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Research Article

Design of the Edge of Tehran (Northwest Edge in the Area of Kuhsar Park)

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Abstract

The metropolitan area of Tehran has undergone various changes for a long time. The most important reasons for this have been multiple purposes over consecutive times to create an edge around Tehran. Once, the city's edge was defined with artificial elements, and a specific area was considered for it to provide security within the city. After a while, the issue of security was ignored, and the city started expanding rapidly. Today, we see that it has become a vast area from the southern slopes of Alborz to the central desert and covers an area of 642 square kilometers. The expansion of the city and the increase in population requires the critical issue of stopping this process by defining the boundaries, reducing the damage caused by it, and increasing the quality of life for the residents. This article attempts to make a new proposal to create an edge around Tehran that encloses the city like a ring within itself and acts as a joint between the inside of the city and the suburbs. The northern mountains of Tehran, which are the most critical and dominant natural edge, can provide the viewers with a day and night view of the city at a glance. Part of it has been selected as the intended site for design in the following article.

Keywords: *Urban edge, tehran, nature.*

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Introduction

Delimitation of cities in the past was done for various purposes. Initially, it was done to provide security inside the city by building battlements and towers around it. This took place for the first time in Tehran during the reign of Shah Tahmasb Safavid. After a period, security was ignored, the battlements were broken, the ditches were filled, and the city started expanding rapidly. Thus, old Tehran, which had a medieval and enclosed identity, gradually became a modern city with no more battlements and fences. The area of Tehran at a time when it had expanded at an unprecedented rate reached the southern lands of Naziabad and Qale Morghi and Shahre Rey from the south, New Tehran and Narmak and the west of Tehranpars and Sorkheh Hesar and Telo from the east, and the lands of Yousefabad and Amirabad, Vanak, Kan and Mehrabad from the west, and advanced from the north to Darband and the slopes of Touchal Shemiran. In 1965, to organize the uncontrolled growth of this city, which was called Greater Tehran, the Comprehensive Plan for Tehran was raised for the first time. This comprehensive plan became known as the Twenty-Five Year Plan. Finally, the current area of Tehran was defined according to the Twenty-Five Year Plan of Tehran in the first comprehensive plan (1970) and the city's limits, especially the levels defined for it in the north of the town, in the second comprehensive plan (1992), and the approvals of the Article Five Commission of Tehran in the third comprehensive plan (2007). In the distant past, unlike present-day Tehran, Tehran was a green carpet of impenetrable gardens and orchards, within which the shelter of its strange inhabitants was located. Chenarestan was the name by which Tehran was known in the past due to the large number of sycamore trees that had somehow acquainted people with its nature. During the issues raised in the discussion of development strategies in the main document approved by the Comprehensive Plan for Tehran in 2007, organizing and protecting the area and preventing the expansion of Tehran city is one of the critical policies in this plan. Urban sprawl happens especially in cities where land is highly valued. Since the city is bound to grow and expand and there will always be an increase in population, therefore, it is necessary to use strategies and tools to manage and grow the city and to prevent further waste and destruction of suitable agricultural lands in the suburbs with adequate control of horizontal expansion, and to reduce the negative consequences of this type of urban development. Urban edges are one of the most critical skeletal elements of a city. In Iranian urbanism and natural boundaries, regular fences, battlements, and numerous gates to enter determined the territory of the town. In the contemporary era, the defense elements of cities have changed, and physical fences have

been replaced by electrical equipment, satellite equipment, and political relations. Following that, urban edges are defined with new concepts such as green belts, suburban parks, etc.

Theoretical foundations have subsets of theoretical ideas of perception, which are stated below.

- **Temporal Aspects of Perception**

Perception: Perception is the experience of something by our sensory organs, stimuli, i.e., the external physical conditions, activate the sensory organs and initiate the process of perception, thus awakening hidden perceptions in mind.

Factors affecting perception: Unlike emotion, which is entirely a function of a stimulus, perception depends on many factors. Many factors such as age, gender, emotions, previous learning, expectations, motivational states, various emotional states, decision making, and will of a person, etc., affect perception. Therefore, perception cannot be considered just as a particular response resulting from a specific stimulus because the perceiver makes mental inferences and makes decisions with special attention and general activity. Cognitive processes such as memory and thinking also play a decisive role in this decision-making.

Ecological perception: This approach contradicts the concept of uniformity in Gestalt theory and the interpretation of the role of experience in perception as proposed in action theory. Instead of considering the senses as sensory channels, this approach finds it as a perceptual look.

The capability of perceiving and learning: Sensory organs convert emotional stimuli into pulses. They reach the brain through the central nervous system. The brain, like a computer, has the maximum power to learn; that is, the brain can receive a certain amount of information in one unit of time. If it were not for this limitation, a human being, for example, could be capable of comprehending everything that is recorded on a geographical map all at once [1].

The effect of meaning on the perception of objects: The importance of objects for the perceiver is like "feedback," which affects how the perception is organized. In situations where the stimulus is not clear enough, this quality is easily visible.

Environmental perception: Perception can be considered a purposeful process in which a person receives environmental messages derived from the culture and structural values

governing human societies. In this regard, ecological perception is when human beings receive the necessary mental data and ideas from the environment.

Time: It is the transformation of the essence of natural systems and cultural systems. The environment and landscape can be described as the momentary expression of the factors that have shaped the world. This brief expression is mortal and fleeting because the natural and cultural environment and landscape are constantly transforming; this is transformation; one of the critical considerations in design is environment and landscape. Meanwhile, we experience the environment and the landscape as a series of perceptions that are shaped over time. When designing, we should keep in mind that our spatial experience is a temporary experience in the context of past observations awaiting future observations. Therefore, arranging temporal aspects of perception is of particular importance for the dynamic experience of place [2].

The landscape of today's big cities during day and night makes a different face of the city visible to the users of urban spaces. Collective urban activities shape part of this landscape during the night. The other part is shaped by the visual aspects of urban spaces, which are hidden from view during the night under a dark curtain and can only be seen with artificial lighting. These two aspects, namely urban spaces as a platform for collective activities of citizens and images and landscapes of the city at night, together help create the audience's perception of the city at night, called the "night view of the city." In metropolises, due to a large population and the interference of citizens' activities, the city is dynamic during the day and night, and life flows through it. In these circumstances, it is essential to create urban spaces to prepare appropriate contexts for the acceptance of citizens' night activities. The presence of citizens in leisure time, who have more time to engage in collective activities, leads to a better understanding of the urban space, which, if this issue and the formation of suitable contexts are considered, we can create common collective memories and a city with better identity for citizens [3].

Urban spaces are nodes and paths that, while being enclosed, should also have relative activity and vitality. Such spaces must necessarily have unique physical and perceptual characteristics to be able to create and maintain life. Lan Bentley is, in fact, a phenomenon that presents itself as believable objectivity to its users.

Theoretical İdeas of View and Perspective

The city is the reflection of the history and social civilization in which people live. It is the result of many centuries and the thought and achievement of various efforts, each of which has a remarkable contribution in shaping the urban environment. The city's landscape is the

citizens' perception of the town, which is obtained through its symbols. The dependence of understanding the landscape on the history of presence in the city causes various layers to be recognized for the landscape. For tourists, who have no experience with its symbols, the city is nothing but a body. But the presence of characters, which represent the events and memories of citizens from the space, express the history and essential points of the city for its residents [4].

At first glance, urban landscapes are static and immobile. Thus, they are called immovable. But the urban landscape expects people to move. This is the viewer who needs to move across it to understand the urban landscape fully.

Moving needs time. Experts have considered the importance and role of time in the perception and formation of cities and their landscapes.

According to Sue Clifford, time is a period of our lives, which man will be more enticed by than place. Patrick Geddes explains the importance of understanding cities in a temporal dimension. "A city is more than a place with space; a city is a show in time," he says. "Cities are a product of time," says Lewis Mumford. "They are the molds in which men's lifetimes have cooled and congealed, giving lasting shape, by way of art" [12].

Applying some design principles and ideas is a requisite for man's proper and appropriate perception of the urban perspective while moving or over time. These principles, which can be inferred mainly by relying on the theories and opinions of experts and scholars in the field of urban landscape, are interpreted as follows:

The theory of "serial visions" that Cullen emphasizes. He believes that although the pedestrian walks through the town at a uniform speed, the scenery of towns is often revealed in a series of jerks or revelations, which are revealed by walking from place to place in series and get in front of the pedestrian.

In order to demystify the concept of interaction between man and the environment and other related concepts, it is necessary to explain the place of this concept in the process of urban landscape. This interaction is noteworthy in the physical realm of the city entrance and within it, although it can be generalized to other realms of the city entrance, including the visual and psychological realm, what is expressed as the urban landscape is the body that is inside the city's context and not outside it, hence, this interaction is more tangible in the physical realm

of the city entrance. The mental model of the relationship between man and the environment shows that there is a mutual relationship between the characteristics of the urban environment on the one hand and human perception, cognition, evaluation, and behavior on the other.

Research Background

The location of Tehran in the foothills of the Alborz mountain range is the main origin of the creation and development of Tehran and has provided the possibility of recreational use of these places for people. Irregular development and disregard for environmental considerations in Tehran in the last three decades has led to the destruction of mountainous nature in the north of Tehran and the surrounding plains. Given that mountains are a natural heritage and vital sources of water supply, how to preserve this heritage is the responsibility of all members of society. Currently, the lack of a suitable model for mountain visitors has caused all hospitality and service units located in the mountains to become a factor of nature destruction, and this is while according to existing laws, the development of Tehran at altitudes above 1800 M is illegal. In the comprehensive plan of Tehran, approved in 2006, the importance and necessity of preserving and developing the river-valleys of Tehran as the respiratory lung of the city has been emphasized. The main goal of the project is to create a large public space with a major recreational function and combine it with the body and the city by involving natural elements, in order to create ecological sustainability in the westernmost region of Tehran.

While the optimal use of these natural gifts and linking urban spaces to existing natural spaces, while meeting human needs, will ensure the durability and survival of the natural environment and will lead to environmental sustainability [29], in an article under Title of planning the revitalization of the river valleys of Tehran, a case study of the Velenjak valley, concluded that the regulation of construction, protection of views and open landscapes and various landscaping and turning it into a suitable place for various ceremonies and... can be effective in revitalizing the Velenjak Valley River [30], in a study entitled The Power of River Valleys in the development of the city A case study of the Farahzad Valley River concluded that in many areas of the city it is possible to reform the structure to create pedestrians There is no way [30], organizing river valleys can be implemented as an opportunity to create a pedestrian network in the northern areas of the city. The Edmonton Office of Sustainable Development Planning in the Saskatchewan Valley River Development Project provides insights into the River Valley, including the creation of large amusement

parks, the construction of residential areas on part of the River Valley, and the control of the River Valley by a Comprehensive Management [32] A study of Red Valley River rehabilitation in the region also roams the state of Idaho and concludes that River Valley rehabilitation should improve water quality and create a suitable environment for fish habitats [33]. And colleagues in Handbook of Good Ways to Plan Natural Systems, Ways and Ways to Enjoy River Valleys, River Valley Wildlife, and Policies for Municipalities.2. Tehran in the context of history.

The land of ancient Rey consisted of famous cities and villages, many of which date back to prehistoric times, and archaeologists in those areas have found traces from ancient times that indicate ancient civilizations. These areas, which included 17 villages in the third century AH (816 CE – 913 CE), can be divided into two regions in terms of natural condition:

- Mountainous region: included the northern parts and part of the eastern and western parts and continued to the border of Mazandaran, and due to the cool and temperate climate, had a summer aspect for Rey. This region used to be the summer residence of the officials and rulers of ancient Rey from a long time ago, and there they built high palaces for themselves.
- Plain region: covered most of the southern, southeastern and southwestern lands of this region and reached Qom and was torrid [5].

The four gates that were located around Tehran at this time were as follows:

1. Hazrat Abdolazim Gate or Isfahan Gate on the northern front of the current Molavi Street, the beginning of the Gate Bazaar or Hazrati Bazaar. (Figure 1).
2. Dolab Gate at the entrance of Naib Al-Saltanah Bazaar in the current Rey Street.
3. Shemiran Gate at the entrance of Pamenar.
4. Qazvin Gate at the entrance of Ghavam Al-Dawlah Bazaar in the current Shapur Square [5].

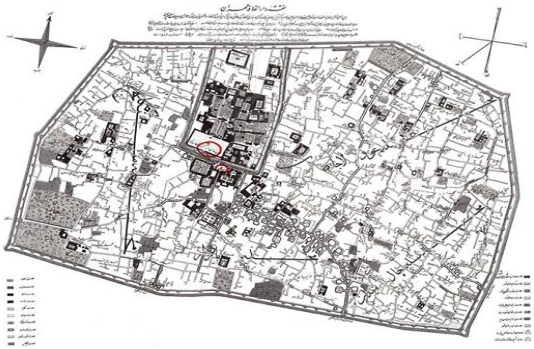

Figure 1. Map of Tehran Drawn by Monsieur August Karl Križ in 1275 AH (1858 AD) [6]

The fundamental development of Tehran began from the time of Reza Shah, but the development reached its current stage of perfection during the reign of Mohammad Reza Shah and the city's face completely changed. Tehran expanded unprecedentedly from 1941 onwards. In 1950, the area of the city was approximately 80 square kilometers, which was managed by twelve municipalities. This area has now reached approximately 230 square kilometers. Now, the boundaries of Tehran reach Darband and the slope of Touchal Shemiran at an altitude of 2200 meters from the north, the southern lands of Naziabad, Qale Morghi and Shahre Rey from the south, New Tehran, Narmak, west of Tehranpars, Sorkheh Hesar and Telo from the east, and and the lands of Yousefabad and Amirabad, Vanak, Kan and Mehrabad from the west and it is called Greater Tehran [7].

From 1965, the issue of the Comprehensive Plan for Tehran was raised to organize unplanned growth of Tehran. Until a group of consulting engineers prepared a comprehensive plan for the Tehran zone and offered plans to realize it so that Tehran could build the future based on that plan and gradually improve the current situation in Tehran based on those predictions. This plan was called the Twenty-Five Year Plan [13].

Finally, the current area of Tehran was defined according to the Twenty-Five Year Plan of Tehran in the first comprehensive plan (1970) and the city's limits, especially the levels defined for it in the north of the city, in the second comprehensive plan (1992), and the approvals of the Article Five Commission of Tehran in the third comprehensive plan (2007) [13].

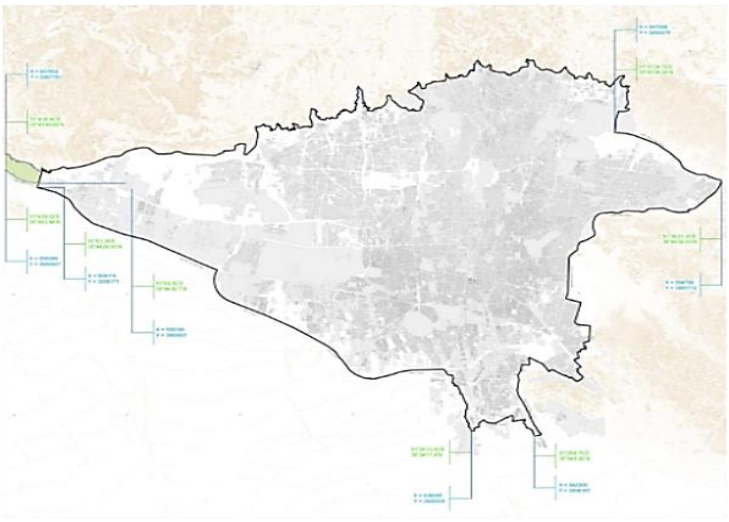

Figure 2. The Area of Tehran City [8]

Definition of Greenbelt

It is a green strip of trees and shrubs that is placed around cities and has a multifaceted function. Greenbelt are mostly used to protect cities from pollution, air conditioning, dust screening, renewing the city boundaries, its outer expansion, and separation of the inner part of the city from the buffer zones [9].

A mass of green space that is created in order to improve the environment and for the purposes of using its environmental role regarding the phenomenon of urban heat island, and its side purpose is to prevent the uncontrolled growth of the city and also the possible protection of the city against adverse external factors [10]. Greenbelt is a permanent community of the green towns. Greenbelts are not only around mountains and cities and rivers, but they can also be around houses and subway stations and highways [11].

Considering the current situation of cities, urban trees are closely related to the internal needs of the people. In the orders of the Supreme Leader, the main objectives of management in the field of natural resources have been explained in the two sections of culture building and public participation. The Municipality of Tehran, by obeying his orders, has put it at the forefront of its activities. Therefore, in the year of "movement of serving the people" in the week of natural resources, it has planned extensive activities under the title of "Green City Movement" with the following objectives:

1. Spreading and promoting the culture of green space among different strata of the people
2. Organizing and attracting the participation of governmental, non-governmental organizations and the general public in urban green space activities in this regard [14].

Figure 3. Tehran Spatial Organization [8]

Questioning the patterns can be seen in architectural works from about 2,000 years ago, and from Vitruvius, who in his famous works "Ten Books" categorized various types of Greek buildings, including houses, temples and public buildings, in order to achieve their pattern, to date, dozens of books and treatises have been written on typology and pattern development, all emphasizing the role and effect of patterns in design, and this issue has already been discussed in many universities around the world [15].

The important point is that addressing the patterns as a result of the mentioned research was considered as a second-hand subject or did not lead to a clear, real and usable pattern, or sometimes achieving the classification system of types was considered as the product. Some have addressed only the superficial criteria of the patterns in their shape and function and have presented the results in the form of a diverse set of various states of form and space.

Language and linguistics have been considered and used in recent decades in various fields, including architecture and urban planning. Some researchers introduce a pattern language for urban design based on language structure. They have tried to develop the depths of the language of architecture. Also, in the same decade, Michael Graves proposed a metaphorical architectural pattern by considering architecture as a meaningful cultural system and using the specific concepts of linguistic theories. Charles Jencks, in his famous book The Language of Post-Modern Architecture, critiques modern architecture using all the experiences of postmodern architecture, and describes the characteristics of postmodern architecture including its broadest sense urban design using linguistic concepts. These experiences and other studies in this field show that linguistic theory can be a good theoretical foundation for the development of non-linguistic theories in other fields as well as urban design [16].
Throughout the history of this series of thoughts on pattern, Christopher Alexander's reference to the famous theory of the "pattern language" is the first clear point in the presentation of practical patterns intertwined with life, which addresses the topic in terms of occurrence of patterns in the environment and its experiences have been adopted as a suitable approach for the methodology of the present research. The criticism that can be leveled at him is testing the attitude comprehensiveness and referring questions from the pattern to their existential roots so that no ambiguity remains in the possible qualities and states and the meaning of the patterns. These states are not mentioned in Alexander's theory, and the study

of the quality of patterns is limited to the moment of their occurrence in the environment or behavior [17].

Objectives and Principles of Green Architecture

Green architecture or sustainable architecture is one of the new trends and approaches of architecture that in recent years has attracted the attention of many contemporary designers and architects around the world. This architecture, which arises from the concepts of sustainable development, seeks to adapt and harmonize with the environment, one of the basic human needs in today's world. The purpose of creating green buildings is to improve the climate, prevent the loss of energy used for cooling and heating, and prevent the negative effects of construction on the environment. Before anything else, a green building needs a creator like anything else. This means that creating a green building will help and support the health of the person who lives in and around it, and will make them satisfied and useful. This requires the careful application of certified strategies in architecture. The use of sustainable nature and a sufficient source of materials and reliance on the sun for heat, electricity and daily lighting, and the reuse of the waste of an alliance and the delicate building integration produce these strategies. However, it should be noted that the transformation of human culture depends on a foundation and changing the basic structure of the human soul and nature. We should rediscover our union and interdependence with something far greater than ourselves. The natural world is a spiritual realm that excels in everything. First, person, and then society, this is Bolozov's idea. He believes that we must force both groups to agree on the facts of life in the world [18].

Green design is an action to solve problems in which natural resources are minimally damaged before and after the production and construction process. Furthermore, in the process, materials must be useful, have a long useful life and can be returned to the natural cycle. Long-lasting things are both useful and the biggest barrier against extravagance and waste, and this is better than reusing or recycling them [19].

Every building should be designed and constructed in such a way that the need for fossil fuels is minimized. The necessity of accepting this principle in the past ages is undoubtedly undeniable considering the way of constructions, and perhaps only due to the great variety of new materials and technologies in the contemporary era, such a principle has been forgotten in buildings and this time with the use of various materials or with different combinations of them, buildings, it changes the environment according to the needs of users. It is noteworthy

to mention the theory of bio-complex, which stems from providing shelter to survive the cold or creating a cool space for people to live, for this reason as well as the presence of other factors, people would build their buildings side by side for many mutual benefits. Buildings that are built in interaction with the local climate and in an effort to reduce dependence on fossil fuels carry a more unique experience than today's conventional apartments, and are therefore seen as unfinished efforts to create green architecture. Many of these experiences were also the result of individual work and effort, hence, it is clear that it is not considered as a sustainable principle in designs and constructions of today's society [20].

Buildings should be designed to be able to use local climate and energy sources. The shape and location of the building and the location of its interior spaces can be such that it enhances the level of comfort inside the building and at the same time reduces the consumption of fossil fuels through proper insulation of the structure [21].

Each building should be designed to minimize the use of new resources and, at the end of its useful life, provide a source for other structures. Although this principle, like other principles mentioned, is oriented towards new buildings, it should be noted that most of the resources in the world are used in the current artificial environment, and repairing and upgrading existing buildings to reduce environmental impact is as important as creating new structures [22].

Every building should touch the ground gently and lightly. Australian architect Glenn Murcutt makes the strange statement: A building should touch the Earth calmly and lightly. This statement has a feature of the interaction between the building and its site, which is essential for the green process, and of course has wider features. A building that greedily consumes energy produces pollution and is alien to its consumers and users, so it never touches the ground lightly [23].

We know green buildings as buildings that have little negative effects on their surroundings. Architects today should try to use the tastes of the general public, contrary to the custom of pursuing popular and market tastes, in such a way that architects have the ability to accept green architecture as today's current decorations. The requirement for this and public acceptance is to use the taste of the architect in the design of green buildings, just as various European, British and American architects place great emphasis on the study of indigenous and green architecture [24].

Research Methodology and Site Context Studies

In this research, a qualitative method is used and the researcher studies and observes and analyzes it. The research method is based on content analysis, landscape and then heuristic analytical method regarding the nature of the view, perception of the city and the structure of the natural edge of Tehran. Conceptual materials of urban edge design with the focus on city view and perception of its natural structure can be deduced. District 5 of Tehran is one of the areas where a part of the foothills south of Alborz is located in the north. Factors such as geographical location, increasing growth of urban development, the proximity trend of centers and development axes in the central regions caused the area to have a special place in the construction of the city of Tehran in upstream plans and projects. The necessity of providing the above goals and plans in creating a greenbelt in the northern part of the city, along with the necessity of protecting the lands of northern Tehran from the invasion and development of urban constructions, caused the mentioned issue to be raised and approved in Tehran Article 5 Commission dated December 9, 2002. In this decree, the preparation of a strategic and detailed plan for Kuhsar Tourism Complex was entrusted to the Municipality of Tehran, and the Municipality of District 5 put the mentioned plan on the agenda of selected consulting engineers of the district (Sharmand) to develop strategic and, subsequently, detailed plans for the lands within Tehran city [25].

Studies of the Current Situation and Determination and Scrutinization of the Plan Area

In this article, considering the importance and place of Kuhsar Tourism-Recreational Complex, which gives it a trans-regional and sometimes trans-urban position, it was necessary to assign a part of the report to introducing the internal structure of District 5 and its relationship with the desired area before determining and scrutinizing the plan area.

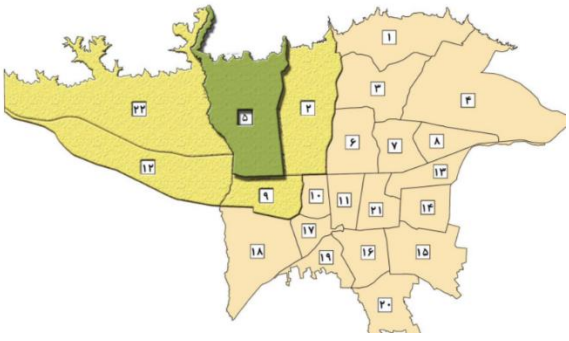

Figure 4. Location of District 5 in Tehran city

Location of Kuhsar Tourism-Recreational Complex

Kuhsar Tourism-Recreational Complex is located in the north of District 5 and between Farahzad and Kan. According to the divisions made, this complex has been divided in the section of lands located in the area and lands within the city of Tehran, the boundaries of the above lands within the area of District 5 are as follows:

1. Northern limit: to the line of the northern boundary of Tehran city, corresponding to the level line of 1800 and 1600 meters.
2. Southern limit: The 35-meter Hesarak Boulevard.
3. Western limit: Kan river and Sulqan road.
4. Eastern limit: Farahzad valley.

This complex includes all lands located in the north of 35-meter Hesarak Boulevard, except for the lands designated as exceptions, up to the northern part of Tehran city with an area of over 601 hectares.

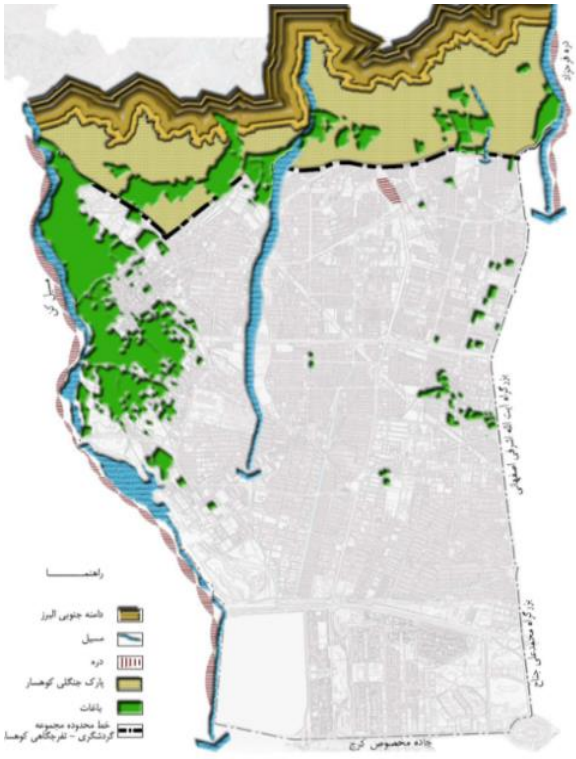

Figure 5. The Area of Kuhsar Tourism-Recreational Complex

Identifying the Valuable Sources of View and Landscape in the Region

Existence of valuable landscapes in an area is considered as one of the important tourist attractions and resources that if they are identified and used optimally, it will be possible to improve the quality of the environment as much as possible. For this purpose, in this section, an attempt has been made to identify valuable sources of view and landscape in the region [26].

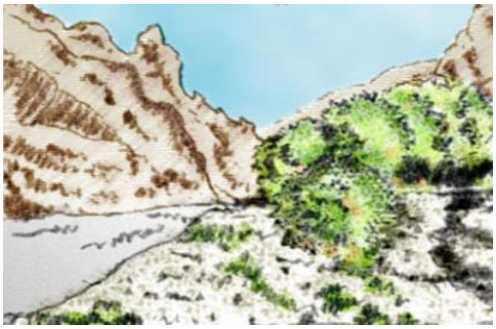

Figure 6. Sketches of Alborz Slopes

Given that the highest level of the study area is located in areas above 1400 meters, the general situation of land use is that not many major land uses are established in it and there are land uses with many open spaces abandoned in this area so that the main part of the existing uses is dedicated to green space including parks, gardens and green space, residential use consisting of several towns and villages. Most of the constructions made in this area, which have a specific definition, are also located in the distance of Farahzad river to Vasak stream (except for the villages of Marabad and Hesarak), including the construction of the 35-meter Hesarak Boulevard and Shahid Eshaqi Boulevard, Kuhsar town and Naft town. On the other hand, due to the lack of any route or construction, there is no definition in the area between Vasak stream and Kan River.

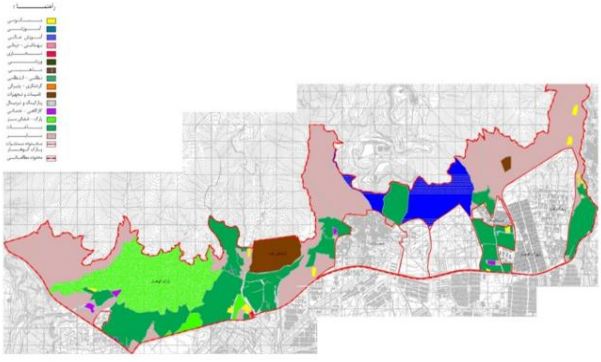

Figure 7. Land use In the Current Situation of the Study Area

Investigating the Location of the Area in the Upstream Plans and Alborz Foothill Plans in the North of Tehran

Considering that it is necessary to be aware of the general strategies and policies of the upstream plans in each project and to pay attention to the principles contained in them, the desired area and its place in the comprehensive plans of 1968 and 1991 have been studied. It is worth mentioning that because the study area has not been discussed with the current limits and boundaries in the mentioned plans, in this article, we only address general viewpoints and strategies presented that are somehow related to the current role and position of this area [27].

Investigating the General Situation of Tourism in the Area

As can be seen in Figure 8, District 5, while having unique natural and cultural-historical capabilities in Tehran, does not benefit from the existence of major tourism centers due to the lack of proper planning in the optimal and actual exploitation of the above-mentioned capabilities as well as the failure to implement the planned projects. Tourism and leisure at the macro level are mainly limited to multi-purpose recreational and pilgrimage uses in the mountainous lands of the north of the region (such as mountaineering and nature tourism, etc.) due to factors such as good weather, the existence of Kuhsar Forest Park, the tomb of Imamzadeh Davood, as well as gardens, reception centers, sports complexes and Eram Amusement Park located in the southwest of the region. Therefore, most of the tourism and leisure needs of the region's residents are met through the large leisure-recreation areas of the surrounding regions.

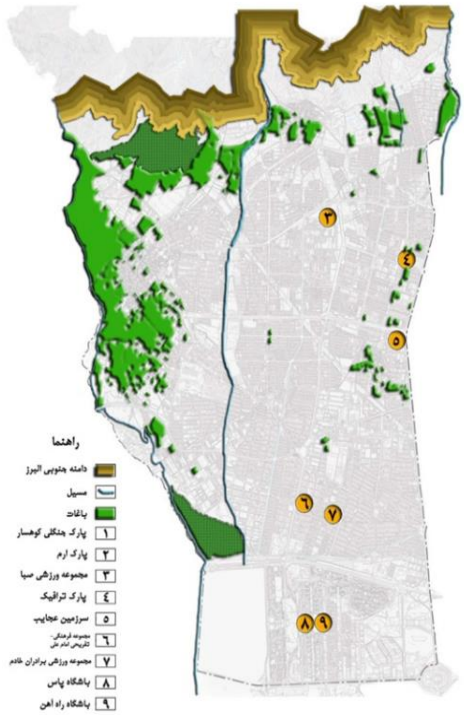

Figure 8. Major Leisure Areas within the Region

In recent years, due to the global approach to the principle of sustainable development, which depends on environmental, cultural and economic sustainability, as well as the inclusion of the tourism industry as one of the most important industries and most lucrative resources that include many economic, social, and cultural benefits, there is a need to address the tourism industry in the country. Therefore, carrying out various planning and tourism measures at the national level was put on the agenda. In this regard, the city of Tehran and especially its fifth urban district and its suburbs, which have been welcomed by the people of Tehran due to the unique natural and artificial capabilities for a long time for performing sports activities, leisure, and pilgrimage while lacking proper tourism facilities, have a special place. According to the above-mentioned necessities in recent years, projects and planning have been made for the development and prosperity of tourism and the optimal use of natural capabilities in the region and beyond with emphasis on the following objectives:

A) Preservation and restoration of existing natural values.

B) Creation of facilities for leisure and recreation.

The study area is considered as one of the foothill lands of Alborz mountain and is located in the north of region 5 between Farahzad and Kan valleys and due to having prominent capabilities, it has a special place and role in upstream plans. In addition to the macro strategies of comprehensive plans, several special plans have been prepared in this regard, including the Comprehensive Plan for Kuhsaran. But what is tangible now in District 5 is that due to the lack of utilization of existing capabilities, lack of tourism facilities and also the failure to implement the planned projects, the region in an unfavorable situation in terms of tourism. The area being located on the foothills of the southern slope of Alborz overlooking the city of Tehran creates novel view and landscapes from inside the area to the city of Tehran and vice versa. On the other hand, having a very good climate and clean air provides the ground for tourism and spending leisure time in the area more than before. Furthermore, the advantages of having communication networks in District 5, both at the micro and macro levels, due to the passage of several first and second degree arteries through the area, provide a suitable ground for optimal use for the role and function intended in the upstream plans for District 5. [28].

Figure 9. Kuhsar Park Area and its Neighborhoods - Source: Author

Design Area

Part of the Kuhsar Complex, which was selected as the site, is in the form of a gorge at the level of 1600 meters in the northernmost area of the complex, which includes the edge of Tehran city. In the middle of this gorge, there is a seasonal river that divides it into two parts.

Figure 10. Location of Kuhsar Park in Area 1, District 5

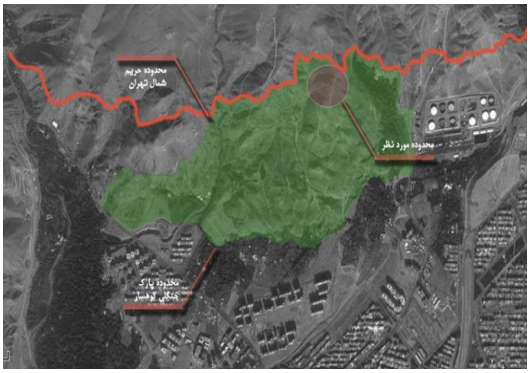

Figure 11. Location of the site in Relation to the Area in North Boundary of Tehran - Source: Author

Access to the site is possible through a road that runs in a belt around the complex. A side road, branching from this belt, has been designed as a special route to enter this complex and people can enter the site from the high part of the gorge.

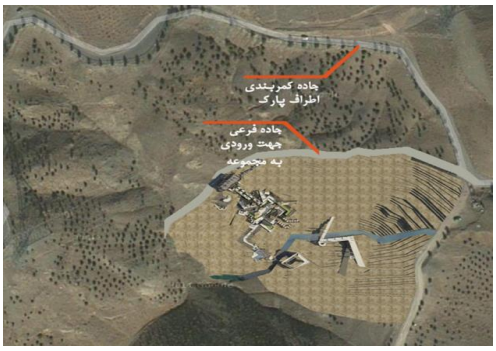

Figure 12. The Route for Entrance to the Complex- Source: Author

Design Concept

In addition to the features mentioned, there is another reason for choosing this gorge, and that is the view and dominance that exist in part of it on the silhouette of the city of Tehran. According to the studies, a kind of strategy has been considered in the design and that is the framing of Tehran nature. Framing in a bed of mountain nature that frames the silhouette of Tehran with pieces of stone and soil. This is a description that is created in the mind of the audience by standing and looking within the Area 1 of the site. The entrance to Tehran view from the northwest edge is completed with sycamore trees, which is the symbol of Tehran (former Chenarestan).

Figure 13. Silhouette of Tehran - Source: Author

Area 2 also gives a view of the mountain, which is again framed with the elements of the site bed and forms a frame in which the valleys and mountain slopes are painted.

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Figure 14. Slopes and Natural Bed of Tehran Mountains - Source: Author

Both in the first area and in the second area, the main purpose has been to strengthen the first plan (framing), which is made of natural elements existing on the site and is one of the strengths of the selected area, in order to strengthen the second, which is a view of Tehran and a view of the mountains of Tehran. This idea created the mentality that we should actually choose the first plan and be able to see Tehran better through it. From this height, only a silhouette of Tehran's view can be seen, whether it is its buildings, skies, signs and streets, or its familiar and memorable mountains, which have been associated with the people of Tehran for many years and are an integral part of the landscape of Tehran.

In Area 3 of the site, the perception of the mountain's sense of place engages the mind of the audience. Touching nature, direct and close connection with it, moving through the mountains are some of the points that can be considered as strengths of this part of the site.

Figure 15. Sequencing of Design Bed - Source: Author

Design Techniques

In the first stage, two types of human behavior were considered in the design: movement and stillness.

The combination of static and dynamic spaces forms the general policy of the design process. For these two types of space, two different geometries were considered. The existing framing on the site is created with a combination of static and dynamic spaces made of the site bed. The first geometry was considered for spaces with power of degree 1 and the second geometry for spaces with power of degree 2. Powerful spaces were placed at the entrance and

in the center of the site, and the rest serve them in a lower degree. The logic of power and the logic of power attachment govern this type of arrangement.

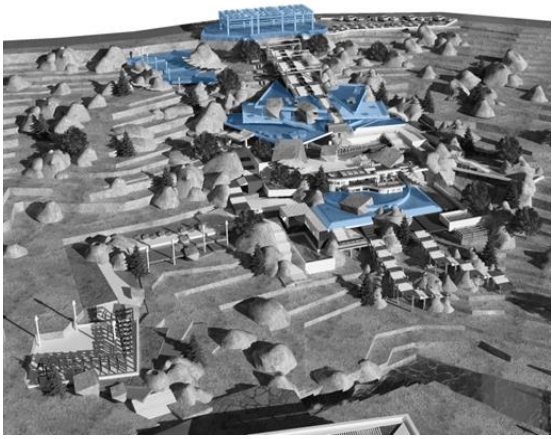

Figure 16. Static Spaces

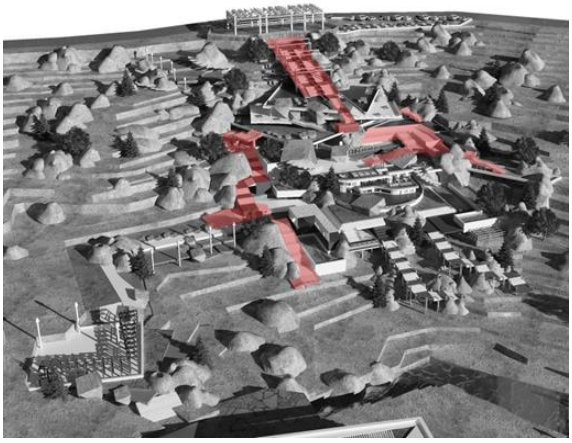

Figure 17. Dynamic Spaces

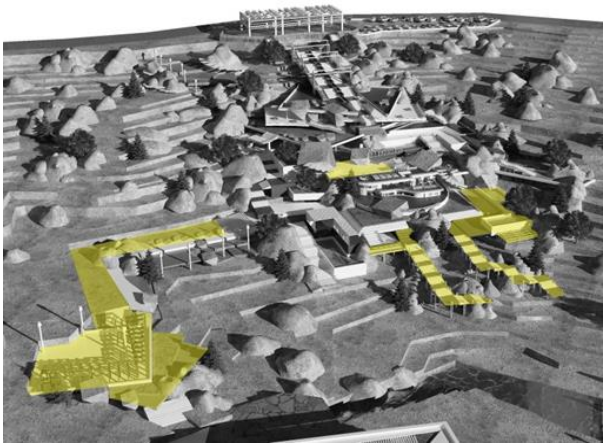

Figure 18. Spaces Sharing the Same with Nature

The founding idea of this type of placement and arrangement has been that people use this space to watch, relax, sit and enjoy nature. The goal here is not the hustle and bustle we see in the Darband, Darake and Touchal mountains. Therefore, as mentioned, the first plans were considered to frame the nature of Tehran and its mountains to meet the main goal of the audience of this place, which is to sit and watch. The structure of the edge of Tehran is a heavy structure that induces the audience to sit and enjoy the nature of Tehran in peace.

Another point that was considered in the design is the combination of a geometric structure with the organic structure of the site bed. Nature with its form is considered acceptable and respected here and without any interference in it, it is only combined with geometric forms. In fact, it has been attempted to create maximum landscaping with minimal interference in nature.

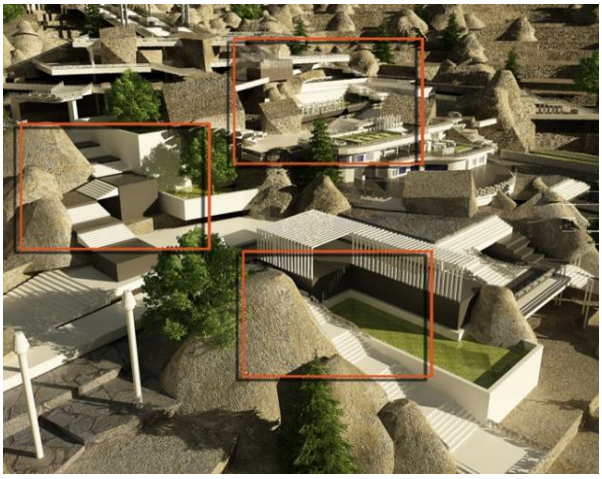

Figure 19. An Example of Combining Geometric Forms with Organic Forms of the Site

Discussion

In various articles, various urban edges, including historical edges (markets, government citadels, towers and fortifications, and (... new or artificial urban edges (highways, etc.)) and natural edges are mentioned. The latter is the subject of this article.The natural urban edge The natural urban edge is the result of the adaptation of the urban edge and natural features.If the natural linear element can play a role in the spatial organization of the city, it can act as a natural urban edge, if this substrate is capable of Does not play a role in the spatial organization of the city, man can create it artificially.The natural urban edges that result from the adaptation of the urban edge and natural features, in addition to the effect they have on the appearance of the city can also be used as a The Berlin Wall is an artificial urban edge and the Seine River in Paris is a natural urban edge. The difference between the present study

and previous studies is related to the research method. According to the four indicators of sociability, comfort, access to services and urban edges and a sense of place in the eyes of currency residents It should be noted that no such method has been used in any of the previous studies.

- In this research, the design area, using the gorge at the site of the mountain complex and the river that flows in it, has tried to consider a special route for the complex to make it easy for users to access.
- The use of our cadre strategy in the design of the collection, which has benefited from a bed in the nature of the mountains that frames the silhouette of Tehran with pieces of stone and soil and creates in the viewer's mind, which has received less attention in previous research.
- In the design of this complex, unlike previous research, two human behaviors, including movement and stillness, have been used so that people can use this space to watch, relax, sit and enjoy nature.

Conclusion

1. According to investigation of the subject, District 5, while having unique natural and cultural-historical capabilities in Tehran, does not benefit from the existence of major tourism centers due to the lack of proper planning in the optimal and actual exploitation of the above-mentioned capabilities as well as the failure to implement the planned projects. Tourism and leisure at the macro level are mainly limited to multi-purpose recreational and pilgrimage uses in the mountainous lands of the north of the region (such as mountaineering and nature tourism, etc.) due to factors such as good weather, the existence of Kuhsar Forest Park, the tomb of Imamzadeh Davood, as well as gardens, reception centers, sports complexes and Eram Amusement Park located in the southwest of the region. Therefore, most of the tourism and leisure needs of the region's residents are met through the large leisure-recreation areas of the surrounding regions.
2. In the project area, by using the gorge at the site of Kuhsar Complex and the river that flows through it, access to the site is possible through a road that runs in a belt around the complex. A side road, branching from this belt, has been designed as a special route to enter this complex and people can enter the site from the high part of the gorge.

3. According to the studies, a kind of strategy has been considered in the design and that is the framing of Tehran nature. Framing in a bed of mountain nature that frames the silhouette of Tehran with pieces of stone and soil. This is a description that is created in the mind of the audience by standing and looking within the area 1 of the site.
4. Two types of human behavior were considered in the design: movement and stillness. The founding idea of this type of placement and arrangement has been that people use this space to watch, relax, sit and enjoy nature. The first plans were considered to frame the nature of Tehran and its mountains to meet the main goal of the audience of this place, which is to sit and watch. The structure of the edge of Tehran is a heavy structure that induces the audience to sit and enjoy the nature of Tehran in peace, and also it is the combination of a geometric structure with the organic structure of the site bed. Nature with its form is considered acceptable and respected here and without any interference in it, it is only combined with geometric forms.
5. In order to adapt and harmonize with the environment, one of the basic human needs in today's world is green architecture. The purpose of creating green buildings is to improve the climate, prevent the loss of energy used for cooling and heating, and prevent the negative effects of construction on the environment. This means that creating a green building will help and support the health of the person who lives in and around it, and will make them satisfied and useful. This requires the careful application of certified strategies in architecture. The use of sustainable nature and a sufficient source of material and reliance on the sun for heat, electricity, and daylight use, and the reuse of the waste of an alliance and the delicate building integration of these strategies. he does.

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