

# Designing Recreational Center Using Urban Open Spaces in Qom

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## Abstract

With increasing population of city-dwellers, changes in the work and life pattern and more distance from the natural origins as the platform of providing human mental-intellectual calmness in modern life, the need for recreation and leisure among the city-dwellers has increased and turned to be one of their most important needs. Leisure includes a set of activities that the individual conducts them willingly for rest, recreation, entertainment and establishing social interactions at the time outside the familial and job obligations. Recreational activities that take place outside the home, have mostly a participatory and collective aspect and need special space and facilities. On the other hand, the urban public spaces play a major role in providing a platform for forming such activities. With the predominance of green space element, the urban open spaces as a part of the public spaces of the city attract population and pave the way to social interactions and spending leisure time in terms of recreation, entertainment and nature-oriented amusements. Nowadays, with the existence of a new social and cultural conditions, the role of urban open spaces for spending leisure is very evident in the people's life. In this project we have tried to consider the recreational space as an urban green space that can respond the social, cultural and recreational needs and the citizens spend some hours away from the daily concerns in this collection.

## Keywords:

*leisure, recreation, urban public sphere, urban open space, urban green space, social interactions*

## 1. Introduction

The historical review in the field of leisure shows that leisure has been an old belief and during the ancient civilizations has been dependent on class privilege and enjoying more leisure has been special to the high social classes. In past times, in many parts of the world there were people who worked hard for surviving of themselves and their family. Before the industrial revolution in terms of the work characteristics there was no leisure in a modern sense; generally it can be said in the past the leisure has not had a practical sense for human, only the long and exhausting work gave meaning for his/her life (Mohammadi, Sarmadi, 2008, 34). The separation between work and leisure is one of the transformations of modern era. Leisure as a new concept that was resulted from separation of work from home, technological progresses and Division of work, provides this opportunity which the human is released even for a short time man from the coercions and limits of social

order. As a result it has caused to be created times called leisure (Kivisto, 2002, 80). In the modern era the need to appropriately spend leisure is considered as an important human needs. Leisure needs to the appropriate spaces and paying attention to the urban spaces and predicting spaces to spend leisure time in the cities appears necessary. Hence the knowledge and use of proper spaces for spending leisure can be effective in solving problems of many cities. On the other hand, given that any activity requires a space with convenient features and in the absence of suitable space creates several problems, so proper use of urban spaces in order to spend leisure time enhances not only the space social quality level, but also it helps to create a balance and social connections between individuals (Falahat, Kalami, 2009, 86). Paying attention to the urban open spaces is of great importance, because with creating recreational opportunities the environmental health and aesthetic goals are important in this context (Rafieyan et al, 2010, 108).

The city is a social life unit that is taken shape as a turning point of human societies and the Centre of individuals and material things' assembly based on the form, type and quality of their communication. Anatomical dimensions of cities, the nature and fate of human relationships in it and their knowledge and awareness to each other as well as the surrounding environment distinguish cities from the other living units. The city also like a monumental architectural building is a construction which springs in the space with the difference that it has a larger scale and only with the passage of time it takes final shape (Lynch, 20013, 27). With the very fast growth of population is and the dimensions of the cities, these special characteristics and differences cause to occur a wide variety of needs, relationships and problems at the macro scale; gradually in metropolises the need for proposing seriously and vitally the broad and complex subjects of urban design. These complexities and problems affect more than anything the person that lives in this environment and disturb and confuse him who lives as a "citizen" in the city. In fact, for supplying the citizens' needs the metropolises need to design and build a special and appropriate places with their respective functions that in addition to be able to meet the needs can recover its faded identity and make to flow a new spirit in city's body. The architecture of urban public spaces is the most basic of these spaces that can have a pioneering role. Providing human social needs in entertainment centers

is regarded as the main objectives of sustainable development. Nowadays, with the transformation of imaging urban space in the wake of transformation in communications and its objective changes in the urban texture have created a conflict in the context of the culture and identity. Hence the creation of constructive entertainment centers seems essential by creating healthy conditions and appropriate cultural platform compatible with the needs of the users (Noghsan Mohammadi et al, 2012, 86).

Constructing recreational centers which have not of very necessary coordination with the needs of the people and on the other hand the lack of coordination of designs with the position and removing natural needs of the people allow to think a bit in this area. Designing a recreational collection requires a multifunctional collection with unique features that have an effective role in removing human needs and provide a space to close participation and doing various activities out-of-hours. Generally, recreational center constitutes a public urban space with current life that plays an important role in the revival of the city's identity and values. Hence to design a collection, understanding the social and cultural features of the city and how to communicate and coordinate with the site is essential to make this special design as a symbol for the entire city identity. Urban open spaces as a part of the public spaces of the city with the predominance of green space element attract population and pave the way social interaction and spending leisure in terms of recreation, entertainment, sports, study and rest and nature-oriented recreation. Urban green spaces are a part of urban areas that with the natural or protected vegetation are opposed against the carpeted areas or buildings. These spaces as the main part of urban areas have a considerable importance in improving the quality of life for city residents and spending leisure time. (Alizadeh et al, 2012, 1).

In his article "leisure, challenges and threats", Mac Don Byrd (2005) knows leisure as a cause for the occurrence of threats and challenges in the context of how to spend time and the possibility of turning to risk and risky behaviors. Studies conducted by Wagner (2006) indicate that the demographic variables and social status play an important role in people's leisure. One of the important results of the researches of these researchers is a difference between these two genders in spending leisure and the impact of social coercions affecting their social behaviors (Abbaszadeh et al, 2014, 131). Also in his book entitled "the competitive space, street trading, public space and livelihood in developing cities" Brown in 2006 emphasizes on the phrase of urban public space meaning as all physical spaces and social relations whose use specifies space within the non-private territory of cities. These spaces are a source of public assets that might change in the passing of time.

With regard to the mentioned cases and despite understanding the necessity for planning, designing and

managing urban open spaces, nowadays many of them are disappeared in favor of construction work in Qom. Such lack of attention to urban management also has led to the abandonment and functional deterioration and thus reducing their social life and disrupted the recreation background and elevation of social consciousness. In this regard, based on designing a recreational complex with taking advantage of these urban open spaces, the present research is a measure to meet the leisure needs of the residents of Qom and create a social life in these spaces.

## 2. Implementation method

Our research method is descriptive and applied. The Statistical population of the study include citizens of Qom province with different education, age group and gender; 100 participants as research sample were selected by using a simple random sampling method and Cochran formula. To collect the necessary information we have used a library method consisting of articles, books, journals, etc. and field method including interviews, observation and questionnaires. In designing the questionnaire questions Likert method has been used. The present questionnaire contains 20 questions related to the subject each of which has 5 options of high, medium, low and I am no idea. For the sake of the validity of questionnaire we gave a number of regulated questionnaires to specialists in the field, including Dr. A. Shiah, Dr Khorram, Dr Dezfouli etc. for removing the ambiguities in terms of content and form like evaluating important items and their relationship with each other, eliminating additional questions, a common understanding of expressions. Then we calculated the coefficient of reliability of the questionnaire; the value of obtained Cronbach's alpha being equal to 0.577 shows that the questionnaire has the necessary utility. In order to analyze the data, the descriptive statistics and inferential statistics were used including analysis of variance, regression analysis, multifactorial variance analysis, Cronbach's alpha, Kolmogorov-Smirnov test, Cochran, Spearman correlation coefficient and SPSS software.

## 3. Findings

According to the descriptive findings the individuals who have participated in this poll, 37 people had diploma, 14 people savvy, 33 people Bachelor and 16 people MSc. degree. From these participants 2 people were in age range of 10 to 20, 29 people between 20 and 30, 32 persons between 30 and 40 years, 16 people between 40 and 50 years, 11 persons between 50 and 60 years and 10 people between 60 and 70 years.

According to the answers that were given to the questions of the questionnaire, we can conclude that the recreational characteristic of an urban space has a huge impact on its

attractiveness and recreational activities in the urban space is a very influential on filling people's leisure. Also, it can be concluded that the green space makes attraction of a space and attracts people to itself and is very effective in filling citizens' leisure. Other achieved result is that that the individuals' social behaviors in public spaces cause to creates to a very large extent the social communications and increasing social security and people's being together in a public space causes to attract largely other people to that space.

In order to investigate the normality of questions the Kolmogorov-Smirnov test was used; the results showed that all the questions are normal.

### 4. Research hypotheses

1. It seems that the open recreational spaces are effective in having high morale and filling citizens' leisure.
2. It seems that the high quality of recreational open spaces has an important effect in attracting its users.

According to the hypotheses and statistical test the assumption of conducted test is that people's average answers are equal to 3.5.

Table 1: Sample descriptive statistics

One- Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
X3	100	3.6400	0.48242	0.04824
X4	100	3.7600	0.42923	0.04292

According to the above table the average values for the first question are equal to 3.64 and for second question equal to 3.76; it confirms that a lot of people are very much of the opinion that the existence of a recreational usage in urban spaces is very influential on inviting people to its space.

Table 2: t-student test

One- Sample Test						
Test Value = 3.5						
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
X3	2.90	99	0.005	0.14000	0.0443	0.2357
X4	6.05	99	0.000	0.26000	0.1748	0.3452

The average test confirms also this subject (hypothesis). The value of sig (significance) is equal to 0.005 and 0 that is very less than 0.05 and indicates that the desired average is in the average interval. This means that a lot of people believe the recreational usage in urban spaces is influential

largely on inviting individuals to that space and also the recreational activities in urban spaces are of effect in filling people's leisure. With the use of this test we can conclude that the hypotheses are confirmable.

At this stage we perform regression analysis. Age variable has been considered as research dependent variable (criterion) and variables of recreational usage, green space, social behaviors and the presence of people have been considered as predicting variables. Investigating the regression presuppositions showed there is not any problem with the use of regression. In the following you observe the regression analysis results. In the following table the values of multiple correlation coefficient and determination coefficient and the adjusted multiple determination coefficient and standard deviation of multiple determination coefficient are observed. Correlation coefficient is equal to 0.441 that refers to correlation between variables that is a desired value. The value of the determination coefficient is equal to 0.195; this means that the linear regression of given fitness justifies about 0.195 percent of the total changes.

Table 3: multiple correlational coefficient values and multiple determination coefficient standard deviation

Model	Correlation coefficient	Determination coefficient	Adjusted multiple determination coefficient	multiple determination coefficient standard deviation
1	.441a	.195	.161	11.46291
2	.437b	.191	.166	11.42813
3	.414c	.171	.154	11.50967

The following table give us the essential information in the case of predicted variables. The sum of squares and degree of freedom, mean squares, Fisher statistic and significance level are seen in the three given models of fitness. You can see that a significance level in the sig column is less than 0.05. So we conclude that the provided model is a good model for regression.

Table 4: ANOVA analysis results

Model	Sum of squares	Freedom degree	Mean squares	Fischer statistic	Significance level
1Regression	2687.917	4	671.979	4.981	.001b
Residual	12816.833	95	134.914		
Total	15504.750	99			
2Regression	2682.061	3	894.020	6.693	.000c

Residual	12822.689	96	133.570		
Total	15504.750	99			
3Regression	2654.919	2	1327.459	10.021	.000d
Residual	12849.831	97	132.472		
Total	15504.750	99			

The following table provides us information about prediction variables. This table gives the essential information on predicting the dependent variable. You can see that both fixed and variable values of prediction have become significant in the model. After determining the significance of fixed value and the variables of social behavior and green space the column of standardized coefficients represents the standardized regression coefficient or the value of beta. The standard regression coefficient or beta here has become equal to 0.363 for green space and 0.166 for social behaviors; it indicates the amount of impact of the independent variables on age variable.

Table 5: regression analysis results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-77.743	25.529		-3.045	.003
1 Recreational usage	5.006	3.479	.135	1.439	.153
1 Green space	15.967	4.792	.331	3.332	.001
1 Social behaviors	6.970	4.603	.142	1.514	.133
1 People's being together	3.110	4.809	.066	.647	.519
(Constant)	-73.182	24.461		-2.992	.004
2 Recreational usage	5.311	3.436	.143	1.546	.125
2 Green space	17.086	4.454	.354	3.836	.000
2 Social behaviors	7.421	4.536	.152	1.636	.105
(Constant)	-57.439	22.398		-2.564	.012
3 Green space	17.512	4.477	.363	3.911	.000
3 Social behaviors	8.111	4.546	.166	1.784	.077

a. Dependent Variable: sen

In the following linear model the age is (Y), the green space (X1) and the social behaviors (X2).

$$Y = -57.439 + 17.512x_1 + 8.111x_2$$

In the above equation by placing values of social behaviors and green space we can predict the individuals' age.

### 5. Conclusion and recommendations

In the present research, the analysis of site has been investigated in the form of anatomical and social issues. Salariah has been placed in South-Western of Qom province region and in terms of urban situation it has been located at the limits of region 4 of Qom's municipality. On the basis of the regional comprehensive plan, the usage of this green space that has an area of 33777 m2 has been considered to be recreational.



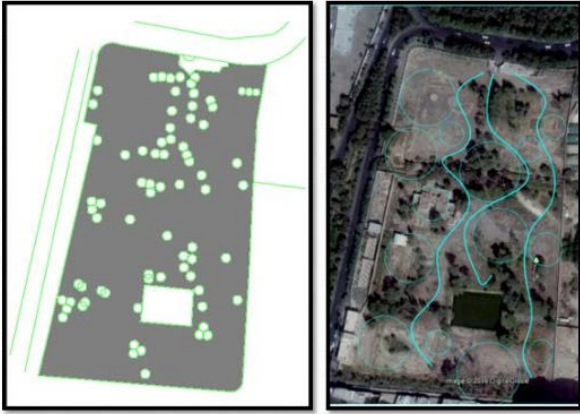
Design site

Source: author

The desired site is accessible from the side of the Sacred Defense square and due to be placed on the South side of the Sacred Defense square it has proper vision from two directions, but the best sight is of the side of square. Also, in terms of height difference at different points it is flat and a specific topography is not observed. Site acreage to design is equal to 33777 m2. The predominant vegetation of site is pine and ancient eucalyptus trees. Due to the variety of social features and usage around the site as well as having a recreational attraction for residents of Qom, we selected this site from other similar areas in the city. On the other hand, the existence of natural potential and vegetation, perfect visibility and easy access, recreational usage having already existed in this location, have provided for us a design background.

Introducing design

On the existing situation of site there are a considerable number of tree and a large water pool at the bottom of site. The main idea of the design is founded on this basis that the existing trees and pool of water are kept.



Status of existing trees in site

Source: author

The work graphical concept is adopted from raindrops and water that in contacting with the land create the cocentric circles. The form of circle represents the features like simplicity, integrity, centrality, consistency and flexibility and is a manifestation of stillness and motion. In designing desired recreational space this form has been used in which spaces for moving and individuals' confrontation with each other and establishing social interactions are better displayed. The designed spaces are based on the circle having the stability, strength and simplicity.

#### Collection entrance and parking

According to the project site placement position, the best point to the site walking entrance is from the side of Qods square. Due to being closed the site from the South and Eastern front, the best access of the rides is from the Western side and the Boulevard of Golestaneh martyrs. The collection's parking with a capacity of 130 cars has been located in the cellar floor and in two floors. The placement of walking entrance on one side of the Park causes to create a hierarchy of Park's spaces; that makes the individual to pass through spaces stage by stage and look forward to see the next space and its experience and creates curiosity.

#### Bathroom fixtures, chapel and utilities

With respect to the criteria according to which for every 25 people a bathroom fixture has been considered, in this collection 32 bathroom fixtures have been used that can respond 800 people. The collection's chapel with two halls for ladies and gentlemen has been located in the basic part of collection. This collection consists of two buildings of utilities that include an electrical room, refinery etc.

#### Gallery

The Gallery is located at the beginning of the collection and includes two halls to display works and a roofed space for group gatherings.

#### Play space and tranquility space

The form of the circle is a symbol of motion and stillness, so these two cocentric circles have been considered for showing this symbol, one of them for play (the symbol of movement) and another for a space for sitting and the establishment of social interactions (stillness). A smaller circle that is intended for play, has two badminton playgrounds.

#### Green space

The plants have the great effect on perceiving location and creating beauty and improving weather conditions in urban open spaces. Green space in this collection has been used as the vision and perspective, creating walled feature, creating a privacy for spaces and sound insulation. To control the sight and create a proper perspective, how to arrange the plants we act in this way: at first we locate a number of short shrubs and plants, then long stem trees such as pine and later medium shrubs and plants and finally the tall shrubs. In this way in areas where it is necessary to limit the sight the people observe the scenic beauty and their sight will be limited in this manner. The design of the middle gardens in this collection is in form of rolling Hill; the ability has been used to define spaces confines, creating the topography (creating variety and elegance on the site), breaking off the physical communications of spaces.

#### Walking routes and the blind's routes

Walking route of the collection starts from the entrance part of the collection and ends towards the main part of park that is restaurant and pool (similar to the Pavilion in the Iranian garden) and it includes three main walking axis (the number of the main axis in the geometry of the Iranian garden) along with which some secondary and lighter axis have been placed as well. Also in the collection's walking axes using the textured and non-slippery floor carpets and the placement of fence next to it, a path has been considered for easy movement of the blind. Along with the collection's main walking axis, the element of water has been considered. In the Iranian gardens the element of water is very valuable and water has been used in both still and moving ways. In Iranian garden the moving water has been used along the axes and in shallow brooks and the still water also in front of the Pavilion. On the other hand the movement of water in Iranian garden is an allusion to the instability and movement toward balance and the stillness of the water represents calm, peace and friendship. So these features are used and in this collection along the axes a stream of water is considered from the pool that represents motion and dynamism. Eventually, this flow of water comes into ponds that have been embedded in different parts of the

Park; that represents stillness, peace and friendship in these spaces.

On the other hand for passing emergency vehicles two main pedestrian paths with a width of 5 m have been intended; that is extended from the beginning of entrance to the end of site (around the pool) and it can cover the entire site in an emergency.

#### Movement and stillness spaces

These two spaces have been considered as places to establish people's social interactions. Because the circular spaces are in themselves stabilizing, centralizing and collecting and since the circle is the symbol of movement and stillness, in both circles some paths have been considered to sit and be still. Separation of directions from circular spaces has been done with a variety of materials. The existence of green space as rolling Hill causes to create confines for these spaces and their physical disconnect.

#### Children's play space

Children's play space has been installed in the middle of the Park up to be secure and manageable and in terms of geometric forms it is harmonious with the entire site. Also the created surface difference of its surrounding through green space has caused confines for children's playing space. Near the children's play space a place has been regarded to sit and take care of parents.

#### Pool and a space for solitude and relaxation

The pool available in the site has been renovated in the new design. This pool is similar to the Iranian garden pools that can be i an architectural element in opposition to the Pavilion. Inside pool some spaces have been considered in form of island which is a place to sit alone and relax.

#### Restaurant and coffee shop

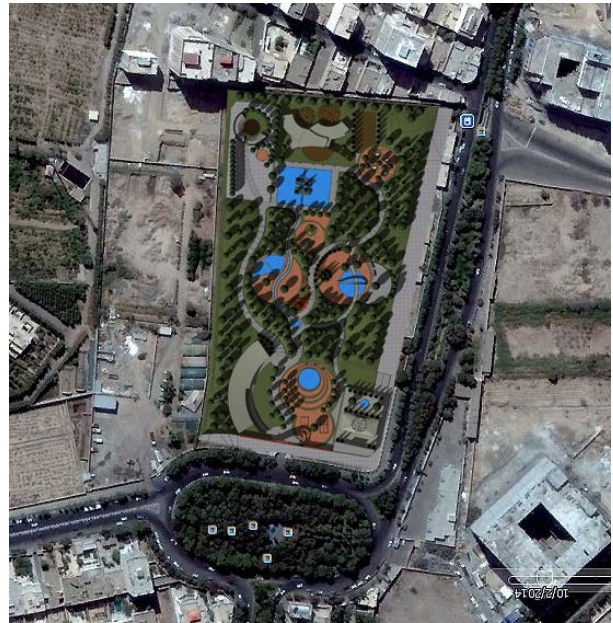
Building of restaurant and coffee shop is located in the trailing part of collection for setting up some points away from the entrance due to the perpetual presence of people in these usages and for the sake of social security. The form and geometry used for its building is also coordinated and integrated with the geometry of the entire site. The restaurant has a Hall for coffee shop and two halls for restaurant, one inside the building (winter space) and the other in free space (summer space).

#### Play space

In trailing site a playground has been placed with a ping pong tables and a skating ground. The existence of these playground in endpoints and corner of the site helps significantly to create security in these points. On the one hand in order to control noise pollution caused by these plays, the surrounding vegetation has been considered to be compressed.

#### Outdoor amphitheater (multifunctional space)

In the site end part the outdoor theater and collective space have been considered for young people so that far away from the hubbub of the Park they can interact culturally, artistically and socially. The cause of placing it in this part of the site is silence in the trailing site and also creating security in this part. Amphitheatre can be multifunctional space in order to being done a variety of activities such as concerts, performances and even semi-official gatherings. The surrounding vegetation has been considered in a compressed way in order to create sound insulation.





Ultimate design render

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