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Improvement of Environmental Quality in Historical Textures (Case Study: Khajeh Khezr Neighborhood, Kerman City)

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Abstract

Historical neighborhoods have special values inside them; and, in addition to inducing a sense of collective memories, they have to have some criteria in respect of achieving desirable environmental quality for citizens to live. From the perspective of urban planners and designers, a neighborhood as an urban space has to satisfy various needs of citizens in terms of activities as well as their spiritual requirements. In this research based on components of environmental quality in one of the neighborhoods with historical value resulting from a theoretical model presented (functional-structural, physical-spatial, and substantive), integrated analysis has been performed on the Khajeh Khezr neighborhood in Kerman. Then, after studying its weaknesses and strengths points of it based on the AIDA model, some mechanisms have been presented to promote environmental quality, based on neighborhood organization; and, related urban design projects have been defined, accordingly. In this research, the descriptive-analytical method and review of texts have been used in the form of library studies; and, case study has been applied as well as observation and questionnaire in the form of field studies. Analyzing the findings shows that inhabitants in Khajeh Khezr neighborhood are not very satisfied with the quality of the urban environment of the neighborhood. To improve the quality of the environment in Khajeh Kheza neighborhood, emphasis should be put on creating variety and balance in design, strengthening non-motorized traffic, and prioritizing organization and betterment of the neighborhood.

Keywords: Environmental Quality, Kerman, Khajeh Khezr, Neighborhood, Historical

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Introduction

Neighborhood is the most powerful social unit in the city and represents its culture. Therefore, the design and use of the neighborhood are crucial issues for the society (Abdolahzade Fard, et al, 2020). The reason is that, incorrect design and usage made of space will result in such problems as lack of compatibility of available spaces in neighborhoods with human requirements, mixture of human and machines and no conformity available between available spaces and behavioral patterns of user groups of those spaces. Nowadays, one of the most important problems taking attention to architectures, urban planners and designers is "environmental quality crisis".

Environment is represented and perceived by its environmental quality. This is one of the most essential and basic aspects of quality of life, which includes feelings of well-being, welfare, and comfort, and satisfaction with physical, social, economic, environmental, and symbolic factors. Health, as a complex structure, can help an individual adjust to its surroundings (Abdolahzade Fard, et al, 2020).

Differences between deprived and non-deprived neighborhoods may exist in terms of both physical neighborhood characteristics such as access to facilities or green space (Nesbitt et al., 2019) and perceived neighborhood characteristics such as neighborhood attachment or perceived safety (Mouratidis, 2020) since neighborhood characteristics are linked to the well-being of its residents. Potential lower environmental quality characterizing poorer neighborhoods could contribute to lower well-being in these areas (Sampson, 2019).

Importance of environmental problems in urban textures has never been so obvious as today. Importance and the role played by environmental quality in different aspects of life, special nature of urban textures, increasing role played by neighborhood as the most important residence of human beings, and many people severely affected by dominant conditions of their place of living make clear the importance and necessity for studying the subject in the cities, more than ever (Van Kamp, 2003). Many components have been set forth as for environmental quality. From one hand, it seems that improving environmental quality of urban textures is of significant effect on promotion of satisfaction level of citizens regarding urban living, reduction of social abnormalities, existence of a sense of belonging in citizens, increase of participation level of citizens and availability of secured participatory space, and etc. Importance of evaluating neighborhood environmental quality is also resulted from the point that basically, satisfaction of citizens will lead to their active presence in relation to taking responsibility; and, citizenship participation to be taken into consideration as the main axis of decision making. One of the tools to achieve these goals is evaluating environmental quality in neighborhoods based on views provided by those residing there.

In this research, three functional, experimental-aesthetic, and environmental components of urban design will be studied as components of environmental quality. Solving the problem of environmental quality crisis and promotion of environmental quality has a direct relationship with quality improvement of human life. This requires much attention to be paid to the problem of quality of environment.

In this research, study and integrated analysis would be performed on Khajeh Khezr neighborhood in Kerman City as one of the most valuable historical neighborhoods in the city. After studying weakness and strength points of the neighborhood, some guidance will be provided to organize the aforementioned neighborhood so that urban space environmental quality would be improved based on urban design components.

Necessity for dealing with this issue in Khajeh Khezr neighborhood is resulted from the following points: neighborhood being mainly affected by gradual dominance of centers

used for activities and applications not compatible with urban textures, relative shortage of neighborhood-based services, as well as physical compression there. This to a great extent will lead to ignoring the quality of the neighborhood's environment in this range of Kerman urban texture.

Research Methods and Materials

As stated before, the research has been mainly aimed at evaluating urban environmental quality in Khajeh Khezr neighborhood in Kerman City, as well as measuring urban environmental quality indicators of the same neighborhood, in addition to providing some strategies to improve the urban environment of the neighborhood. To explain current status and to find an answer to research questions, a descriptive-analytical method of research performing as a rational whole as part of the scientific process will be used.

Moreover, and to strengthen theoretical foundations, relevant studies have been performed through review of related documents. Considering the concept of "quality" and studying it from different perspectives, finally through a sustainable model of place, the quality of urban design is a phenomenon and an outcome formed of the subcomponents of environmental quality. The obstacles and opportunities of environmental quality have been studied through the AIDA model; and, finally urban design mechanisms to promote environmental quality in Khajeh Khezr neighborhood have been presented. Analysis technique in relevant fields of decision making is considered as an important technique in urban and regional planning systems. The idea of implementing such a technique dates back to the early 1950s in the USA and early 1970s in England. The technique is considered as a turning point in planning since the 1980s in England. Thematic grounds of its application also put emphasis on overcoming problems related to these scenarios through new methods of determining complex relationships between different aspects of planning, especially, creation of structural program-based policies, and using general rules of strategic selection.

Research Background

The role played by society and residents of a neighborhood as main investors in forming quality of neighborhood has been studied by Yuliastuti and Saraswati (2014) in a paper called "Environmental quality in urban residences: the role played by participation of local communities in Semarang east sub-region". In the paper, making an effort to improve environmental quality through social capitals in neighborhoods along with empowerment of residents during participation procedure in urban designs have been dealt with. Local communities in Indonesia as a self-centered integrated neighborhood unit play a basic role in qualitative changes of residential environments. This paper is a qualitative approach aimed at formulation and execution of the role played by local organizations in terms of environmental quality of residential neighborhoods in three different points of the Kelurahan Bugangan urban region. The role played by local communities as a stimulator and reflection of community-based development, along with a group of people with a good sense of social contribution such as capability of taking care of their own interest in a responsible way, free expression of their views, active social contributions, as well as providing mutual social services in respect of achieving their goals in terms of promoting environmental quality of residential neighborhoods is undeniable. For sustainability purposes, local communities are expected to be able to achieve desirable cooperation with main stakeholders in supervision, formulation, and execution of environmental quality improvement projects in residential neighborhoods.

Quality of urban environment in two regions in Turin City in Italy has been studied by La Malva et al. (2015) in a paper titled "Vitalization of spaces: a multisensory approach towards improvement of environmental quality of urban spaces". Through an approach towards vitalization of space along with an integrated analysis of subjective and visual components including acoustic perspective, optical perspective, thermal perspective, and climate perspective, they have studied urban environmental quality in two regions in Turin. Such aspects like comfort, pleasure, and vitality have also been studied as behavioral studies. The results from analyzing concerned components in two aforementioned regions have been aimed at validating this method of research to be qualified for identification of desirable and undesirable urban environments so that criteria (rather than those already confirmed by experts) would be used.

Industrial cities and those under procedure of industrialization as well as decrease of quality of urban living, have been studied by Athanasios et al. (2016) in a paper called "Urban planning with an approach towards promotion of environmental quality and human welfare." In general, influence of economic conditions has changed cities completely different from the time under which cities have been influenced by political or social conditions. People's perception regarding dynamic urban landscapes has changed to static landscapes. Sustainable city has to consider simultaneously the economic, political and social interests of the city. This paper shows a multidisciplinary approach towards achieving comprehensive perception regarding quality of urban environment and human welfare in relation to sustainable development.

Many urban science scientists consider quality of neighborhoods' environment as one of the components of quality of life. Therefore, it can be suggested that quality of environment is a part of quality of life and includes all factors forming a part of humans' satisfaction.

In general, research in the field of environmental quality of urban neighborhoods have primarily begun with quality of housing and satisfaction regarding the residential environment and gradually expanded to larger scales all around the neighborhoods, city, region, and country. In many related theoretical texts in relation to quality of environment and environmental quality of neighborhood, there are numerous definitions which will be dealt with later on.

Table (1): Studying backgrounds of studies related to environmental quality in Iran and outside the country

Year	Researcher(S)	Title	Results
2011-2015	Mostafa Abbaszadegan, Reyhaneh Vahidian	Process driven and product-oriented design strategy for urban environmental qualities	This theoretical research has been aimed at method of implementing process driven and product-oriented methods in designing urban environmental qualities, and explaining the two above views regarding various outputs of urban design. In this respect, views provided by five theorists and their differences have been studied and classified in form of the two above views. Also, the paper has been aimed at creating a new approach in achieving various qualities in urban environment with the help of process driven and product-oriented views. Studying a number of classifications presented by reputable thinkers in urban design, 10 qualities have been extracted from so that comprehensive conclusion would be made.
	Mojtaba Rafieian, Masoud Khademi	Environmental quality indicators in identification of intervention priorities in worn out area of Bandar Lengeh City	To study qualitative criteria in worn out texture, a suitable pattern with classification of indices approved by Supreme Council of Architecture and Urban Planning has been prepared so that through measurement and analysis of each of qualitative indices, the need for promotion or creation of it in that space would become observable. In research procedure, the pattern would be placed in case study regarding worn out texture of Bandar Lengeh and evaluated so that positive effect of qualitative indices would be clear in addition to approvals of the Supreme Council of Architecture and Urban Planning.

Year	Researcher(S)	Title	Results
	Morteza Rezaie, Mohammad Rahmani	Revival and organizing design of historical neighborhoods through emphasis put on creation of security and promotion of environmental quality (case study, Dolatabad neighborhood in Malayer)	In general, the project has been aimed at revival and organizing historical neighborhoods with emphasis on creation of security and promotion of environmental quality. In this respect, soft interventions and hard interventions (betterment and renovation) have been specified to supply security and promote environmental quality. The research results are: 1- revival of identity and history of neighborhood through revival of the bond between elements previously forming the city (neighborhood, bazaar, and mosque); 2- turning Dolatabad neighborhood to an attractive tourism hub and increase of municipality income; 3- organizing peddlers and optimizing car traffic; 4- supplying services and requirements with consideration of functional area all around the neighborhood; and, 5- promoting urban management and considering it to improve life quality in the city.
2014-2016	Yuliastuti & Saraswati	Environmental quality in urban residential: the role played by participation of local communities in Semarang sub-region	In the paper, effort has been made to improve quality of environment through social capitals of neighborhoods along with empowerment of residents in participation procedure of urban projects. Local communities in Indonesia as an integrated self-centered neighborhood unit play basic role in changing quality of residential environments. The paper is a quantitative approach to the aim of formulation and execution of role played by local organizations regarding environmental quality of residential neighborhoods in three different parts of Klurahan Bugangan urban region
	Francessco La Malva, Valerio Lorso, Adriana Astolfi	Revival of spaces: a multisensory approach to promote environmental quality of urban spaces	Such aspects like tranquility enjoy and vitality have been also studied as behavioral studies. The results from analyzing concerned components in the two regions studied to the aim of validation of this method of research for qualification of identification of desirable and undesirable urban environments are directed towards using such criteria rather than those already confirmed by experts.
	Thomas Panagopoulos, joseh Antonio Gonzalez, Maria Bostanara	Urban planning through an approach towards promotion of environmental quality and human welfare	In general, influence of economic conditions has given the cities a completely different shape compared to the time they have been under influence of political or social conditions. Peoples' perception regarding dynamic urban landscapes has turned to fixed and static landscapes. Sustainable city has to consider economic, political and social interests of city simultaneously in designing high quality environments for human convenience. The paper shows a multi-disciplinary approach to obtain comprehensive understanding from urban environment and human welfare in relation to sustainable development
2016-2020	Jonathan Natanian, Or Aleksandrowicz, Thomas Auer	A parametric approach to optimizing urban form, energy balance and environmental quality: The case of Mediterranean districts	The main results indicate substantial performative differences between typologies under different design and density scenarios; the correlation between the environmental quality of urban forms and the energy load match index as well as the benefits of the courtyard typology in terms of energy balance in most accommodations, with its challenging daylight performance, were established.
	Alireza Abdolahzade fard, Ali Shamsoddini	Neighborhood Environmental Quality and Its Role Regarding the Residents' Spiritual and Mental Health (Case Study of Sang Siyah District, Shiraz Metropolis)	Results indicate that environmental quality improvement per unit contributes to the increase of mental health by 0.91. Also, there is a significant relationship between the quality of the physical environment and social capital (social cohesion, trust, and security), green space, access to services, landscape (continuity and adaptability), form and function (diversity and vitality) components at 99 and 95% confidence levels. Social cohesion has the highest correlation with environmental quality. Social cohesion and trust in the neighborhood can have a more significant impact on mental health promotion. Finally, suggestions are provided in the contexts of physical, social-cultural, meaningfulness and readability, flexibility and eventfulness, socializability, vitality and diversity, memory, and security to improve the status quo,
	Dorsa Alipour, Pooyan Shahabian	Evaluation of the effective factor of environmental quality in satisfaction rate of residential environment neighborhood (Case study: Pardis new town)	After extracting 25 factors from fundamental theories of environmental quality in three deferent dimensions of Experimental, Functional & nature of environment. With these factors, the environmental quality of 4 different neighborhoods of Pardis has been evaluated. Considering the main goal, the connection between the environmental quality indicators and the satisfaction rate of the residential environment neighborhood has been evaluated too. This connection will be shown in a model evaluating environmental quality of Pardis new town. Study shows that there are six basic factors, defining satisfaction of Pardis habitants, while the overall score of satisfaction rate is low which explains inability of Pardis town to fulfill inhabitant needs and desires.

Theoretical Foundations of the Research

Quality

The word "quality" is a concept used in knowledge and all of the fields related to the life of a human being. Quality in ordinary and fully clear meaning is used to describe the degree of perfection of objects and phenomena (Golkar, 2001, p. 83). However, quality is a relative concept having a meaning more than its obvious ordinary meaning. Concept of quality has two aspects i.e. quality is an ambiguous and multidimensional concept; however, it is also clear. In fact, by quality we mean main characteristics and features of a phenomenon; while, it is also a generality and a system of subqualities creating a phenomenon (Pakzad, 2006, p. 78). In fact, subqualities can be used to help understanding different characteristics of a phenomenon; whereas, general qualities can be used to understand differences between phenomena. In this respect, Amid Persian Dictionary provides the meaning of "quality" as manner, condition, and attribute of something (Amid, 1984, p. 1027). Also, quality in English language means something owned by a person, an object or a thought which makes it special and interesting (Longman I.c, 1981, p. 680). On the other hand, Oxford English Dictionary provides four meanings for quality: 1- degree of goodness and value of something; 2- goodness and perfection in general terms; 3- characteristics and specifications; and, 4- special aspect and distinctive signs (Oxford A.D, 2006, p. 1233). However, quality in fact is a manner of a thing or phenomenon with a special emotional and rational effect on a human being (Pakzad, 2006, p. 78). This effect has to be in a way that human senses would be able of understanding and feeling it.

Environment

Moien Persian Dictionary introduces the "environment" as including, surrounding, and a place for human beings to live in (Moien, 1992, p. 3929). There have been different definitions for environment; however, surrounding space is in fact the main criteria for various definitions provided for environment. Therefore, every description, definition or explanation of nature of environment's function has to be with consideration of those things in surrounding space (Lang, 2005, p. 85). In terms of dividing various types of environments, we are confronting with two types of it. Firstly, potential environment for human behavior and secondly, effective environment taken into consideration with an individual and used by him. Many researches make distinction between "behavioral", "physical", "social" and "psychological" environments. Physical environment includes geographical and land zones; social environment includes organizations formed by persons and groups; psychological environment includes mental images of people; and, behavioral environment is a set of factors reacted to by an individual. What is most seen in this classification is the difference between the real world (real or objective) around a human being and the phenomenological world which self-consciously or unconsciously causes behavioral patterns of people to react. From the perspective of phenomenological world, the world as a phenomenon depends on level and method of perception and attention of the human mind (Poorjafar, 2001, pp. 65-80). Moreover, the conceptual (social) environment is set forth by Douglas Porteous (1977), added to the concepts of phenomenal (geographical) and personal (behavioral) environments. In his living process, the human needs much intellectual and mental interaction with the environment, as if his mind and spirit will be affected by immovability and death upon no interaction with (natural and artificial) environment and space in their natural and very complicated forms. On the contrary, familiar environment and space being compatible with the general structure of complex, legible and integrated culture would be resulted in cheerfulness, tranquility, assurance, sense of belonging and etc. as well as increasing capability of

thought, intellectual creativity, high theoretical and practical efficiency and finally cultural excellence more than ever. Spatial attachment of a human being is deep rooted. This attachment stemmed from the need to understand social relations among human beings so that concepts would be perceived and requirements against various events would be satisfied and dominated. Principally, a human being establishes a relationship between himself and his surrounding objects and environment and uses it to reach abstract realities and concepts hidden in language to communicate with others and the environment (Barati, 2003).

Table (2): Indicators of environmental quality in urban design based on sustainable place model

Components of Environmental Quality in Urban Design	Experimental-Aesthetic	Quality of physical-spatial environment, perceptual-sensory environment, and perceptual-mental environment
	Functional	Quality of behavioral locations and compatibility of urban form with land uses, safety, and security
	Environmental	Sustainable development and subject of climate and local features, reduction of pollutions, as well as problem of sounds and adore

(Golkar, 2001)

Environmental quality

Quality of an object is stemmed from two origins: 1- Mental status of a person and 2- Objective status of an object. Pronominal qualities would be difficultly quantified and they can be hardly measured. Qualities related to desirable or undesirable expressions and objects being ugly or beautiful are usually from this type. However, real qualities of objects can be considered as a quality with measurable nature, being related to measurable capacities such as weight, height, and speed. So, as far as an object is concerned, quality is a degree of superiority, similarity, or inferiority of it compared to other objects which by human beings will be understood subjectively and objectively as a set of its features. Quality of an object is stemmed from two sources: “conscience”, and the “object” itself respectively called “value” and “measurement scale”. They are indicative of two groups of “capacity-based qualities” and “desirability-based qualities” (Golkar, 2001, p. 38). In fact, “environmental quality” can be considered as one of the most important concerns of urban design. That is, many theorists consider “promotion of environmental quality” as the most important task in urban designing (Pakzad, 2006, p. 77). In theoretical texts regarding urban planning and design, there are many definitions regarding the concept of environmental quality. These various perceptions are formed based on the intellectual background of experts or their selection method indicators. However, lack of comprehensive and accurate definition regarding environmental quality to be agreed upon by experts is obvious in urban theoretical foundations. This can be resulted from the relationship or overlap of this concept with other ambiguous and complex concepts such as quality of life, capability of life, and sustainability (Van Kamp, 2003, pp. 5-18).

Components of environmental quality in urban design

In relation to quality of interaction between human being and environment, there are three psychological theories available including “environmental determinism”, “environmental possibilism”, and “environmental probabilism”. Theory of environmental determinism concerns the point that changes in nature of geographical, social, cultural and natural or artificial environments can lead to change in human perception and behavior; and, human is surrendered to environmental conditions. This theory has been followed by considering environmental quality in urban design as a quality and feature being intrinsic to the physical environment and existing independent from supervisor. Based on such perspective, quality of urban design is a quality compulsory and

specifically stemmed from a form of environment; whereas, theory of environmental possibilism concerns environment as provider of a set of potential capabilities for some of behaviors and the point that a human being is not completely (100%) surrendered to environment and has a relative right to select. Of course, the potential of the environment is not necessarily leading to special behavior; however, if the environment would be of no potential, surely no behavior would be realized. This theory has been followed by considering urban design as a completely subjective category based on taste which will be made by supervisors and has no relationship with structure and features of the physical environment (Soltani, 2010, p. 25). However, from the perspective of environmental probabilism, the environment is just capable of providing the ground and probability of a special behavioral or perceptual event and not capable of determining the behavior definitely. Therefore, a human being is free to select environmental conditions. This theory has been followed by considering environmental quality in urban design as a concept through provision of tangible features on behalf of the physical environment from one hand and then being felt, understood, recognized and evaluated by the supervisor on the other hand. Under such consideration, quality of environment would be formed through interaction processes between physical and tangible features of environment from one hand, and cultural patterns and codes as well as subjective capabilities of supervisor on the other hand (Poorjafar, 2001, pp. 65-80). Environmental quality shows interesting features of the surrounding environment and includes such factors as visual, aural, and sensational factors. Urban design tries to identify the aforementioned qualities and to specify methods of promotion or maintenance of quality of those with appropriate status so that a step would be taken towards optimization of those with somehow low qualities (Bahraini, 1996). Quality of urban design based on the "sustainable place" model developed by Dr. Kourosh Golkar can be considered as an outcome of three functional, experimental-aesthetic, and environmental forces (components) of cities. From a combination of four dimensions of environment like body, activity, imaginations, and ecosystem; these three components would be inferred from as forces forming general quality of urban design. Functional component includes motion and accessibility from one hand, and includes collective and mutual behaviors on the other hand. Experimental-aesthetic component deals with perceptual and cognitive perceptions and environmental preferences of people in different spaces. Environmental component also concerns values related to sustainable development and considers ecological climate and local features at minor scale (Golkar, 2001, p. 34). In the present paper as well, functional, experimental-aesthetic, and environmental components have been selected as environmental quality components to study the concerned neighborhood.

Table (3): Definition of environmental quality from perspective of researchers and different international societies

Researcher(S)	Concept of environmental quality
Lancing and Marans (1969)	A high-quality environment provides people with a sense of welfare and satisfaction through physical, social, or symbolic indices
Porteous (1971)	Environmental quality is a complex subject including abstract perception, method of consideration and those values being different among groups and individuals
RMB (1996)	Environmental quality is resulted from quality of elements forming a region but something more than the whole elements. Each of the elements forming nature, open space, substructures, environment, facilities, and resource of natural environment have their own features and relative quality.
RIVM (2002), Workshop Livability (2002)	Environmental quality can be defined as main part of wider concept of "quality of life" like main qualities of health and security in combination with such aspects like convenience and attraction.

(Van Kamp et al., 2003)

Historical Textures of the City

Texture of city shows how components and elements in a city are combined and located? Different modes of adjacency of empty and filled spaces in different combinations and parceling of lands can lead to formation of different textures. Also, communication network and physical properties of roads will become clear with cities (Lynch, 1974). By urban texture we mean a synthesis of all physical components. Urban texture is an organic whole observable in distinctive clarity levels. In maximum general level, texture can be described as organization and briefly as streets and blocks. Urban texture can be considered as different modes of adjacency as well as empty and filled spaces in different combinations, as well as method of land parceling. Unity and generality of Iranian desert cities has been emphasized by Tavassoli et al. (2007) while describing them: "Iranian central cities have had a set of homogeneous neighborhoods with no link to each other." Despite strong and clear separation of urban neighborhoods from administrative, ethnic, religious, and occupational perspectives; physically, the city as a whole has been integrated, continuous and its components connected to each other (Torabi, 2012). City texture would be recognized through two important properties of it. In review of urban texture, method of combination of urban elements, type of elements (small, large, homogeneous, and inhomogeneous) and their method of combination will be stated (Habib, 2011, p. 36).

A small size historical texture of the city is allocated to an area coming to existence before 1300SH, growing gradually. Historical texture includes those areas in old parts of the cities forming the city at that time and before the beginning of the present century, i.e., the beginning of new urbanism in Iran. These types of textures currently located at the central part of cities are of special status in the city. Relatively large area and powerful function (suburban functions at regional and national scales) have added to their importance (Habibi and Maghsoudi, 2012). Traditional urban bazaars as trading centers and other important buildings such as religious centers are located at these textures (Habibi, 2011).

Neighborhood

Here, neighborhood as a part of urban texture will be introduced as an appropriate measurement scale to evaluate quality of neighborhood; and, its features would be summed up.

In an encyclopedia related to his own city, Robert Coane describes neighborhood as: 1- region or location; 2- a region surrounding a place or an object; and 3- a separable part of an urban region and a concentrated region of different land uses becoming integrated as an urban structure (Cowan, 2005, p. 112).

To form a neighborhood, the following conditions have to exist, briefly speaking (Shokouhi, 1993, p. 48):

1- Having large or small geographical area of city;
2- Emersion and development of a small local community from a group of people in the city;
3- Social dependence among a group of people;
4- Availability of service rendering spaces and substructural facilities in which the aforementioned population would be settled down; and,
5- Required interaction and communication between neighborhood or urban systems.

Table (4): Environmental quality indicators in neighborhood from perspective of theorists

Researcher(s)	Indicators
Kowaltowski et al. (2006)	Center of neighborhood, evaluation of green spaces, social relations, evaluation of residential units, reduction of car use, using bicycle instead, feeling safe and secure, studying aesthetic aspects, buildings in neighborhood, evaluating public spaces, identification of signs in neighborhood
Bonaiuto et al. (2003)	Accessibility of services, quality of green areas, social relations, welfare services, commercial services, accessibility to public transportation, safety and security, health, sense of belonging, place being desirable in terms of aesthetics
Choguill (2008)	Center of neighborhood, quality of green areas in order for people to meet and entertain there, social interactions between residents of the neighborhood, walking and cycling to be convenient and safe, people not being dependent on cars, accessibility to required daily services, enough green spaces
Chapman (2005)	Center of neighborhood and sense of place being central, mixed land uses, affectable texture, social interactions in neighborhood and participation in collective activities, no dependence on cars, accessibility to urban equipments, accessibility to daily requirements, accessibility to public transportation, sense of social security, safety in neighborhood spaces, designed to the aim of improving status of microclimate
Bramley and Power (2008)	Sincere relationship between residents, safety in neighborhood spaces, stability and tendency towards continuing the habitation, sense of belonging to neighborhood, a place granting dignity and prestige.
Sedaghatnia et al. (2013)	Quality of residential unit, appropriate condition for children, educational services, commercial services, public and private equipments, vicinity to workplace, public transportation, educational equipments, health services, safety and security, social relation with neighbors

(Tabibian, 2013)

From among the definitions proposed for neighborhood, some indicators have been extracted and considered as the basis for the study. The most important indicators proposed in definitions of neighborhood and its features in terms of historical Iranian neighborhoods that can be used for study are: self-help as having access to daily requirements of residents in neighborhood; close social relations; security in spaces within neighborhood; center of neighborhood as its beating heart; social and physical identity; the clarity of neighborhood limits; and sustainability and environmental quality indicators in neighborhood.

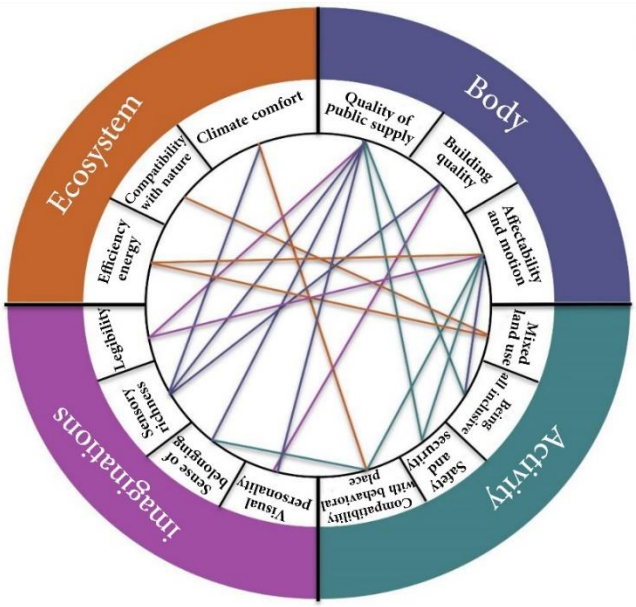

Fig. (1): Urban environment quality indicators
(Source: Author, 2023)

Case Study

Khajeh Khezr neighborhood is limited to Abuhamed Str. from north; to Chamran Str. from east; to Felestine Str. from west; and, to Ibn Sina Str. from south. This is one of the old neighborhoods in Kerman City dated back to the early seventh century (about 800 years ago), previously called Torkabad.

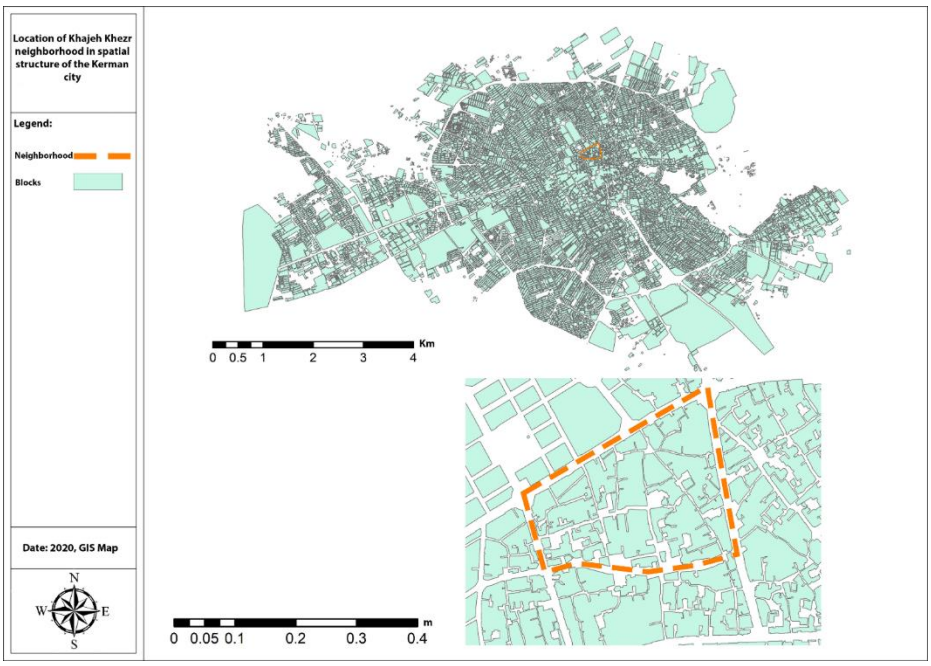

Fig. (2): Location of the neighborhood in spatial structure of the city
(Source: Author, 2023)

In the book titled "guidance to Kerman" written by Dr. Bastani Parizi published in 1956 and under subtitle "Khajeh Khezr and Jeyhoon Tomb", it is written: "at northern part of Kerman there is a neighborhood called Khajeh Khezr (primarily called Torkabad), in which there is Khajeh Khezr mosque and grave. The mosque dome is built from sun-dried bricks and mud and a dark mausoleum is used as shrine visited by public; however, with some changes recently made, it is no more considered as a tomb. Some shops have been constructed around it and reputable poet of recent century i.e. Jeyhoon Yazdi is buried here."

From a long time ago, this neighborhood was considerably important and of good status in terms of environment and other social affairs i.e., rulers and such dynasties like Qara Khitai have chosen the region to create religious, health, cultural, and educational centers. Still some traces of it are available in some parts of the neighborhood.

Location of the neighborhood in spatial structure of the city has turned it to a communication route. Khajeh Khezr neighborhood with historical record in old texture of Kerman is of very high cultural value. Because of various land uses such as cultural, residential, religious, educational centers and etc. the neighborhood has been of considerable effectiveness, functionally. Above reasons and importance of concerned neighborhood adds to necessity for promoting its environmental quality.

Environmental Quality Evaluation Indicators and Criteria

This neighborhood is of considerable functional effect due to a range of different land uses such as cultural, residential, religious, educational centers and etc. Above reasons

and importance of concerned neighborhood adds to the necessity for promotion of its environmental quality. In the research also, different sources especially criteria for promotion of urban environmental quality presented by Project for Public Spaces Institute which is specialized in design and revival of urban public spaces have been used. Also, comparative study of these criteria with consideration of the book titled "study of public spaces" has been performed within the range of study to determine evaluation criteria and indicators of urban environmental quality. In continuation, we will deal with quality evaluation criteria of urban environment.

Table (5): Measurement of environmental quality indicators in neighborhood (Author)

Dimensions	Criteria	Subcriteria	Indictors	Evaluation tool	Confirmatory sources
Physical-spatial features	Spaces and buildings	Floor area ratio Building aesthetics	Spaces being open	Observation	Southworth, translated by Bahraini and Tabibian, 1998
	Accessibility organization and roads	-internal efficiency External communications	-compatibility in access to land uses Method of accessibility to urban spaces	Observation / questionnaire	Dohel, translated by Bahraini and Habibian, 1998
	Public and green spaces	-parks Neighborhood centers Gathering centers	Optimal urban green space per capita	Observation	Hilderbrand Ferry, translated by Bahraini, 1998
Functional-structural features	Welfare services	Educational services	Promotion of cultural interactions and Increasing facilities for cultural leisure times	Questionnaire	Project for Public Spaces Institute, 2008
	Entertainment services	Sports services and facilities Cultural services and facilities	Promoting ethics through forebearance and accepting cultural variety	Questionnaire	Project for Public Spaces Institute, 2008
	Commercial services	Shops Shopping centers	Creating jobs required	Observation / Questionnaire	Project for Public Spaces Institute, 2008
	Accessibility and transportation services	Width of passages floorings	Convenience in accessibility to public transportation services	questionnaire	Project for Public Spaces Institute, 2008
Content features (social, cultural, and environmental	Sense of belonging to place	liking environment of neighborhood identity of neighborhood	Promoting quality of environment and strengthening sense of freedom	Observation / questionnaire	Project for Public Spaces Institute, 2008
	People and social relations	-abandoned spaces - being social and sincere -safety and security	-safety for pedestrians - available and increasing security	Observation / Questionnaire	Project for Public Spaces Institute, 2008
	Environmental health	-surface water pollution -pollution resulted from accumulation of wastes in abandoned places	-available healthy ecosystem - in time collection and sanitary transportation of solid urban wastes	Observation	Hilderbrand Ferry, translated by Bahraini, 1998)

The AIDA technique is used at the design stage (including determining options for main policies, production of alternative strategies and preparation of plans), in relation to descriptive and predictive applications. Wide range of urban design processes will lead to problematic decision-making about a phenomenon as well as affecting decisions made in relation to other phenomena; and, the above technique clearly expresses these

relationships. This imagery technique produces appropriate mixed solutions from among numerous combinations of choices; and, simultaneously all decision domains will be taken into consideration.

Patterns of walking, activities, and presence level of residents in public spaces have been studied and recorded for one week and two hours a day through different methods of counting, tracking, drawing movements, and behavioral mapping, followed by measurement of environment of neighborhood, all behaviors, actions and functions.

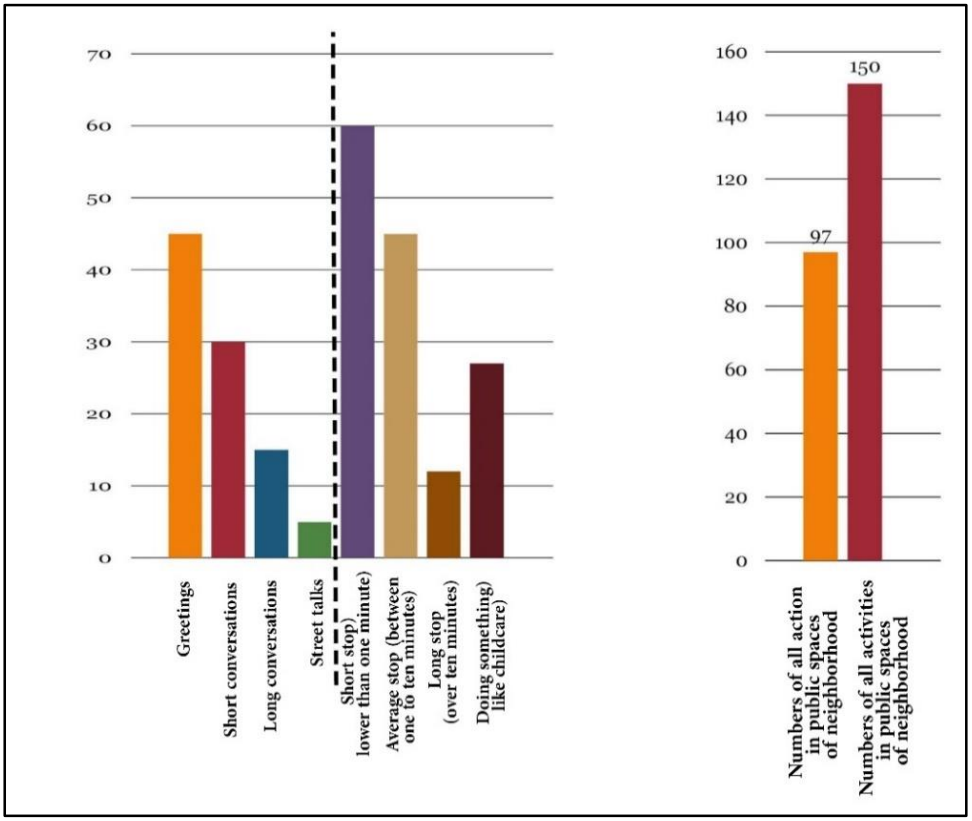

Fig. (3): Activities, and presence level of residents in public spaces
(Source: Author, 2023)

List of activities studied at first day of recording events includes:

1- Watching from entrance of house;
2- Sitting at stone bench of the house;
3- Sweeping in front of the door and alley;
4- Watering shrubs and flowers in front of the house;
5- Adults and middle-aged persons bringing children to parks;
6- Youths gathering in front of teahouse;
7- Children playing in alley;
8- Stopping in the middle of the way and saying hello; and,
9- Short conversations in the streets.

Results

The study conducted on the desirable criteria and indicators of environmental quality of the Khajeh Khezr neighborhood has provided valuable insights into the strengths and weaknesses of the neighborhood. The study has analyzed and presented the weakness and strength points of these indicators all around the neighborhood in Table 5, with

consideration of the AIDA model. The AIDA model is a marketing model that stands for Attention, Interest, Desire, and Action. It is used to guide the creation of effective marketing messages and campaigns.

Based on the observations and filled-out questionnaires, it can be suggested that the Khajeh Khezr neighborhood is at risk of losing its social capital if the quality of its environment is not improved. The neighborhood has many potentials in terms of identity, social, cultural, and historical aspects. However, the current status of its collective and physical spaces is at its lowest level, which is a cause for concern.

To be more specific, the strengths of the Khajeh Khezr neighborhood include its historical and cultural identity, the diversity of land uses and activities, and the accessibility to public transportation and services. On the other hand, the weaknesses include the lack of attractiveness and maintenance of the physical environment, the deterioration of social capital and sense of belonging, and the neglect of collective and public spaces.

The results of the study are summarized in Table 5, which shows the scores of each indicator of environmental quality for each zone of the neighborhood. The study has also provided some mechanisms to organize the neighborhood through an approach towards the promotion of environmental quality. These mechanisms can help to address the weaknesses and build on the strengths of the neighborhood to create a more sustainable and livable environment for its residents.

It is important to note that the results of this study can be applied to other neighborhoods facing similar issues. By using the AIDA model and analyzing the strengths and weaknesses of each indicator of environmental quality, communities can work towards improving their living conditions and promoting a better sense of well-being. This study also highlights the importance of community engagement in urban planning and decision-making processes.

In addition, the study suggests that improving environmental quality can have a positive impact on the local economy. By enhancing the attractiveness of the neighborhood, it can increase the number of visitors, residents, and businesses. This can lead to increased economic growth and prosperity for the community.

Overall, the study on the Khajeh Khezr neighborhood provides valuable insights into the importance of environmental quality for creating a sustainable and livable community. By identifying the strengths and weaknesses and using the AIDA model, communities can work towards creating a more resilient, attractive, and thriving neighborhood for its residents.

Conclusion

Obviously, every correct and reliable analysis requires correct and reality-based data. However, one of the problems with this kind of research is the urgent need for receiving people's views and observing their behavior in urban environments; because, persuading people to take part in the research is so difficult. In the research effort, it has been made for questionnaires to be filled out through direct presence of authors and observing people's behavior in the environment of the neighborhood so that no ambiguity would be remained in terms of their honesty in relation to answering the questionnaire. However, providing the results from the survey has been avoided to stick to the limit. Analyzing the findings in confirmation of research hypotheses are available and show that residents of Khajeh Khezr neighborhood are not much satisfied with quality of urban environment.

Necessity to promote environmental quality followed by quality of life is one of the approaches arisen in terms of modification and completion of the concept of development.

According to the approach, urban design has to satisfy physical and psychological function, as well as environmental goals. However, nowadays with consideration of urban requirements, this has been shown that neighborhoods need to be organized in a new way so that desirable quality would be achieved and the environmental quality crisis would be solved. Study performed about the current status of Khajeh Khezr neighborhood in Kerman City is indicative of the point that the reason for expanded physical, functional, and environmental disorganizations is lack of fit between available capacities and those designed for passages, lack of suitable plantation, and etc. These factors would be resulted in a reduction of environmental quality. Therefore, to improve quality of environment, emphasis is put on creating variety and balance in neighborhood design, strengthening non-motorized traffic, prioritizing organization and betterment of neighborhood. Creating footpaths in urban neighborhoods as well as plantation which makes the landscape beautiful in addition to efficient reduction of air and noise pollution are recommended. Implementing suitable flooring for passages will help controlling the speed. In general, a special set of design concepts, general principles and regulations dealing with those riding cars, those walking, plants, as well as the relationship between them can be highly effective on design and organization of urban neighborhoods.

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