Finally, the experts suggested the term of 'planning' as a factor which is related to built-environmental factors. As for the experts' opinion, planning can affect tourists' needs in an urban open public space through: To supply proper function, facilities, good maintenance; harmonizing the space with the nature among quantitative dominate on the nature; to signify place attachment and local principles of Kish; and to consider economic aspects as the affective factors.

CONCLUSIONS

In relation to the aim of the study towards improving urban design, the factors related to the built environment should be carefully investigated. This paper presents a study on the built-environmental factors affecting peoples' needs for urban open public spaces in Kish Island. It has the potential to be used as the base for the design of these urban spaces in the island. From the findings, there are three major groups of built environmental factors that influence peoples' needs in an urban open public space. However, the experts added factor of planning which directly and indirectly affect on users' needs in these spaces. These factors should be considered in process of designing urban open spaces where are supposed to meet peoples' needs.

Thus, in order to meet the peoples' needs in open public space, urban design has to identify and consider environmental factors and their effects. On the other hand, documental review and the interviews with the experts revealed a lack of environmental attention on the strategies and plans in urban design at Kish. Therefore, there is an urgent need to develop some guidelines based on the environmental concerns. Based on the findings, it is recommended that more focus should be given on three kinds of built-environmental factors; location, movement, and physical quality, when designing urban open public space.

Moreover, in the experts' interview, they linked 'planning' to built-environmental factors which are assumed:

- To supply proper function, facilities, good maintenance;
- To harmonize UOPS with the nature among the quantitative dominate on nature;
- To consider the significance of place attachment and local principles of Kish;
- To consider the economic aspects as the affective factors.

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