

## **Development of green space on improvement of city quality and its importance in urban life (Case study: Beside Milad hospital (Chamran-Tehran Autobahn), District 2 Tehran)**

**Elnaz Karimi Namini**

MA student of architecture, Islamic Azad University, Tehran Markaz branch, Tehran, Iran

**Jalal Nakhai**

Assistant Professor of architecture department, Islamic Azad University, Tehran Markaz branch, Tehran, Iran  
elnazkariminamini@yahoo.com

### **Abstract**

*Today, based on high volume of urban constructions, many problems were created including population increase, non-purposeful physical development of cities and increase of environmental pollution. The development of green space in cities can play important role in environmental balance and adjustment of air pollution. Urban green space is one of the urban use as its distribution is of great importance in city. The present study is regarding the development of green space in improvement of city quality and its importance in urban life. This study is applied in terms of purpose and descriptive-analytic in terms of method and the required data is collected via document-library investigation and field studies. Using small green space can play important role in improving quality of city view and legibility of urban environment and it has direct impact on perception of citizens and it causes that potential data of urban environment is actualized. The results of study showed that the closer the space to the nature, green space is used in city view and it can take a step toward environment quality improvement. The development of green space beside Milad Hospital (Chamran-Tehran Autobahn) is one of the most effective methods on improving urban landscape quality and it is considered as an ecological display of creating a central green core and connection with Goftego park as the natural breathing center of city and a tourism center based on location of Milad tower. The development of green space is a solution to reduce air pollution and its impact on people and improvement of quality of cities. The development of green space beside Milad hospital (Chamran-Tehran Autobahn) shows that these spaces, besides the increase of fair distribution of public green spaces, can help urban environment by marking and improving the quality of life of citizens.*

**Keywords:** Green space, Environment quality, Green space importance, Tehran.

## **Introduction**

Population increase, migration and industrial development can lead to physical development of cities, collective density in urban areas, slum dwelling, unsuitable traffic and environmental pollution. Thus, green space use is encountered with some problems as lack of establishment and correct locating in city, using unsuitable spaces, lack of observing proximity, lack of consideration of per capita, standards and etc. (Esmaili, 2002). Human habitat can have the highest usefulness for human being as his expectations in various historical, environmental, social, physical and economical aspects are fulfilled. If each of factors doesn't have good quality, it is effective on his perception of space and his satisfaction of life environment (Kakavand and Barati, 2013).

Due to supporting social systems of city and providing ecosystem services (Kerin and Kinzig, 2005, 142), parks and green space are good solutions to solve environmental issues and turning urban environment into a living place for citizens (Naghizade, 2005, 29). Thus, the importance of urban green space in life and its stability and physical, social and natural impact on urban system can be unavoidable. Thus, green space use in cities is its consistent distribution and allocated per capita based on population need as one of the basic issues in planning and urban management (Ahmadi et al., 2013, 2). In modern cities in economic, social, cultural and architectural fields and new ideas and designs in design and architecture have caused that cities landscape and relevant townships are not consistent with the past and systematic combination and defined and significant modern structure is not observed in it (Lasus, 2013). Green space is a part of physical range of city with definite performance. Green space has decorative role (beautification of urban view) and recreational (recreational places). However, with the increasing development of urban areas in recent decades and outperforming urbanization to urban planning as encountered with various problems as population increase, non-purposeful physical development of cities and increase of environmental pollution, these green spaces play important role in urban environment balance and air pollution adjustment (Mohammadi, 2001, 15).

Thus, the study of quality of landscape of cities namely in cities, has no effect on this feeling as landscape is perceived by our five senses and is involved with human mind and environment legibility is provided. Human identity is based on interaction among various components as economy, geography, culture and the like in the history. Urban environment as the main human being life field is affected by this inner tendency (Habibi and Maghsudi, 2002). Thus, beside Milad hospital (Chamran-Tehran Autobahn), this capacity is created to develop green space and compromise can be made between human and nature in existing space with the design of open and green public space . Its organizing based on the approach of this study, the green space development is one of the main purposes of present study. The present study reviews the literature and evaluates the concepts as green space, quality of urban environment and effects of green space on human being and theoretical model of study was formulated. Then, investigation of open urban space in district 2 of Tehran city is considered as green space can be developed in it.

## **Review of Literature**

Based on the importance of green space in sustainable urban development and life quality of residents in this city, this issue is investigated by various aspects by researchers.

Chiesura (2004) in the paper “role of urban parks in sustainable city” referred to the importance of intra-city green spaces and shortage of international studies and attempted to show the importance of city nature for the welfare of citizens and urban sustainability. The results of study showed that nature experience in urban environment is the source of positive feeling and useful services as fulfilling non-materialistic and mental human needs (Chiesura, 2004, 129). Milvard and Sebir (2011) in the paper (advantages of an urban forest park) stated that urban forest parks provided various valuable social, environmental and economical services as measured for cities (Milvard and Sebir, 2011, 177). Saeednia (2003) in the book “urban green space” discussed about the different aspects of urban green space. Educational deputy of Jihad Daneshgahi (2003) published a book “rules of planning urban green space”. This book evaluated the role and significance of urban green space in the life of citizens and referred to the role of these spaces in mental comfort and reduced anxiety and stress of citizens arising from living in crowded areas and apartment living. Finally, the conditions of construction of suitable green space in cities are defined (Ghorbani and Teimouri, 2009). Also, the role of urban parks in improvement of life quality of Tabrizi citizens is analyzed.

### **Significance of study**

In current era, increase of modern life in city and culture (modern indifference of city dwellers) has led into the reduction of social interaction of citizens and ignoring the importance of relevant public spaces for the social interactions (Suzanchi, 2004, 5). One of the methods to achieve sustainable development is welfare in life in society and all authorities in society try to providing comfort for people. The life comfort is divided into materialistic and spiritual or mental. Mental and spiritual comfort is much more important than other factors. One of the external factors is providing comfort and welfare in urban overcrowded areas and urban green spaces. Various studies have supported the relevant effect for the comfort of citizens. Tehran is capital of Iran and due to having services, the need to green space is increased. In this city, population increase and high density of buildings has eliminated the environmental quality and destructed the spaces. One of the problems in Tehran city is inconsistent distribution of green space in various regions in city as Tehran city has different situation in terms of weather and physical form. Thus, the importance of urban green space in the life and stability and its physical, natural and social impact on urban system can be impossible and green space use in cities and its consistent distribution is one of the basic issues in urban management and planning.

The factors reminding the significance of considering green space include the followings:

- Considering environment and its pollution decrease and considering environmental cycles
- Mental effect of green space on urban life quality

- Economic function of green space
- Visual and aesthetic function of green space

The present study attempts to develop urban green space with the aim of achieving quality improvement of city in the defined zone by sustainability principles and indices of achieving environment as to provide stability in city. The high potential of the define area is used as tourism center with international scale and is raised as its central core of region and connection with Goftego park.

Main questions of study

Is green space development effective on improving city quality?

Is green space effective on protecting comfort of people?

Based on the questions, the hypotheses of study are as follows:

- It seems that the most important effects of green space in cities is reduction of air pollution, reduction of noise pollution, temperature control, relative humidity increase, air clearing and absorption of dust.
- It seems that human nature is created as it has high capabilities and these capabilities lead to depression without relationship with natural beauties in urban life as green spaces and beside using green space, human creativities are actualized and human being can find the evolution in life.

### **Study method**

This study is descriptive-analytic as it includes the methods with the aim of describing the investigated conditions or phenomena (Sarmad, Bazargan, 2002, 82). Descriptive study describes what exists and considers the existing conditions and relations, common beliefs, current processes, effects and developing trends (Khaki, 2002, 104). Regarding data collection and data regarding theoretical basics of city, its quality, green space effect on required area and the main concepts of this study, document and library studies are applied. The present study method is sampling or field interpretation as direct from site and green spaces after collection of data and the data is analyzed and the effect of area is considered based on development of green space with indicators around site. The data achieved in the study is also achieved by other methods. This method allows the researcher to see the study phenomenon directly and perceives the reality directly (Hafeznia, 2010).

### **Theoretical basics**

Urban green space

Today, the concept of cities is not imaginable without effective green space in its various forms. The outcomes of urban development and complexities of their environmental problems had made the green space existence and its development as unavoidable (Majnunian, 1995, 1). The thought

of creating green space inside a city is an old idea since 15<sup>th</sup> century (Mohammadi, 2005, 5). Totally, since 11<sup>th</sup> century, the garden design was accepted in a holy place in design of green space for daily need of people and various thoughts were formed (Behbahani, 1994, 32). The urban green space is referred to the set of open and green spaces as established inside urban environments with definite goals, planning and definite performances (Matlabi, 2004, 31). In another definition, urban green spaces are a part of wide spaces or existing area in functional area of city as selected to create variety and beauty, increase of living quality, providing human welfare and presenting special services of citizens and is controlled and managed by urban human with different local and non-local plants (Zarabi and Tabrizi, 2006, 16). From urbanization view, urban green space is a part of structure and morphology of city. In other words, green space beside physical structure of city determines the city view. Thus, if city design is done properly and be implemented carefully, the design logic states that there is a balance between these two factors, live and dead parts of urban morphology (Hosseinzadedalir, 1993, 5). In Iran, green space architecture namely garden construction art has a long history as in valid scientific resources, Iranian garden construction art is one of classic styles and Iran is one of the main style owners (Soltani, 1992, 204).

### **The concept of quality and urban environment quality**

Generally, quality is a term as applied in all artistic, scientific and industrial fields as intuitive (intra-mind) as continuously in discourse framework of the relevant fields. Quality is a two-dimensional concept, it is a clear concept but it is also ambiguous, it is understandable and “volatile” as not being defined easily (Golkar, 2001). The literal meaning of “quality” in Amid dictionary is regarding the “Method, manner” of an attribute or state (Amid, 1984). Oxford English dictionary has presented four meanings for the term quality as the value of anything, degree of good nature and perfection of everything as general, features, special and distinctive aspects (Oxford, 1989, 1023). Quality of environment is a complex issue including mental perceptions, attitudes and values of groups and different people (Portos, 1971, 105). The environment quality is defined as the basic section of wide concept of life quality (Ravem, 2002, 13). The environment quality is based on the result of quality of constituents of a definite area but more than the total constituents, it refers to general perception of a place. The environment constituents include nature, open space, infrastructures, anthropogenic environment, physical environment facilities and natural reservoir, social relations, etc. (Camp et al., 2003, 9). Quality of urban environment is defined as: Environment quality is social-cultural and physical conditions of urban environment showing the satisfaction or dissatisfaction of citizens of urban environment. Indeed, a high quality environment transfers welfare and satisfaction to the population in which they live and by features as physical, social or symbolic (Lensing and Marans, 1969, 197, cited in Van Paul, 1999, 17) (Bahraminejad, 2003, 44).

### **Division of urban green spaces**

In a general division, urban green spaces are divided into four major groups as:



- 1- Public green spaces: They are urban green spaces or parks with social performance. These spaces are used by people for their leisure time and social and cultural gathering.
- 2- Semi-public green spaces: These spaces are restricted compared to public spaces as open areas of hospitals, governmental offices and the like.
- 3- Private green space: It includes all spaces as flowerbed and existing gardens in city as its use is limited to its owners.
- 4- Green space of streets and passages: It is urban green space as tree planting is a thin margin of the distance between pedestrian and rider area.

#### The relationship between human being and nature

Without people participation, the constructed environment is not improved as human being feels presence in a comforting space and many messages are received inside the space at the same time (Memarian, 2005, 52).

In this policy, instead of considering nature as an independent and external entity as stored or used, it should be perceived by various methods. Environment study is vividly a part of culture. It is a part of the method as people can perceive world and place and it is dependent upon the environment including feelings, thoughts, interpretation, knowledge, ideology and values of people. It is a method special for world understanding. Based on environment study for people, it is inferred and explained (Milton, 1996, 33). The emphasis on what people do is related to what people think, feel or what they claim to know. As a humanist, Milton tries to make a person sensitive to the methods in which local knowledge forms human relationship to nature (Guy et al., 2005, 3). According to Yorg Grotter, to perceive the relationship between building and environment, at first we should consider the human view about environment or to the nature. The basis of construction is controlling nature. The manipulation has close association with human thought about nature (Grotter, 2004, 146). Schultz in the introduction of architecture : meaning and place writes: In my activity period, the modern world has inflicted complex crisis. Our historical ecology is destroyed rapidly, our natural environment is sacrificed for unduly exploitation and our human nature is behaved as “Human matter”. Generally, human being doesn’t form a part of significant integrity and is a stranger to the world and himself (Schultz, 2003). Some believe that by overcoming nature, challenge with culture is occurred as opposite: It means from knowledge and human knowledge and its instrumental form, technology. It means that with technology progress, human being has created global environmental crisis (Nazbit, 2007, 74). According to Seyed Hossein Nasr, natural environment crisis is the external aspect of crisis in the mind of men and women as they were coming from sky to earth and the earth is destroyed. Environmental crisis doesn’t need formal and preaching solutions but death and birth of modern human being and his world view and the nature should be imagined as it was always, as holy domain reflecting divine creative forces. To keep the sacredness of life, we should recall sacred form of nature and it means giving sacredness to nature but it doesn’t mean we give holiness to nature as it is impossible by human being and it means that we ignore pride to hide nature sacredness from the view of major part of humanity (Nasr, 2007). Seyed Hossein Nasr in the book “human being and nature” discussed about spiritual crisis and raised this crisis not only

in art but also in relationship between human and nature and considered origins of spiritual contemporary crisis to ignore the sacred aspect of nature: To achieve peace and comfort with nature, at first we need peace with spiritual order (world). For peaceful relationship with earth, we should compromise with the heaven. To modify this condition (destruction of sacred value and spiritual nature of nature), metaphysical knowledge of nature should be renovated and sacred nature is given to it again (Nasr, 2000).

### **The locating criteria of green spaces**

For locating green space at various urban levels, various environmental, social and economic criteria should be considered (Ebrahimzade and Ebadijokandan, 2008, 43). Some of the criteria include:

- Adjustment, putting consistent use beside each other and putting inconsistent use far from each other as interfering use as repair shop, pollutant use and etc. are from residential units and consistent use with residential environment as parks can be replaced.
- Comfort, the comfort of citizens depends upon the distance and time of access to urban services including urban green spaces and it is important to provide comfort of citizens and using leisure time, urban green space and access to it.
- Efficiency, the model of urban earth price on one hand and its spatial locating in city on the other hand plays important role in type of urban space use. Based on this goal, some places should be allocated with the highest return and efficiency for urban green space, not for other use (Saeednia, 2003, 950).
- Suitability, the attempt to keep the natural factors, creating open spaces and mutual relationship with buildings and ways with urban green space can increase its suitability.
- Health, applying suitable environmental and health regulations to reduce pollutions of other use can be adjusted with urban green space.
- Safety, city protection against natural risks as flood, earthquake and storm or abnormal as proximity of residential areas with industrial regions leading to safety weakness of city and can be adjusted with the urban green space (Mohammadi, 2005, 930).
- Ecological locating Based on ecological power of urban green space and surrounding space, we can create green belts, handmade forests, forest recreational areas and artificial forest parks in surrounding space of city can be effective on ecological balance of city and surrounding.
- Legal locating, it is required that to create green space and park , legal ownership of land should be clarified and the priority of using is with national land and its ownership is regarding country and its guardianship with government or abandoned land as under the control of government, or the land its ownership belongs to state companies, ministry and in case of lack of using the mentioned land, the land of legal or real entities is used to create green space by compromise.
- Economic locating, economic necessity of creating green space compared to other use in using land should be proved that the place is dedicated to green space in city, otherwise,

each use with high economic efficiency, the space is dedicated to it (Bijan-zade, 2001, 92).

### Green space and its role in city stability

Human environment is a comprehensive concept based on the effect of external factors and their mutual relationship leading to biological balance. Thus, the relationship of people with environmental, the relationship method and effect of ecosystems on emotional and mental quality of people can have important unavoidable effect. Locorbusie gave much importance to urban green spaces and believed that of ten urban space units for residing, nine units are green space. Considering urban green space is important if we know this urban use is directly associated with urban stability. New dimension of urban sustainability in current unstable and heterogeneous cities is social stability as with mutual relationship with the role of park in increasing the participation of citizens (Mohammadi et al., 2007, 97).

### Green space and life quality

Indeed, green space and urban parks is one of the basic stability factors of natural and human factors in urbanization today (Esmaili, 2002, 11). Urban green space is a part of open urban spaces, the main factor in urban view structure, improvement of ecological conditions, passing leisure time by which they can increase quality of urban environment (Khalilianadel, 2006, 854). Urban parks as one of the most important public-service spaces play important role in improving social, cultural, economic and environmental conditions of urban regions. These spaces are taken into attention based on dense urban areas in various communities and various strategies are applied for locating and their suitable distribution in urban environment (Ghorbani and Teimouri, 2009, 50).

Scientists have found that green space can help the comfort, renovation and reduced violence of people. Besides the social and physiological advantages, urban green space and nature can provide economic benefits for urban managers and citizens. For example, air purification as done by trees can lead to low costs of pollution and its amount. In addition, aesthetic, historical and recreational values of urban parks can increase urban attraction, tourism value and income (Chiesura, 2004, 129).

### Urban green space and its effects

Alienation is one of the origins of problems as involving the people in the world and this issue is appeared mostly among people and their artificial environment (Hana, 1958, 148). The other effects of green space in cities, reduced air pollution, reduced noise pollution, temperature reduction, increase of relative humidity, air purification and dust absorption.



Thus, if green space is necessary as a part of city texture and a part of urban services, it cannot be separated from the needs of urban community and green space from quantity and quality aspects should be based on physical volume of city, buildings and conditions of streets, roads and population needs from mental aspects, leisure time and health needs. City ecology can be made that as an active green space can have continuous environmental return and we can say the main purpose in green space design is achieving social and mental effects to make the human and nature closer to each other. We can expect social and mental efficiency of green space function in physical structure of city and its environmental function (Taghvayi, 2003, 41).

We can define the green space effects on citizens as follows:

- 1- Creating new job or work contexts
- 2- Recognition of some social indices (norms, values, subcultures, etc.)
- 3- Creating a suitable environment for recreation, leisure time (Babapour, 1999, 63).
- 4-

### **The health effects and aspects**

The evaluation of foreign scientists shows that in most urban regions, the air pollutant concentration is high as plants cannot grow well and pollution is not reduced considerably. Air flow and different pollutant resources have turned air pollution to regional concern. To reduce pollution from industrial and car resources, we should take a big step (Ashmid, 1975). If air pollutants are low, the plants are healthy, active and effective on reduction of air pollution. Kazem Beigi believes that if a project is beside highway in which pollution control is one of the important points, noise pollution control plants should be applied.

In industrial communities, people do sport less, for most people, bodily activities are not included in their routine life and they should be encouraged to do this. Attractive environments including green space can encourage people to participate in such activities. Based on the researches, it seems that green areas are preferred to made places as a place for recreational activities (Development group, 2003, 11).

Regarding the important role of green spaces in improving physical and mental health of citizens, we can refer the results of studies as:

- 1- Van Den Burg studies show that trees and forest view of park can reduce stress, enjoyment of view, reduction of anger and tension and increase of concentration (Van Den Burg, 2003, 139-144).
- 2- The view effects of trees and natural resources as reduction of stress, being in good mood, reduced blood pressure, increase of positive effects and reduced anger and aggressiveness as based on the results as achieved by Hartig (Hartig, 2003, 109-123).
- 3- The studies of Ottosson and Grahn show that old garden with fruit trees and variety of flowers can increase concentration (Ottosson and Grahn, 2005, 23-55).

### **Mental effects**

The important role of green space in relaxation is obvious. Soltandust stated that smell and color of plant were important parameters in plant design and it should be considered in selection of

type of plants as these parameters can have adverse effects on environment. Generally, we can define psychological effects of green space on citizens as followings:

1- Creating mental comfort

Besides the mental effect as achieved by being in nature and green space watching, we can refer to one example scientifically and it is Phytoncides generation. Some trees as walnut and pine, etc. release phytoncide as these materials make a person happy as it can make a balance between two hemispheres of brain and it gives nature state to human being (Alizade, 2002, 9-10).

1- Improving efficiency and performance efficiency of people

Living in cities and generally in modern life can make human life as mechanized and leisure time is reduced in this way and we cannot plan for long trips in our routine life. Thus, we are obliged to use low opportunity for leisure time as optimally and the best place is urban green space. By going to these spaces, living motivation is increased and performance efficiency is also increased.

1- The effect on behavior of people and their mind and behavioral dynamics

2- People staying under good mental and physical condition via continuous presence in green spaces as warm up, sport, in these spaces.

The reasons of development of green space

1- Development of urban green space to change local weather

By creating sub-cultures in each region, urban green spaces can affect its climate conditions and they are changed. The useful effects of urban green space on climate adjustment are fully recognized. Also, its role as weather regulation is considerable. Today, creating green spaces namely in metropolises of our country with polluted weather is necessary.

2- Creating green space to improve air quality

Due to population density and mechanized instruments and unsuitable location of factories in proximity of cities, in big cities all over the world, air pollution is a challenging issue. In Iran, namely in big cities, this issue has been a great problem. Urban trees play important role in improvement of air quality. Trees affect air quality by two ways: By direct absorption of pollutants and by adjustment of climatic conditions. The benefits of air pollution reduction due to tree planting and mass plantation of trees are much more than that of the total costs. These trees include the trees beside streets, inside parks, flower beds of houses and urban green areas. Today, in Iran air pollution of cities namely metropolises is turned into a great problem and to reduce air pollution, government has done various measurements as execution of various traffic plans, eliminating old cars, traffic of cars with odd and even numbers and encouraging people to use public transportation as bus, metro, tax, etc. and creating urban green spaces in suitable areas of city beside these measurements can help to eliminate this problem as unfortunately, urban green spaces are mostly located in the margin of cities instead of crowded areas with high air pollution.

3- Development of urban green space to improve water quality

If a country is turned into a city and population is concentrated in small areas, water pollution is also increased. There are two types of water pollution: Local pollution including factories and wastewater network and pollution with non-local source not being originated from definite source as it is based on streets, parking and other areas. To eliminate the pollution traditionally,

we can use wastewater treatment with sediment pond and water reservoir and filtering bed but it is a costly method and it needs maintenance and it is possible that it can not protect water quality and water-dependent ecological systems. Thus, replacing green space in cities for wastewater treatment is an artificial pond for purification of border of water. In these ponds, plants purify water, absorb food and convert many harmful chemical compounds to safe elements and avoid much environmental pollution of high humidity inside the cities. Artificial ponds are live systems and if plants die, the system doesn't work and its best privilege is its aesthetic value and creating ecology for urban life.

#### **4- Urban green spaces to control soil erosion and its fixation**

By his national development and progress, human being has disturbed environment ecology and it had adverse effect on environment. One of the main examples is soil erosion changes. Soil erosion is washing or losing surface soil (25-30) cm surface soil by water and wind. When dry soil without vegetation is exposed to wind, the surface soil is located as dust in an unsuitable location. To eliminate this problem, short and full leaf trees as consistent with climatic conditions are planted. Water is the most conventional soil erosion factor. *Deciduous* plants with their wide leaves avoid water erosion more than evergreen plants (pines and conifers) and the best plants to control this erosion are the plants with low depth plants in soil.

#### **5- The role of urban green spaces to attract tourists**

Normally, the nature beauty is one of the unique graces. People go to nature in their leisure time. Green space is used for resting. Most countries giving importance to attract tourists, they emphasize on green space to attract the tourists and they consider required features and components to attract tourists. Even for tourists in these places, temporary living facilities are created. Normally, the views with visual and aesthetic quality are born in mind but rarely other qualities as mod and feature, sensory attraction and cultural association and motivation of mind capability and instinct reaction are associated in mind. These qualities are the center of gatherings and absorbing people in a network of urban view. Urban green spaces can be effective on protection of historical view. This type of view is evaluated as natural cultural heritage with different criteria. This is used to create facilities for stable tourists with the aim of informing the public to historical views. Also, it is called cultural tourism. Thus, urban green spaces by protecting existing historical works in cities can play important role in attracting tourist and it can lead to economic, social and cultural development in city and civilization and culture of country are introduced to the people all over the world.

The studied area

Geographical situation of region

Region 2 is one of the developed areas in Middle and North area of Tehran city (Map 1). It is bounded on north to southern area of Alborz mountain, on west to Ayatollah Ashrafi Isfahani

highway district 5, on south to Azadi street and districts 9, 10 and on east to Chamran highway and districts 1, 3, 6.

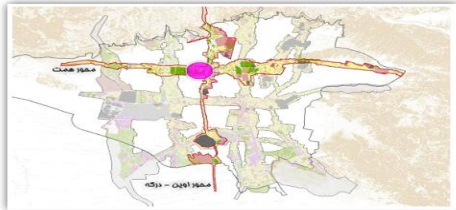


Image 1- The map of district 2 of Tehran, Source: Tehran Municipality site

### Introduction of plan area

The studied area with the area of more than 2hectares is located in central part of district 2 of Municipality of Tehran and in proximity to Milad Hospital. According to functional zoning of upstream plans, this area is predicted as higher education, administrative and leisure field. By its location in Evin-Darake intersection and Hemat (Image 2) and proximity with important and symbolic elements of Tehran city, Milad hospital and tower (as a turning point of exceptional situation and high potential for development) can be considered. Thus, identification of potentials and its strengths and presenting solutions to eliminate weaknesses to improve environmental quality are good domain of this study.



Image 2- Location of site area in Hakim and Hemat highway, Source: Researcher

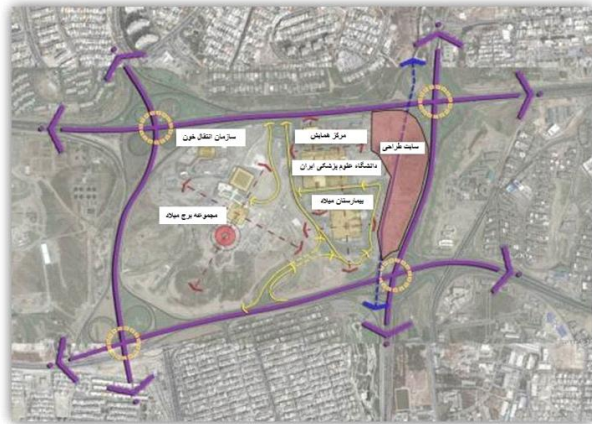


Image 3- The use around site, source: Researcher

## Findings

The goals of green space design in the site located in Chamran highway, beside Milad hospital based on the followings:

1- An ecological display of creating a central green core as natural breathing center

This idea followed creation of uniform green core in intersection of two main areas eastern-western of Tehran (Hemat) and northern-southern (Evin-Darake). These two areas as strategic corridors in Tehran play important role in ecology of city and they are the main natural vital parts of city. Green space of Hemat as the north most area of eastern-western (Image 4), spatial organization of city is the longest green space and it links the greatest forest park of city. With movement-natural role links the main elements of north green chain of Tehran as forest park of Qazal, Lavizan, Chitgar, Pardisan and Yademan complex. On the other hand, Evin-Darake green space as central area of northern-southern of elements as Evin and Darake vilalges, Goftego Park and Municipality specialized fair can be connected. The study area is located in overlapping of two mentioned areas. Also, it has high potential to form a green central core and the breathing center of city in proximity of Yademan and Pardisan park in eastern-western of Goftego park and green edge beside Shahrak Gharb (Image 5). Based on this idea, the mentioned site can be the central connection of two mentioned areas and links two urban green edges as a center. The proposed green core by using ecological forms and elements as greenhouse and plants center can improve air pollution in the region and in combination with urban green areas in north-south, east-west can develop this capability and can take a big step to achieve sustainable environmental development.





Image 4- Creating a central core as breathing center, Source: Tehran Municipality site



Image 5- The design area and its connection with Goftego park, Source: Researcher  
2-Creating paradise of happiness and health in ecology

This idea is based on the performance of neighboring use of area and tries to create a health center in city. Three triangle points forming this center (Image 6), human health center (Milad hospital), health center of flower and plants (flowers park) and an academic center as scientific support of these two (Medical Sciences University of Iran). After establishment of Milad hospital as the biggest health center of city, we need a center to control flowers health as live creatures with vital role in human life in present polluted metropolises. This role was effective from the beginning in human life. In recent periods, with technological and machine

progress after industrial revolution, this role was increased. With mentioned changes, life quality in cities is decreased and their health is reduced considerably. On the other hand, due to ignoring of vital role of flowers and plants in human life, most of species are exposed to extinction. Or due to ignorance of urban authorities are eliminated. By creating green space (living health center) in this area, the health of plant and human being is considered at the same time. Plants as live creatures can bring ecology happiness and guarantee health of society. The paradise of health is a set of performances of plants and human health with high potential to create research and educational centers regarding the life of plan and human being. The design area as a medicinal plant center and development of traditional medicine applying plants to cure patients can be considered and it has close affiliation with research centers of Medical Sciences University of Iran. These centers complement each other and with the motto “Protection of biodiversity of earth” guides the residents of city to a healthy and happy life.



Image 6- Establishment of health paradise, Source: Researcher  
3-A complementing center for connection with Goftego park

As the design area is located in northern area of Goftego Park and there is communication access among them, development of design area should be consistent with Goftego park (Image 7). According to this idea, the design area from performance and form aspects should be consistent with performance and role of Goftego Park as one of the most important parks of Tehran city and complement its role in spatial organization of city. Using form and performance concepts and proposing consistent use with Goftego Park can introduce two areas in a uniform whole as a jewel in a city to fulfill leisure time of people.



Image 7- The relationship of the design area with green space areas, Source: Researcher

#### **4-Establishment of a tourism center at international scale**

Based on establishment of design area around performance and symbolic elements of city accepting many visitors daily and attractive nature of Milad tower complex, creating a tourism center at transnational level in this area can be taken into attention. Milad hospital with high visitors not only presents health services in city but also at national and transnational levels. These people as tourist besides using health services need other services as residential and recreational facilities. Thus, Milad tower and Pardisan park with collection of attractive performance as restaurant and coffee shop and conference centers on the other hand, design area as a unique center of green space and flower can be a good performance complementation for therapy services of hospital and blood transfusion center and this complex is turned into a tourism center at international scale.

#### **Discussion and Conclusion**

If the city is the civilization center of contemporary human being, the happier, greener, the higher the comfort and normal human development. Urban spaces are important and main use of cities and it is one of the development indices of communities and it is criterion to improve life space quality. Urban green space is used as an element for order and consistency of various use in city structure and factor in environment beauty of life space. Based on important functions of urban green space and their important role in sustainable urban development, we can say creating good green space, can be a solution for many urban problems and besides improving the quality of view, is effective on aesthetics and identity perception and it can prevent economic and physical elimination of life quality reduction, pollution, density and migration of average class from city center and vitality is brought to central areas of city and the surrounding and people are encouraged to voluntarily presence. Based on the components and principles of sustainable development and their relationship with green space, by development of urban green space, we can get close to the goals of urban sustainable development. In this study, green space in physical environment of life as in contemporary cities of site is located beside Milad (Chamran-Tehran Autobahn) and it can be a turned to a green breathing core and tourism center and it is considered by architects, urban planners and urban planners and it can be a communication complementation with Goftego park and in fulfillment of contemporary human needs can improve quality of city and mental health and in next steps can lead to the link to meaning field and individual actualization is provided.

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