

## Design of Neighborhood Squares in the Old Neighborhoods of Isfahan City Regarding the Issue of Dryness

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### Abstract

Cities as complex systems are highly vulnerable to nature threats, human activities and droughts. The characteristics of human activities make cities more desirable to live. It is a natural risk factor that could disrupt the activity of cities. Urban design could improve the quality of cities and has a major role in sustainability and identity. Neighborhood squares is one of the urban design structure's that makes Isfahan city one of the most important cities of Iran, as a classical identity. The canals network gives Isfahan beautiful effect. Reducing air pollution, creating attractive environment are some of these effects. Today drying of these canals changes the appearance of old squares and some of them have been destroyed. The Zayanderod River, the cause of the life of the canals, is being destroyed and so canals become dry so these squares lose their boom. This study evaluates the effect of dryness on Neighborhood Squares as well as tracking urban projects for their reconstruction. In this study, using the combination of SWOT and student t tests, we first evaluate and identify the current situation and we recommend solutions for the reconstruction of neighborhood squares to achieve optimal implementation methods. Given the current state of the squares and using the AHP method, the execution priorities are specified and, three - dimensional model is presented. Here, the main approach is to find ideal method for the reconstruction and renovation of the neighboring square.

**Keywords:** Neighborhood Squares; Canals; SWOT; AHP Prioritization

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## 1. Introduction

The city which can actually be called an alive creature, requires a vibrant and vibrant life. In our country the neighborhoods square which creates an environment for people's social communication and the culture of a community within it is steadily declining. One of the necessities of the dynamism of neighboring squares is the presence of people around them. In the Esfahan neighborhoods, due to the presence of Mudi<sup>†</sup>, there are entrances that along with them, neighborhoods squares have been able to emerge. The issue of Zayanderod dryness which is one of the most pressing current issues in Esfahan, has had a profound effect on the city's structure especially on Mudi which has also created challenges for neighboring squares. In fact, the integrity and dynamism of the people's communities in the present era is not as old as the past and the communications of the people have been steadily decreasing. The issue of dryness Mudi not only has a negative effect on the function of people, but also caused frazzle and destruction of many old tissues. In such a situation, it is vital to provide a specific plan for managing these cultural and social developments, as well as providing the right tools to decide on this issue in order to solve the relevant management issues. These actions should be such that they can help to bring the issue to the benefit of the knowledge and values of neighborhoods in decision-making. Here decision makers managing these squares not only can provide national, regional and neighborhoods, but by attracting more tourists, they can effectively help maintain and promote Iranian-Islamic culture. This study by perceiving and evaluating the consequences of the effects of this dryness on neighborhoods and examining examples of Zayanderod dryness effects on areas as well as tracking urban projects for their reconstruction, research on drought, revival, reconstruction and renovation neighborhood squares.

## 2. Research Objectives

Since Esfahan's neighborhood squares are of national, regional and neighborhoods interest in identity and culture, the study also evaluates issues relating to the design of squares in the old Esfahan neighborhoods, considering the issue of dryness Mudi and to achieve this goal, By identifying the quality status of neighboring squares based on the conditions of dryness Mudi, deficiencies and problems in this area can be gained in the samples that are examined and then, based on the factors influencing the situation of neighboring squares and the consequences of these factors, effective design strategies Redefined and appropriate.

### 2.1. Assumptions

- In the current situation, neighborhood squares do not have their previous performance and attraction
- In the current situation, there is a direct and significant relationship between dryness of the Mudi and the diminution of the attractiveness of neighboring squares.

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<sup>†</sup> Mudi: The rivers that flow from the Zayanderod river and along the course along the path in the heart of the city, the neighborhood and the alley, and in addition to irrigating the fields and gardens, are an important part of the urban-spatial structure of Isfahan, and the elemental field Historical and environmental aspects are considered in the context of the city. Among the most important materials of Isfahan, it is possible to mention the material of Qomeish, Fadan, Neyasrm, Tiran, Jobshah, etc

- The indicators related to structural and social dimensions are the most important factors for redesigning neighboring squares

### 3. Methodology

The manner in which this research is pursued is a descriptive-evaluation type. In the descriptive section, a theoretical approach to research is used where articles related to the introduction of neighborhoods concepts, neighborhoods square, neighborhood square in Esfahan as well as the definition of Mudi are discussed and then indicators related to selective approaches of the results are deduced and then with the help of field research, the required information is provided through a questionnaire and research results in the community (Elliyadoran neighborhood and Kohanestan neighborhood). After completing the process of identifying the neighborhoods in these two neighborhoods, we can assess the weaknesses, strengths, threats and opportunities in these neighborhoods using the SPSS single instance t test and then the SWOT survey and based on its results from the final solutions, choose the optimal solution based on AHP prioritization.

### 4. Theoretical Background

#### 4.1. Determining Research Concepts

In fact, neighborhood squares in the form of a neighborhood get their meaning. The meaning of the neighborhood can be defined as the social and cultural contribution of the people living there. (Shia, 2009, pp. 67-66). The neighborhood community can be defined as the network of interacting people who are usually concentrated in a certain range. (Johnston, 2001: 102). The neighborhoods are also based on ethnic, neighborhood, religious, guild and sometimes even social classes and in some cases the issue of the integration of neighborhoods based on religious identity (Habib, 2007: 111). Although the notion of neighborhood in different countries has a certain definition, but in terms of urban planning, each neighborhood is defined as a specific area of the urban or mixed area in which the needs of the inhabitants are provided in the structure of a city (Cowan and Hall, 2005, 256).

According to historical studies, in general, different periods of history can divide the phenomenon of urbanization in Iran into two parts before Islam and after Islam. Mainly social and economic factors, especially the existence of different social classes, have contributed to the formation of boundaries associated with residential neighborhoods. After Islam entered Iran until the first Pahlavi period, the concept of the neighborhood is one of the important elements of the structure of Iranian cities (spatially and socially) and this concept has so far been public. The neighborhoods in different cities of Iran have different shapes due to their history and identity, each with its own characteristics (Habibi, 2001, 48, Falamaki, 214, 1995, Taghizade and Dorodiyani, 2008, 78, Pakzad, 2003, 32, Tavasoli, 2003, 24). However, it can be argued that all cities of Iran, in their social structure, have

Certain structural-spatial foundations, these can be expressed as follows:

- **Link between city center and neighborhoods:** In most historic cities in Iran, the spatial structure of cities has relied on the link between the city center and the neighborhoods of the main bushes and squares (Tavasoli, 1997, 8), a structural city complex - Spaces are created from the number of neighborhood and a hybrid city center.
- **Centrality:** The center of each neighborhood is the main social space and in fact its heart. The neighborhoods of each city are the symbol of the places where there is the largest

number of communities and communities in each neighborhood. It also places the most needed services for the neighborhood's inhabitants. The mosque which is a pivotal place for activities, acts as the main and most significant element of the structure of each neighborhood (Habibi, 2003).

- ***The link between the regional bus network and the main network of the neighborhoods:*** The regional network of passes through the city entrances creates the city's neighborhoods and gradually the houses, the center of the neighborhood and other neighboring elements such as mosques around them they are formed and developed.
- ***Range of neighborhoods:*** The space of each neighborhood has a certain range that almost all inhabitants know. There was also a major road to or from the city and people were trying to get away from its public and crowded atmosphere.
- ***Hierarchy:*** There were three hierarchical approaches: hierarchy of accessibility (neighborhood protection of traffic), functional (public service in centers) and space.

In general, each neighborhood has a set of social features in which specific occupation, religious minorities and social classes are present. This collection has its own socio-cultural atmosphere. Here each neighborhood has unique identity and also has social-affiliated features such as religion (Muslims, Jews, Armenians), ethnic and racial (Kurds, Turks), occupations and economic activities (Coppersmith neighborhood, Sherbafan neighborhood) and groups with common aspirations. Also in a neighborhood, management was an autonomous one and provided security as a sheriff (Theghatoleslami, 2013).

In these neighborhoods, there were small squares that created the connection of residential neighborhoods called local field (Soltanzade, Hossein, urban areas of Iran).

This element which should be built in the center of each neighborhood, was known as the most common space and it also usually called the neighborhood. In fact, this square could have created a favorable social space for the inhabitants. Here essential elements such as the water storage, mosque, bathroom, shops, etc. around the square are created which increases the attraction of the neighborhood square for the inhabitants. Indeed, the presence of these services in the neighborhood of neighborhoods not only makes the inhabitants unnecessary to visit other neighborhoods, but also provide a good basis for the growth of social communication and the sense of belonging to neighborhoods (Pakzad, 2012).

In Esfahan, these squares next to the Mudi have a link with their centers at varying scales making these squares more beautiful and productive. The problem now encountered by these Mudi is the dryness of the Zayanderod River which, according to Hosseiny Abri (2001), the relative dryness or the amount of water entering Zayanderod did not have a certain route (According to reports from the Regional Water Organization of Esfahan). The problem is that the droughts did not have a certain trend which indicates the severe climate instability in the area. Therefore, given the fact that the Mudi are dependent on the Zayanderod River and, accordingly, the beauty and dynamism of the neighboring squares is also dependent on the Mudi, hence the expression of Mudi is one of the main factors in the quality of life of a neighborhood in Esfahan. Here one can see the various functions of the Mudi with regard to the neighborhoods streets, as the most important urban issues in the city (Kalantary, 2013). In fact, the Esfahan neighborhood squares along with the Mudi architecture have created a special identity for Esfahan, so based on two urban village and new urbanism approaches, we evaluate these squares and how they improve their performance.

## 4.2. Research Approach

**Urban Village Approach:** According to Cowan and Hall (2005), urban village is a metropolitan area that has a specific identity and a combination of capabilities, usually one of which forms the residential area. The main features of a city village can be summarized as follows: (Daneshpoor, 2014).

- Development with a variety of uses, fitted between working people and inhabitants, an area with access to everywhere within 10 minutes walking distance, having a population of 3 to 5 thousand people in a way that can be a major part of the activities but it is small enough that all inhabitants can know each other and have neighborly relations.
- Has an attractive environment for walking
- It has the necessary facilities for cars, but does not encourage the use of cars
- It has a wide range of building types in different shapes, sizes and architectures
- It has many alleys and convenient pavements to the center.
- It has a high population density, so the density goes up to the center
- It has facilities for daily purchases of people, health services, schools, cultural and recreational facilities and parks that increase on the margins.
- Here is the emphasis on building a community and a humanitarian environment.

The pyramid Maslow which means safety and protection that has no pollution, noise, congestion, accidents and delinquency. Daneshpoor also defines its socioeconomic status based on the third and fourth levels of the pyramid Maslow which means a guiding social environment. Here we can also describe the structural characteristics of urban village in the form:

- **Size:** The urban village has an area of about one hectare that can be inhabited by about 3 to 5 thousand people. In fact, the urban village is so small that people have a sense of living in a neighborhood and this creates social relationships and frequent exposure of individuals. Also, the urban village is large enough to provide a wide range of facilities in a rational way.
- **Communication Network:** The design of access modes and the sustainable communication network in a city village is one of the main factors that make a successful urban village. Here are priority routes, trails and special cycling routes. The access range is also 600 meters in order to minimize the use of cars and encourage people to walk. Here trails have more attractiveness to people. The car's route widths are also considered for speed control.
- **Facilities and activities:** Comfortable and diverse functional facilities that are within walking distance of the house and are active at various times providing a beautiful view to these areas.
- **Landscape:** The diverse landscape on the sidewalk which attracts people is related to the fifth level of the Maslow pyramid addresses the issue of creativity.

**New Urbanism (Classical Neighborhood):** Since in this study the redevelopment techniques of neighboring squares in neighborhoods of Elliyadoran are evaluated according to dryness Mudi, here the two urban village and new urbanism approaches are compared. The theoretical approach in this research is summarized in Table 1 after evaluating more than 20 items of history.

## 4.3. Determine Theoretical Approach and the Structure of Research

New urbanism, modern urbanism and other similar names, relates to the ideas of contemporary American urbanists who are struggling to solve the problem of scattered growth and the lack of integration of American cities. Here are some different views on new urbanism that are shared in several features:

Everyone draws a center and a margin

- In all of them there is a combination of relevant activities (shops, occupation neighborhood, recreation neighborhood and all kinds of homes).
- In them, the optimal dimensions for the units next to each other are 4.1 miles from the center to the margin. This distance is a typical 5-minute walk that provides an appropriate distance for people's access to services, bus and shop stations and more.
- The streets with large sidewalks and trees are more likely to walk and bike.
- Here priority is given to building public places and finding places suitable for civilian buildings.
- Places such as squares, parks, playgrounds, places for gathering and fun.

**Table 1** History of theoretical approach in this research

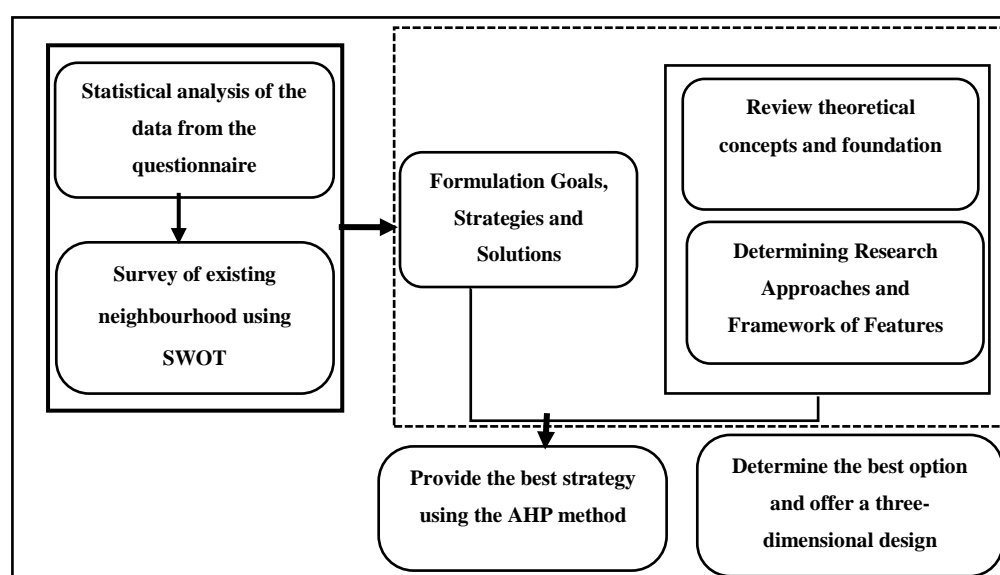
Topic	Dimension		Approach
		Urban village (city village)	New urbanism
Redesign neighborhood squares	Spatial	<ul style="list-style-type: none"> <li>-To focus on the human scale</li> <li>-Create identity and sense of belonging place</li> <li>-Speak and joyfulness</li> <li>-Combination of functional features and attention to their attractive items</li> </ul>	<ul style="list-style-type: none"> <li>-Notice to the general areas</li> <li>-Searching from the local neighborhoods</li> <li>-Painting and beauty</li> <li>-Combination of functional facilities</li> </ul>
	Structural	<ul style="list-style-type: none"> <li>-Diversity and stability in architecture</li> <li>-Save</li> <li>-Accessibility of routes and public services</li> <li>-Sidewalks and cycling routes</li> <li>-Green and public</li> <li>-Recreational and welfare services</li> <li>-Possibilities</li> <li>-Social Inclusion (meaning no social classes)</li> <li>-Social relations</li> <li>-Participation</li> <li>-Group activity</li> <li>-Active presence</li> <li>-To connect with neighbors</li> </ul>	<ul style="list-style-type: none"> <li>- Courage and flexibility in architecture</li> <li>- Interconnection between private and public sectors of structures</li> <li>- Access to services and vehicles</li> <li>-Appropriate sidewalks and bike paths</li> <li>-Appropriate parks and green space</li> </ul>
	Social	<ul style="list-style-type: none"> <li>-Social Inclusion (meaning no social classes)</li> <li>-Social relations</li> <li>-Participation</li> <li>-Group activity</li> <li>-Active presence</li> <li>-To connect with neighbors</li> </ul>	<ul style="list-style-type: none"> <li>-With the quality of the public environment</li> <li>-A recreation and public</li> <li>-Educational activities</li> <li>-Cultural and religious activities in the form of groups</li> <li>-Taking people to use urban space</li> <li>-Creating security for people's presence</li> </ul>

Relation to this issue, there are researches such as the research of Dr. Mohhamad Hasan (2009) that considers squares, due to the turbulence in displaying the identity of the urban element in the design field, unclear elements. Soraya Memar (2011) also describes these squares as a tool for

covering social needs and enhancing the quality of community life. Ebrahim Ansary (2002) in an article evaluates the social status of the neighborhood in Islamic cities, considering Esfahan and defines its various elements which also has a similar view to Mrs. Memar. In fact, the school of urbanization in Esfahan, attributed to Seyyed Kianosh Lary (1999), in the interaction between Islamic teachings and the results obtained by the urbanists, could be attributed to Sheykh Bahaey which emphasized the existence of Mudi to create such an environment. Research Forotan (2014), Ezady (2014), Khatonabady (2014) and Rashtorm (2003) also emphasize the identity of neighborhoods and warn of the destruction of these sites due to poor planning. In fact, little attention has been paid to the issue of neighborhood squares and the impact of Mudi on their attractiveness and dynamics, considering the two urban village and urban approaches to redesign, so here's our goal to evaluate this approach in Table 1.

## 5. Determining the Research Model

Now that dimensions are associated with the theoretical approach, using a conceptual model, the concept of square in the Kohanestan neighborhood and Seyyed Javad haj Square in Esfahan from the squares of neighborhoods has been selected as the prototype and the main purpose of the research. Given the basic indicators in this regard, we developed a questionnaire and distributed it in both neighborhoods. After evaluating the questionnaire by means of statistical surveys, using the evaluation and scoring of the indicators, we obtain the SWOT matrix and then, using the AHP hierarchical survey, among the solutions we have obtained, we select one item with careful selection. On this basis, the methods of this research are presented in Fig 1.



**Fig 1** Research study model

## 6. Case Study Esfahan

The area of Esfahan province is about 107090.1 square kilometres, located on the central plateau of Iran. Esfahan has a temperate climate and its four seasons are regular. The city is located in the northern, southern, eastern and western parts of Iran and has been at the crossroads of various tribes and cultures in different historical periods. Esfahan city is the capital of Esfahan Province, located on one of the main highways of Iran (Esfahan Governorate, 2008: 45). Zayanderod which passes

through the city, forms part of the fourth-quarter geological sediments. The Zayanderod Plain is from the sediments of this river as well as the Karun sources in the province of Chaharmahal-o-Bakhtiyari which passes from the Lenjan to Esfahan and then crosses the city into the Gavkhony marshland which is considered as a special attraction of the attraction of the area. In fact, only the current water in Esfahan belongs to the Zayanderod permanent river which originates from Zardkoh and in its path, small, large fountains join it. (Engineer Consulting Engineers, 1972). The issue of the water distribution system in Esfahan is considered by some of the historical books owned by Ardeshir Babakan. There is a famous story in which Ardeshir Babakan is the first to issue a Zayanderod water divorce order. Recent research and surveys on the Zayanderod irrigation area show that there are 56 Mudi between Falaverjan and Polkale, whose names are not visible in the Sheykh Bahaey text, so they are divided in the next and out of the system. Sheykh Bahaey water has been created (Shafaghy, 2003: 130-132). After 1942 and prosperity of the region and the importance of the precise water distribution issue, the Sheykh Bahaey text again serves as a reference point for water rationing. The neighborhood squares in fact are the main field of social interaction in the neighborhoods and, based on this, small squares have gradually grown. These squares have been able to create an integrated tissue based on the principle of continuity in the combination of urban areas in which units and structural regions are connected in a connected manner.

#### 6.1. Regional Location of Neighborhood Kohanestan and Elliyadoran

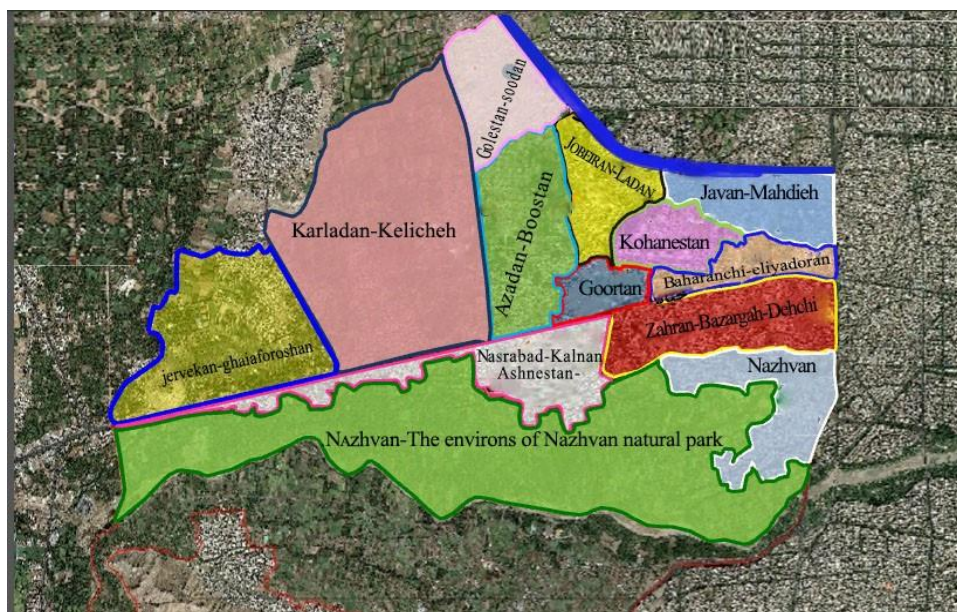
The neighbouring Elliyadoran and Kohanestan neighborhoods are in the 1st and 9th areas of Esfahan's neighborhoods. Esfahan has 14 district municipalities that include a part of the city center with historic tissue. The location of neighborhoods of Elliyadoran and Kohanestan in Esfahan in Fig 2 and the location in the non-area of Esfahan in Fig 3 has been shown.

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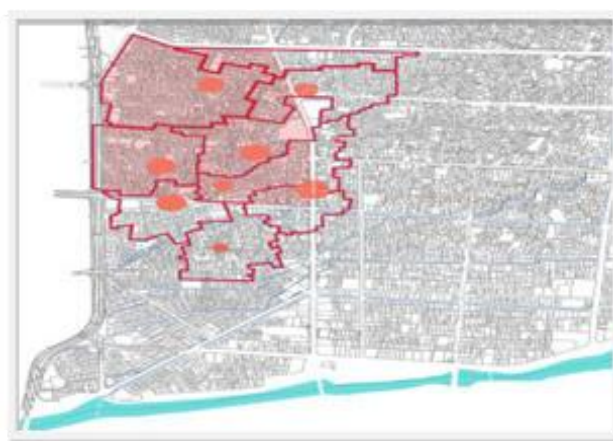
**Fig 2** Location of neighborhoods of Elliyadoran and Kohanestan in Esfahan





**Fig 3** Location of Elliyadoran and Kohanestan neighborhood in Esfahan

**Elliyadoran Neighborhood:** This neighborhood is one of 11 neighborhoods in area 1, north of Nava Safavy, west to Kharazi highway, east to Kashany Street and south to Saramiyeh Avenue. In the western part of the neighborhood, the Hejazy Street and Neighborhoods of Javan, Baharanchi and Kohanestan are not considered in urban planning. in accordance with Fig 4, based on urban research, the existence of historic crossroads and prominent elements divide the neighborhood into eight sub-neighboring's, the Shotorgalo, Tiran and Bidabad Mudi as the most important sidewalks and the main elements of the neighborhood around them. Usually these passages are east-west because the neighborhood extends to the city center and the market.



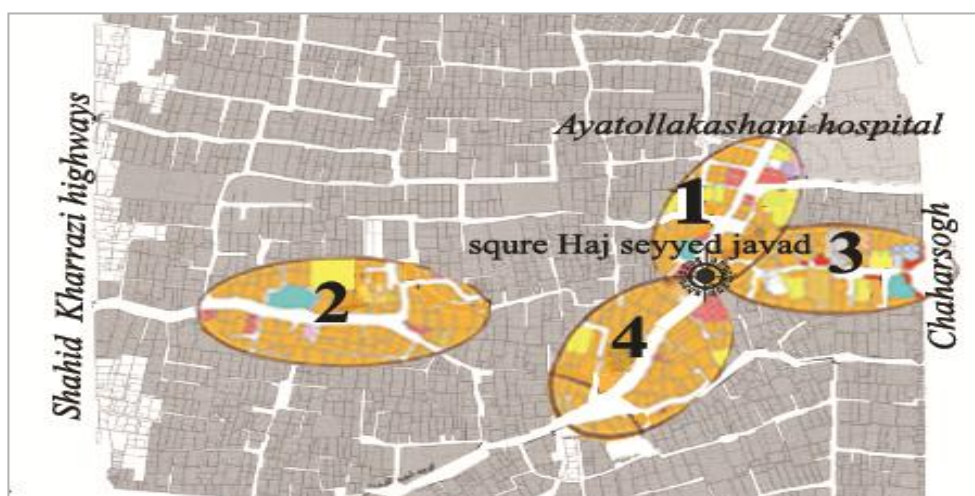
**Fig 4** Elliyadoran neighborhood and its important squares

In accordance with Fig 5, here is one of the most important squares of neighborhoods, Haj Seyyed Javad Square which has a continuous spatial and structural system that prevents structural

fatigue and allows them to be redesigned. Also, placing it at this ideal point for the main routes will make people's sense of belonging to this place more. This square for other neighborhoods is also known as a small market next to the Elliyadoran Mudi, so it can be chosen as a suitable square.

The historical axis of Rozatoha is one of the oldest neighborhoods on the eastern side of the square which is located on the haj Seyyed Javad Square and the end to Chaharsogh. Chaharsogh is one of the Squares of Esfahan, located on the edge of the neighborhood, along the historic and market houses, alongside the Tiran Mudi square.

Also, the Mudi has a green space that plays the role of a sidewalk. At the end of this path, we encounter an applied space located on the northern side of the square and forms part of the Mudi and square of the city at the beginning of this area (Safa Mosque and economic and educational area) Kashani hospital is located on the western side of the Square.



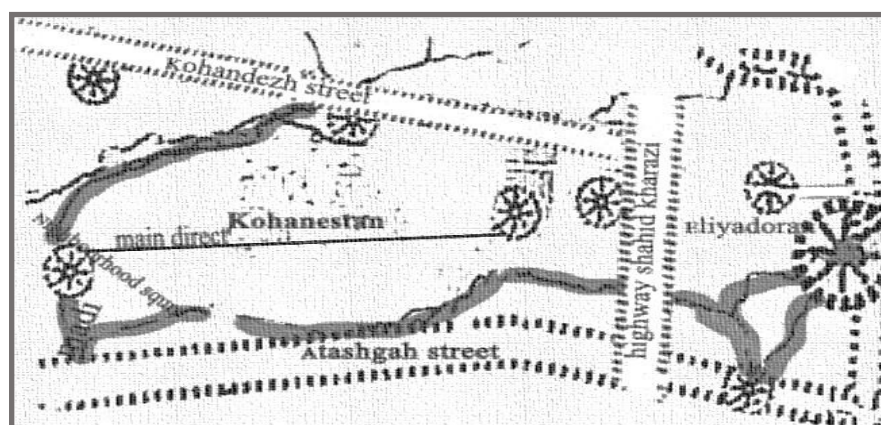
**Fig 5** Design priority in the local square (Source: Haji Seyyed Javad)

**Kohanestan Neighborhood:** This neighborhood forms some part of Esfahan district 9 which creates the main passage of the northern section of the Kohnadej street (Ashrafi Esfahani), the southern part of the Atashgah street and the western part of the local Ashoryan street.

A Direct<sup>‡</sup>, in accordance with Fig 6, dividing the neighborhood into two sections. This area has been the main site of many popular activities in recent centuries and the most important squares of the neighborhood being formed at the beginning and end of this area. One of the unique features of this neighborhood is that, this neighborhood is surrounded by other neighborhoods and there are several Muddies around making a green edge, separates the neighborhood from other neighborhoods.

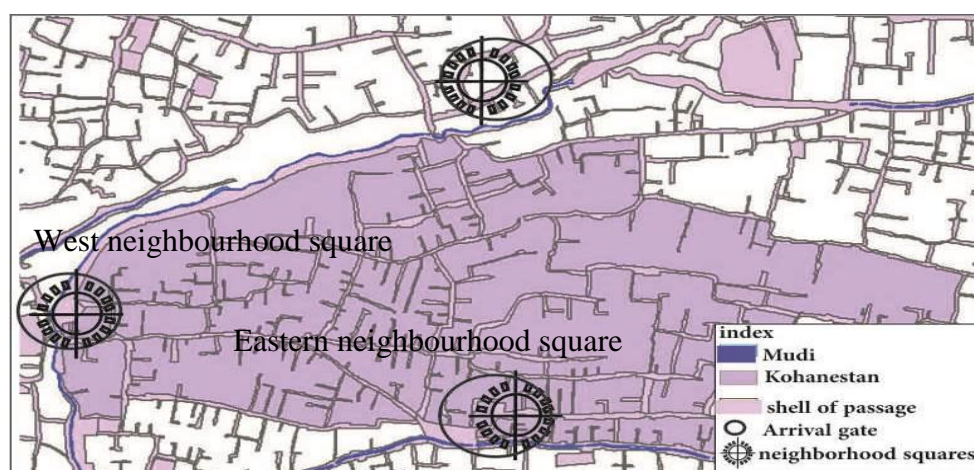
<sup>‡</sup> The 4 main ways that pass through the center of the neighborhood, like the spine for the neighborhood, allow communication between the urban area outside the city and other neighborhoods and urban centers. At its intersections, there are larger open spaces than the passageway that the center of the neighborhood or local area the neighborhood mosque, Sangkhaneh, bazaar, various shops, religious center, Baths, Zurkhaneh, and other important local land use were located in the district. This space was public and the observance of the principles of confidentiality and defense was essential. (Ansari, 2003)





**Fig 6** Neighborhood direct in Kohanestan and Elliyadoran neighborhood and position of the field in its vicinity

The western square of Kohanestan, in accordance with Fig 6, like its entrance is located at the beginning of Kohanestan neighborhood and in the western part of the neighborhood and in fact most urban amenities have been gathered so it has been one of the most popular places. In fact, the neighborhood's Mudi area provides a good place to perform various activities that have many uses as a communication loop. In fact, these applications can be evaluated in two aspects: their role as a place where different activities are carried out and their role as a ring of urban communications, here in the city part, the role of communication and connecting Mudi like a city junction at the square. Also along the street of this neighborhood, two main and historic streets called Atashgah and Kohnadezh connects each other. The role of these activities and functions of the Mudi as a place alongside squares and the creation of passages has created an ever-expanding series.



**Fig 7** Location of local squares in Kohanestan neighborhood

## 7. Research Method

The research methodology is a set of valid, structured rules, tools and solutions for evaluating facts, finding unknowns and solving problems (Khaki, 155, 2006). Here a researcher uses a descriptive survey method as a basis for a better understanding of the status of the research and how variables are distributed. These descriptions and surveys in the introduction to the field we are

studying are used to better understand a problem. This research is descriptive-survey, so we have tried to provide relevant information for mastering the subject and using other relevant external and internal results and based on descriptive methods, we have expressed intuitive results, theoretical perspectives and definitions. Here research methods and skills include the models used in the research process:

### 7.1. Statistical Survey

The questionnaire is one of the most common tools for providing information in the research. In fact, the research questionnaire acts as an important tool and consists of two sections of general questions and specialized questions. The questionnaire questions are designed to fit the subject of research and its related assumptions. The questionnaire has two parts: the first part is general, in which the individual characteristics of the individuals are evaluated and in the second section, each of the relevant aspects, in order to determine the priority of the indices for assessing the quality of neighborhoods squares in Elliyadoran and Kohanestan neighborhoods will be examined. In this questionnaire, participants are asked to express their response or analysis to each indicator on the basis of intuitive or subjective criteria. These answers range from very large to very low. The questionnaire is in the form of a Likert spectrum. Statistical analysis was performed using SPSS software. Their reliability is confirmed by Cronbach's alpha and narrative based on expert opinions. Also, for each of the indicators and the results of the analysis, the t one sample test is used here.

### 7.2. SWOT Table

SWOT review is an effective tool for identifying environmental conditions and internal capabilities. The basis of this tool is strategic planning and urban planning, identification of the environment, strengths, weaknesses, opportunities and threats. SWOTs that write it in other forms such as TOWS, have been made from the beginning of Strength, Weakness, Opportunity and Threat words. The issue of the strengths and weaknesses associated with the internal issues of an organization and the issue of opportunities and threats is also related to the organization's external environment. After considering the weight of each of the methods, we examine the solutions developed by locating internal factors against external factors. In this context, we have four solutions:

*Contingency strategy:* A solution that works with the help of existing opportunities to eliminate threats

*Adaptive strategy:* An approach that attempts to cover weaknesses through opportunities of existence.

*Defensive strategy:* A solution that takes into account existing threats and weaknesses to resolve existing problems.

*Offensive strategy:* A strategy that works with the strengths and opportunities available to provide an appropriate solution (Golkar, 2006: 12).

### 7.3. Priority AHP

This methodology is used to obtain the best solution after the SWOT step in this research. Initially, by determining the desirable indices for these two neighborhoods by assigning weight, we examine each of the indices of these two neighborhoods and then, using the geometric mean of each of these indices, the pair of points is assessed in both neighborhoods. In addition to assessing

compatibility, in the end, based on a paired comparison, the best solution for each of these neighborhoods is determined.

## 8. Steps to Run

This research consists of three steps, the questionnaires are first examined by the inhabitants in the two neighborhoods. In the second step, the strategies of the SWOT table are obtained and in the third step, the best solution for the neighborhood squares is presented. The following is explained below.

### 8.1. Questionnaire Review

To obtain more accurate results, the narrative questionnaire was evaluated by experts in this field and with a pre-test distributed among 20 people in these two neighborhoods, a reliability of 81% was obtained. This figure indicates the high reliability of the questionnaire.

In these questionnaires, about 64% of the people in the Elliyadoran neighborhood were male and most of the interviewees had an undergraduate degree. It attempts to ask questions from people with different qualifications. In the Kohanestan neighborhood, about 58 people had male gender. Most people also have a bachelor's degree. Here based on the one-sample t-test, each of the indicators in these two neighborhoods is evaluated and compared.

With the help of a single sample t-test and according to Table 2, it is observed that both quarters in terms of spatial dimension, in which the efficiency of neighborhoods squares was moderate, but the feeling of identity and belonging to the square, the highest score won. In both neighborhoods, the squares in terms of green space are still in a good position, but in other applications and activities, there is no specific population. In Kohanestan neighborhood, the largest square is dedicated to green space. The diverse and attractive architecture of buildings around neighborhoods is more than any other area. Sculptures and urban elements are also seen in the Elliyadoran neighborhood.

Lighting around Mudi and neighborhood square has also not attracted particular attention to people and there is no willingness to participate and improve this issue. There is also a special religious and cultural activity here but the neighborhoods square which is a public place is not attractive to people.

Given the various access routes around the haj Seyyed Javad square, public traffic services around this square are easier and faster and like the sides of a triangle, there are links to access on this square which provides urban and neighborhoods connects each other. In the western square of Kohanestan, considering that the Mudi are located around the neighborhood, access to the main streets has more problems, but the main street of the neighborhood, alongside the square, has created a suitable bike ride and sidewalk. Here are two main streets of Atashgah and Kohandezh which are among the most historic Esfahan streets, so the square plays the main link here. Indeed, the neighborhoods squares have lost their recreational utility to some extent around the squares, but with the presence of the most important public places alongside them, they continue to play the most important role in social gatherings. In fact, the issue that still survives the squares is the presence of popular participation. The neighboring squares and the surrounding area and especially the presence of gardens surrounding squares and Mudi, are one of the most important dryness factors in Zayanderod. They have not caused the destruction of squares, but have also created worn tissues to the central points of the neighborhoods.

According to studies, the priority of designing local fields near the Muddies in the Kohanestan is neighborhood of the West Square; and in the neighborhood of Elliyadoran Haj Seyyed Javad Square has led to the destruction of local fields and the main orders, transformation of the Mudi and neighborhood.

**Table 2** Comparison of the situation of neighborhoods squares in Elliyadoran and Kohanestan neighborhoods based on theoretical aspects of research

Dimension	Property	Questions	Elliyadoran neighbourhood		Kohanestan neighbourhood	
			t	Possibility	t	Possibility
Spatial	Creating identity and sense of belonging place	On the sense of belonging to neighbourhoods squares impact of existence	-4.137	0.001	-2.824	0.014
		The impact of neighbourhoods squares on the sense of identity	2.324	0.035	5.264	0.000
	Dynamic and beautiful	Charm of space neighbourhoods squares	-3.727	0.002	-6.813	0.000
		The presence of a desirable space with a joyful neighbourhood	-1.542	0.144	-4.795	0.000
	Combining attractive features	Services that meet the daily needs of the inhabitants	0.000	1.000	0.269	0.792
		The presence of people's favourite activities and activities	-2.496	0.04	-2.514	0.025
		Attractive and efficient public districts	-3.259	0.007	-2.175	0.047
Structural	Diversity and Stability in the Riddle	Architectural diversity and charm of buildings around neighbourhoods square	0.000	1.000	4.583	0.000
		Use sculptures or urban elements to create a sense of identity	-2.076	0.000	0.000	1.000
	Health	The sanity of space around Mudi and neighbourhoods square	2.546	0.022	0.269	0.792
	Access to public roads and services	Access to public services	-4	0.001	3.500	0.004
		Access to public transport	2.324	0.035	5.264	0.000
		Easy access to the main streets	-1.542	0.144	-4.795	0.000
		Recreational and recreational facilities in neighbourhoods squares	-3.727	0.002	-6.813	0.000
		The neighbourhood square creates a link between the private and public environments	0.863	0.401	1.976	0.068
	There are sidewalks and cycling routes	Walking path and proper cycling	-3.922	0.001	1.586	0.135
	Green and public space	Enough green space around the Mudi for all neighbourhoods	-21.958	0.000	-3.833	0.002

Participation and social composition (elimination of social classes)		A sufficient number of parks in the neighbourhood to address the lack of green space	0.333	0.743	-0.397	0.698
		The effect of dryness Mudi on the problem of reducing the boom of neighbouring squares	3.758	0.002	0.456	0.655
	Suitable facilities and stations	Suitable facilities and stations	-2.076	0.5	0.000	1.000
		How to light around the Mudi and the neighbouring square	-4.392	0.001	-2.739	0.016
	Participation and group activities	Participation of people in improving the situation of the neighbourhood and solving its problems	0.565	0.58	1.000	0.334
		The interest in financial and practical participation in the implementation of the projects	-7.904	0.000	-2.175	0.047
		Conducting community and community activities in the neighbourhood	0.863	0.401	1.976	0.068
		Perform religious and cultural activities for more interactions	2.546	0.022	4.583	0.000
	Communicating with people	The positive effects of the neighbourhood square problem on improving people's relationships	0.00	1.000	0.269	0.792
		The charm of the neighbourhood square for people as a public place	-11.211	0.000	-7.483	0.000

After assessing the characteristics of these neighborhoods by means of questionnaires<sup>§</sup> and statistical surveys, now, based on the SWOT approach, we can examine and describe the existing solutions among the various alternatives that exist, using the AHP method.

## 8.2. Step 2: SWOT Tables

According to the Table 3 and 4, in this section, due to the features of Elliyadoran and Kohanestan neighborhoods, we need to provide SWOT tables related to each of the neighborhood squares so that we can select a suitable solution with the help of the prioritization approach, among the various choices we have.

As we have already said, the Elliyadoran neighborhood is on the path to one of the main roads that is ecologically and near the Mudi which is important. This passageway is a connecting point that passes through the alleyway of Rozatiha and connects to Chaharsogh and Farhady alley near Kashanay hospital and connects Hosseinzadeh's alley to the Kadkhodaey passage.

These three entries are the most important inputs of the neighborhood. Table 3 illustrates the strengths, weaknesses, opportunities and threats of this issue in terms of research objectives, in order to provide a suitable solution for them. Here it should be noted that Kohanestan is surrounded by a number of Mudi. This Mudi network can be considered as one of the main historical routes adjacent to these neighborhoods, but considering the dryness of the Mudi and the problems associated with these paths and changes in the lifestyle of people, the definition of these routes will also be different.

These neighborhoods are like a gate at the beginning of the neighborhood that are located in the western part and in fact services and facilities are concentrated on them which are considered to be

<sup>§</sup>It should be note that the number of completed was 60 in each neighborhoods

the most important part of the neighborhood. It has also been one of the most important places for popular gathering in the neighborhoods.

The public swimming pool, the Kohanestan mosque, the mosque, the fourteen innocent mosque and its related facilities, including the caravanserai, hermitage and the trees and greenery and its gardens are some of the public facilities in the area. Table 4 shows the weaknesses, strengths, opportunities and threats of the Kohanestan neighborhood based on the theoretical approach of this research.

**Table 3** SWOT neighborhood square haj Seyyed Javad in the neighborhood of Elliyadoran

Inner environment			Outer environment	
	Strengths	Weakness	Opportunities	Threats
Spatial	<ul style="list-style-type: none"> <li>-Square is the place to carry out activities and space for the construction of different facilities and the presence of people alongside each other</li> <li>-Locating at a central point with urban performance</li> <li>-Variety of features</li> <li>-High quality landscape due to green space</li> <li>-Flexible on margins and spaces</li> <li>-The existence of historically valuable monuments</li> <li>-The existence of old trees and natural spaces</li> <li>-Stationary space</li> <li>-Existing buildings and valuable spaces along the Mudi</li> </ul>	<ul style="list-style-type: none"> <li>-without regard to the creation of facilities</li> <li>-Failure to determine the privacy of the Mudi and the failure to enforce the law in determining them</li> <li>-Not fitting the facilities with existing needs</li> <li>-Lack of amusement space</li> <li>-Drying of Mudi and reducing the boom of many functional spaces</li> <li>-Lighting at night</li> <li>-Converts the channel's path to the Heath Avenue which does not have a high user value</li> <li>-Reduce the sense of belonging to drought Mudi</li> <li>-Inconsistency in the activities</li> </ul>	<ul style="list-style-type: none"> <li>-Possibility to create facilities on vacant land</li> <li>-Attention to human scales during the design and construction of buildings</li> <li>-Create attractive environments based on the style of my new and old architecture</li> <li>-Possibility to perform celebrations and exhibitions in the space of old squares</li> <li>-Elemental elements on the route of the Mudi and around them that bridge neighborhoods are new and old</li> <li>-Create a charming place for cultural activities, tourism, services on the Mudi route</li> </ul>	<ul style="list-style-type: none"> <li>-Convert some features to the warehouse</li> <li>-Get some facilities around the square neighborhood</li> <li>-Destruction and fragmentation are part of the historical architecture of tissue</li> <li>-Reduced attractions in the neighborhood</li> <li>-The risk of degradation of the organic tissue of the neighborhood and neglect of the valuable areas of the neighborhood</li> <li>-Gradual decline of the important and historical elements of the neighborhood</li> </ul>



Structural	<ul style="list-style-type: none"> <li>- Ability to access all the important points along the square and the Mudi</li> <li>- Appropriate access to the old and new tissue of the city</li> <li>- There are trails along the Mudi</li> <li>And the existence of hierarchy of access to old tissues</li> <li>And the exuberance of the presence of trees and surrounding gardens</li> <li>- The presence of appropriate vegetation</li> <li>- Special design of sidewalks on most inner-neighborhoods</li> <li>- Cleanliness of neighborhoods and townships</li> <li>- There is a green wall in the path</li> <li>- There is paving on the part of the square</li> </ul>	<ul style="list-style-type: none"> <li>-Construction of uneven buildings in terms of height, appearance, materials</li> <li>-Lack of sufficient parking</li> <li>-No use and degradation and exhaustion squares</li> <li>-Misalignment of position and architecture with the identity of buildings and public spaces</li> <li>-Creating gaps in neighborhoods due to the creation of new streets</li> <li>-Non harmony in the distribution of urban amenities</li> <li>-Incompatibility of functional facilities with squares</li> <li>-Lack of signs -</li> <li>Broken down the pavement</li> </ul>	<ul style="list-style-type: none"> <li>-Lighting and execution of other designs</li> <li>-Easy access to the main streets that pass through the tissue</li> <li>-Creation of brush lining in tissue</li> <li>-Possibility to create favorable spaces for walking</li> <li>-Increased walking safety along the Mudi and square by building suitable floorboards</li> <li>-Ability to attach tissues to square and Mudi</li> <li>-The presence of green space and trees on the Mudi route</li> </ul>	<ul style="list-style-type: none"> <li>-Possibility of creating various types of pollution and destruction of neighborhoods green space</li> <li>-The absence of an appropriate pattern in the implementation of building facades</li> <li>-Neighboring heavy traffic and traffic on vehicles</li> <li>-The increase in the number of accidents due to the entry of vehicles to the neighborhood from different directions</li> <li>-Confusion in the tissue due to inconsistent structures that are in conflict with the traditional tissue</li> <li>-Removing the main crossroads of the market and communication spaces such as square neighborhood</li> <li>-Remove the squares neighborhood and create an identical pattern for residential spaces</li> </ul>
Social	<ul style="list-style-type: none"> <li>-Communication in the cultural and commercial areas</li> <li>-Highlights of these places and the presence of the people</li> <li>-Integration of active population in square and optimal tissue structure</li> <li>-There is a suitable potential for attracting tourists and introducing Iranian and Islamic architecture</li> <li>-Being excited at this during the day and early nights</li> <li>-Square has a suitable economic, religious, cultural, sporting and communication background among people</li> </ul>	<ul style="list-style-type: none"> <li>-Lack of security for people in these places</li> <li>-There were no night-time functionalities to increase the security of the people and their presence</li> </ul>	<ul style="list-style-type: none"> <li>-The favorable influence of neighborhoods' communication features on social communication</li> <li>-Creating public spaces based on multidimensional activities</li> <li>-The possibility of people's participation in the cultural-economic section</li> <li>-Possibility to create opportunities for night activity and increase supervision</li> </ul>	<ul style="list-style-type: none"> <li>-Reduce traffic at night</li> <li>-Analysis of square space that created the field of communicative communication</li> <li>-Remove social links by removing squares neighborhood</li> <li>-Delete social links by removing squares neighborhood</li> <li>-Lack of natural monitoring in the neighborhood and reducing the security of the people</li> </ul>

**Table 4** SWOT Kohanestan neighborhood

	<b>Strengths</b>	<b>Weakness</b>	<b>Opportunities</b>	<b>Threats</b>
<b>Spatial</b>	<ul style="list-style-type: none"> <li>The presence of squares at neighbourhood's connectivity with them increases the serviceability and commercial performance of this tissue</li> <li>-The presence of old trees in the original tissue and creating a refreshing environment</li> <li>-There are various possibilities to meet the needs of the inhabitants</li> </ul>	<ul style="list-style-type: none"> <li>-The lack of coordination of the routes with the current needs</li> <li>-Inappropriate combination of facilities and activities</li> <li>-Lack of neighbourhood services and facilities and lighting at night</li> <li>-Disturbance in the context of the context</li> <li>-Angular with crowded places</li> </ul>	<ul style="list-style-type: none"> <li>-Possibility to create an attractive environment with a variety of facilities</li> <li>-Ability to use spatial communication features to create community-based communication in the neighbourhood</li> <li>-Can enhance input connections based on square adjacency</li> <li>-To create a suitable environment for fun</li> <li>-Increased sense of belonging with efficient design</li> <li>-Continuous use of natural and artificial agents to enhance the attractiveness</li> <li>-Creating a favourable relationship between man and nature based on the natural indices of the neighbourhood</li> <li>-Ability to connect points in tissue with squares</li> </ul>	<ul style="list-style-type: none"> <li>- Creates a distorted and heterogeneous mental attitude towards the neighbourhood</li> <li>- Reduced referral to places due to lack of facilities</li> <li>-Getting organic urban tissue by neglecting valuable spaces within the tissue</li> <li>- The risk of removing the integrity of the interior space</li> <li>- The risk of removing integrity by developing an inappropriate pattern within the neighbourhood</li> <li>- The risk of removing the square and the canal by creating an identical pattern for residential buildings</li> <li>-Lack of a proper pattern in the design and placement of facilities</li> </ul>
<b>Structural</b>	<ul style="list-style-type: none"> <li>-There is a suitable potential for attracting tourists and introducing Iranian and Islamic architecture</li> <li>-Use of native materials in the construction of old tissue</li> <li>-Jade walkway from the street on the side-lines of the canals</li> <li>-There is paving on the part of the square</li> <li>-There is a green wall along the way</li> <li>-There are mosques and old houses along the way</li> </ul>	<ul style="list-style-type: none"> <li>-The lack of facilities and stations at the connecting points of the canals route</li> <li>-There are a lot of vehicles than people</li> <li>-Lack of special cycling routes and impaired people</li> <li>-The dryness of canals and tissue erosion and the reduction of the presence of people in them and the inconsistency of new structures with old tissue</li> </ul>	<ul style="list-style-type: none"> <li>-Easy access to the main streets that pass through the tissue</li> <li>-Encouraging people to walk with appropriate sidewalk design</li> <li>-The presence of green spaces and trees on the canals route</li> <li>-Application of the surroundings of canals for walking and cycling</li> <li>-Possibility to liberate the space around the canals</li> </ul>	<ul style="list-style-type: none"> <li>-Burnout and removal of the square surrounding the monuments</li> <li>-Removing historical architecture</li> <li>-Remove hierarchies related to access to features</li> <li>-The presence and traffic of strangers and reduce security and relaxation</li> <li>-Disturbance in tissue due to inconsistent construction</li> <li>-Remove the main passages and communication spaces and square neighbourhood</li> <li>-Inappropriate clustering</li> </ul>
<b>Social</b>		<ul style="list-style-type: none"> <li>-The absence of night-time facilities to increase the security and presence of the people</li> <li>-Lack of space for cultural and social activities</li> </ul>	<ul style="list-style-type: none"> <li>-Possibility to perform ceremonies in the neighbourhood and hold exhibitions in the square neighbourhood area</li> <li>-To create multipurpose environments that are suitable for variety</li> <li>Investing in the cultural sector and people's participation and using indigenous capabilities for improving the environment</li> <li>-Can be able to carry out cultural activities, tourism, providing services in the route of the canals</li> </ul>	<ul style="list-style-type: none"> <li>-Reduced traffic at night due to lack of adequate light</li> <li>-Not paying attention to the ability of people to improve the neighbourhood</li> <li>-The disappearance of unity and social integration and communication between inhabitants</li> </ul>

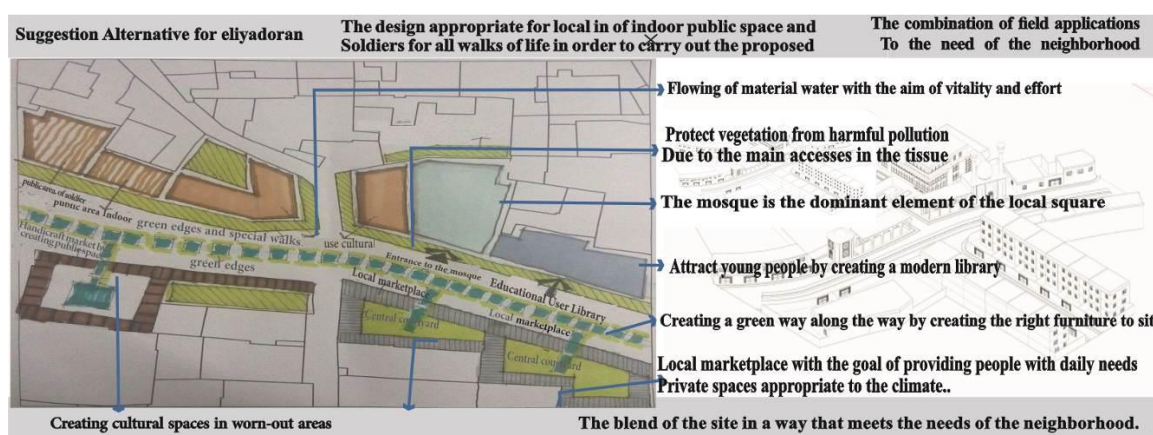
### 8.3. Step 3: AHP

In this section, after reviewing the questionnaire and reviewing the SWOT model, we choose the hierarchical process of AHP which is a flexible, powerful and simple method and it can be used to decide on the decision indicators. There is a contradiction between choices. Here in order to select the best plan for redesigning neighborhoods squares, Kohanestan and Elliyadoran neighborhoods, we can prioritize each of the suggested alternatives by weighting the indices.

### 8.4. Suggested Alternatives for Neighborhood Square Haj Seyyed Javad Elliyadoran

As shown in Fig 8 and 9, for the Elliyadoran neighborhood, two alternatives are proposed which has been introduced below and the characteristics of each of them are also expressed:

#### *First Alternative:*



**Fig 8** First alternative for the Elliyadoran neighborhood

#### *Second Alternative:*



**Fig 9** Second alternative for Elliyadoran neighborhood

These alternatives include combining existing features with the creation of diverse margins for environment dynamism and integrity to meet the needs of people in a square. Here the mosque is known as a relevant square element which is a place for social activities. Civic areas are also created as venues for public gatherings and their social connections. In realizing this, there are opportunities on the margins of the Mudi to sit people and their well-being. There are also facilities for using cultural sites to preserve historical monuments.





In these alternatives, the mosque is an indispensable element for square which can create identity and sense of belonging in people. There is also a green space around the square to create a beautiful and attractive environment for walking. Here the market is a trading point that aims to meet the needs of the people and reduce the number of trips outside the neighborhood. There are also some places for daily activities and related activities within the neighborhood.

## 9. AHP model

Now with the help of this model and identifying its elements that include targets, indicators and non-indicators, we can create a hierarchical structure as shown in Fig 12. After determining the indexes in the first step, in choosing the final alternative, based on the importance and priority of each indicator relative to other indicators and according to the characteristics of each neighborhood and the results of the questionnaire, we assign each indicator with a weight and compare them pairwise.

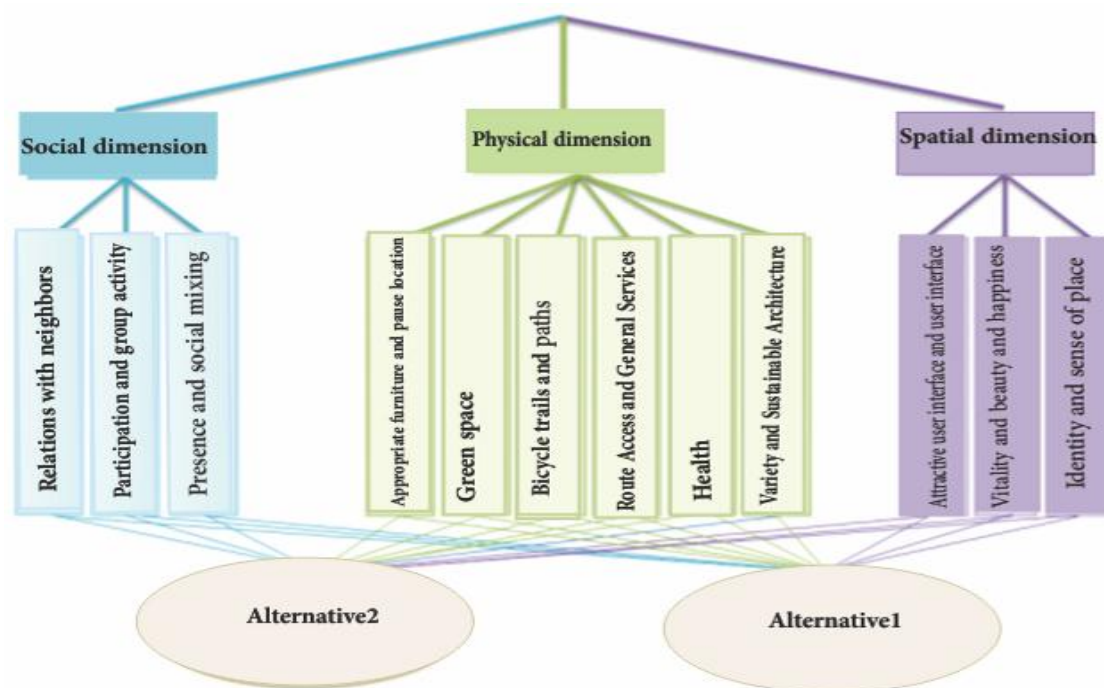


Fig 12 AHP model

Comparing pairwise, based on the purpose of the research, we provide an appropriate design for the Kohanestan and Elliyadoran neighborhoods squares. Here the priority of each of these indicators is determined by the values of the following quantities.

The priority of an indicator relative to its own index is equal to one and its factors are inversely proportional to each other. Priority 3 is the importance of a little more. Priority 5 importance related to more, Priority 7 importance related to much more and Priority 9 is the importance of absolute. Values 2, 4, 6 and 8 are used when there are mid-states (Tofigh, 1995, 24).

The coefficient of importance of the indices chosen is replaced by the approximate method (the arithmetic mean) in order to choose the appropriate index so that after the comparison, the values of

each column are summed together and then the values of each Element of the matrix divided by the total sum of the column in the final step, the average Elements of each row are computed.

In accordance to Table 5, different dimensions are compared with each other. This table is derived from the determination of the coefficients importance of the indices and we observe that the sum of the coefficients of the indices in it is equal to one and this relative problem shows the importance of the indices that, in redesigning the neighborhood squares, for these two neighborhoods. The coefficient of significance associated with structural dimension is 0.57 which is higher than other dimensions and after that, the index or social dimension of the coefficient is more important.

**Table 5** Dimensional weights

Dimension	Spatial	Structural	Social	Importance factor
Spatial	1	1.4	1.5	0.097
Structural	5	2	1	0.570
Social	4	1	1.2	0.333
Total coefficients				1

For each of these indicators, in the redesign of neighborhoods squares and according to the selective approaches of this research, sub-indicators are presented. Based on the importance of each and the effect on improving the quality of neighborhood squares, concessions each of them is scored on an hourly basis. The Table 6 shows the importance of sub-indicators.

**Table 6** Characteristic weights

Medium Importance		Spatial			Structural					social		
0.356	Identity and sense of belonging place	Dynamism, beauty and vitality	The combination of features and their attractiveness	Diversity and Sustainability in Architecture	Health	Route Access and Public Services	The presence of a pedestrian and cycling route	Green and public space	Facilities and stations	Participation and social composition	Participation and group activity	Communicating with people
0.346				0.166	0.12	0.226	0.186	0.171	0.131	0.413	0.327	0.26

After determining the coefficient of importance of indices and sub-indicators, the coefficient of importance of alternatives is determined. The allocation procedure in this situation is similar to the hourly quantity scale. In the Table 7, each of these alternatives is based on sub-indicators.

**Table 7** Feature priority

Mansions	Attributes	Kohanestan		Elliyadoran	
		Alternative 1	Alternative 2	Alternative 1	Alternative 2
Spatial	Identity and sense of belonging place	0.238	0.762	0.500	0.500
	Dynamism, beauty and vitality	0.340	0.660	0.125	0.875
	Combine the features and attractiveness of them	0.500	0.500	0.125	0.875
Structural	Diversity and Architecture Stability	0.500	0.500	0.500	0.500
	Health	0.500	0.500	0.500	0.500
	Access to routes and public services	0.340	0.660	0.225	0.775
	The presence of a pedestrian and cycling route	0.338	0.662	0.125	0.875
	Green and public space	0.500	0.500	0.500	0.500
	Facilities and stations	0.410	0.590	0.325	0.867
Social	Participation and social composition	0.338	0.662	0.125	0.875
	Participation and group activity	0.410	0.590	0.325	0.867
	Communicating with people	0.500	0.500	0.500	0.500

The proposed importance coefficient Table 8, is evaluated for determining the best alternative in redesigning the neighboring square using the adaptation process. Here the compatibility issue is confirmed otherwise, we should rethink the estimates which means the binary matrix should be re-indexed and the index of their randomness should also be made using the table below and based on the incompatibility index calculation.

**Table 8** Randomness indicator

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15
R.I	0	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48	1.56	1.57	1.59

With the help of relevant surveys, the inconsistency index is 0.03 and the incompatibility coefficient is 0.052 which is less than 0.1, which confirms the compatibility. In the final score, each of the alternatives is presented as a matrix for each indicator. Here the reward of each alternative for each index in its coefficient of significance is multiplied and then the scores are accumulated together and each of the alternatives that can earn more points gets more priority.

**Table 9** Determine the final rating in the alternatives

Alternatives	Final score (Kohanestan)	Final score (Elliyadoran)
The first alternative	0.3346	0.3175
The second alternative	0.6254	0.6825

In accordance to Table 9, the output of the AHP hierarchy shows that in the redesign of neighborhoods squares of Elliyadoran and Kohanestan and with respect to the alternatives and sub-indicators of the second alternative, the higher priority is given to both neighborhoods.

## 10. Conclusion

Neighbourhood squares, most popular places and gatherings in the old neighborhoods of Esfahan have been for centuries irrigated in its canals and this has had a great impact on the boom and dynamism of these areas and related activities. Today, due to the lack of water in the canals, most of these structures have been exhausted and this has disrupted their activities. In fact, these areas that remain largely unidentified are now being forgotten in the neighborhoods and this gradually erodes the structure and destroys it. The results of this study indicate that local squares are not as effective as the past and because of the dryness of the canals, the dynamics of the local squares and their surroundings has decreased. Local tissues in these squares are connected to each other, so any changes in these squares can affect the whole area. On the other hand, the lack of service, commercial and sporting facilities is clearly seen here so there is a need to redesign these neighborhoods and pay attention to the mix of functionalities. Also, in this matter, people living in the neighborhood must contribute to creating a desirable, safe and efficient environment. Therefore, in the proposed methods and the final design, all cases are expressed in terms of the research approach and can be reconstructed with canals and squares. Attractive and joyful which also affects the basic needs of the neighborhood and its activities which, in addition to creating dynamism in the neighborhood, can bring more people into the neighborhood and eliminate unnecessary trips. In Fig 13 and 14, this proposal is presented in the form of three dimensional images.



**Fig 13** Proposed design neighborhood squares of Ellyadoran





**Fig 14** Proposed design neighborhood squares of Kohanestan

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