

Original Research Article

The Role of Vegetation in Formation of Social Anomalies and Perceived Safety in Urban Parks

(Case study: Shush Park in District 12 of Tehran)

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Abstract | In recent centuries, with the transition from private gardens to urban parks in Iran, the concern of social insecurity in urban parks has gradually become one of the main debates among city officials and social studies researchers. This study attempts to investigate “The Role of Vegetation on Social Abnormalities”. It aims ultimately to increase the sense of security by reducing the negative aspects of vegetation in urban parks. This research focuses on creating sensible experience for urban park’s consumers. To this purpose, first theoretical studies is reviewed, then field studies and recognizing the current situation of vegetation in Shush Park in Tehran and finding its relationship with the level of social anomalies and the feeling of security, after that making a change in the vegetation and uses in this park by benefiting from the research achievements in the previous two stages, and finally measuring the success rate of the research project by qualitative research method is maintained. Basically, the type of plant cover is as an independent variable and user behavior as a dependent variable. As a result, it is vital to boost the feeling of security in Shush Park, and also to change the park’s vegetation. Therefore, to better understand this study the graphic plan cards are included at the end. Each graphic plan card shows the location of social anomalies in Shush Park before and after vegetation changes in the spring of 2006 and 2008. This comparison clarifies that the vegetation of Shush Park reduces the occurrence of social anomalies and increases the sense of security.

Keywords | *Vegetation, Social anomalies, Sense of security, Urban Park.*

Introduction | Generally new types of parks are designed in cities. In the past, houses had major roles in human’s lives, and green space was one of the original elements of the house. Indoor spaces (i.e. rooms and halls), (semi-enclosed space i.e. porch), and open space (i.e. courtyard, garden). Consequently, walls surround vast private gardens. Moreover, sycamore tree and mulberry tree cover the sidewalks. This way a public area for the city is created. Therefore, the security of each garden is reached. Before all of these refinements to the park,

security was an issue for city officials. In recent centuries, with the transition from private gardens to urban parks in Iran, the concern of social insecurity in urban parks has gradually become one of the main debates among city officials and social studies researchers. Furthermore, as a background study, European and American countries examined the relationship between urban park green space and social anomalies. The results of some of these studies showed the negative aspect of urban green space and created a sense of insecurity and fear of crime. As a result, many reports about the occurrence of various social anomalies in Tehran’s parks caused concerns for

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city officials. Moreover, the parks in old neighborhood of Tehran are near Tehran's Bazaar and have fewer local residents than before, therefore in this park various social anomalies may occur. (Nazmfar, Alavi & Eshghi Chahar Borj, 2018). Spatial analysis of the healthy city indicators in urban settlements (Case study: Ardabil province) in Ardabil. 22) In this regard, the author of this article is experienced with managing green space and urban and cultural services therefore he is familiar with this problem. What will be expressed in this article is the result of more than a decade of scientific and practical efforts to reduce the negative aspects of green space in the historical context of District 12th of Tehran. The aim of this article is to investigate the role of plant cover on the incidence of social anomalies in urban parks and also to increase the sense of security by reducing the negative aspects of them. The important feature of this research is to conduct a qualitative research with the possibility of changing the type of vegetation in an urban park. Therefore, the main and secondary questions of this research can be expressed as follows:

The main question: How can different vegetation reduce social anomalies and improve the sense of security in a public park?

Sub-question: What is the relationship between plant characteristics and the occurrence of social anomalies and feelings of insecurity in a public park?

Research method

The method of this research consists of four parts. First, theoretical studies identify the characteristics of vegetation and its relationship with the incidence of social anomalies and the feeling of security in urban parks. Comparative study of samples in the next two sections, research background and results of theoretical studies, will be expressed descriptively.

Second, field studies identify the vegetation characteristics of the park in question and its relationship with the occurrence of social anomalies and the sense of security. Third, to reduce both the negative effects of green space in Shush Park in Tehran (by changing the vegetation and its landscape) and reducing social anomalies and promoting a sense of security in it the results of theoretical research are shown in this paper.

Forth, measuring the success rate of the project based on drawing adaptive graphic plans on the subject of user behavior before and after changes in the vegetation of Shush Park based on the opinion of the guard and observer living in Shush Park during the spring in the years 1385 (2006) to 1387 (2008) with reference to the method Qualitative research in the humanities. (Hafeznia, 2014, 268).

According to the questions mentioned before, the

independent variable includes the type of plant cover in the park and the dependent variables are people's behavior. The most important factors in this project were the cultural dissimilarities of people in different areas and the alteration of vegetation characteristics over time. Additionally, the main subject is one local park at a specific period of time. To minimize the impact of other factors in different locations, this research is limited to Shush Park (a local park in the historical context of District 12 of Tehran Municipality) and its time domain

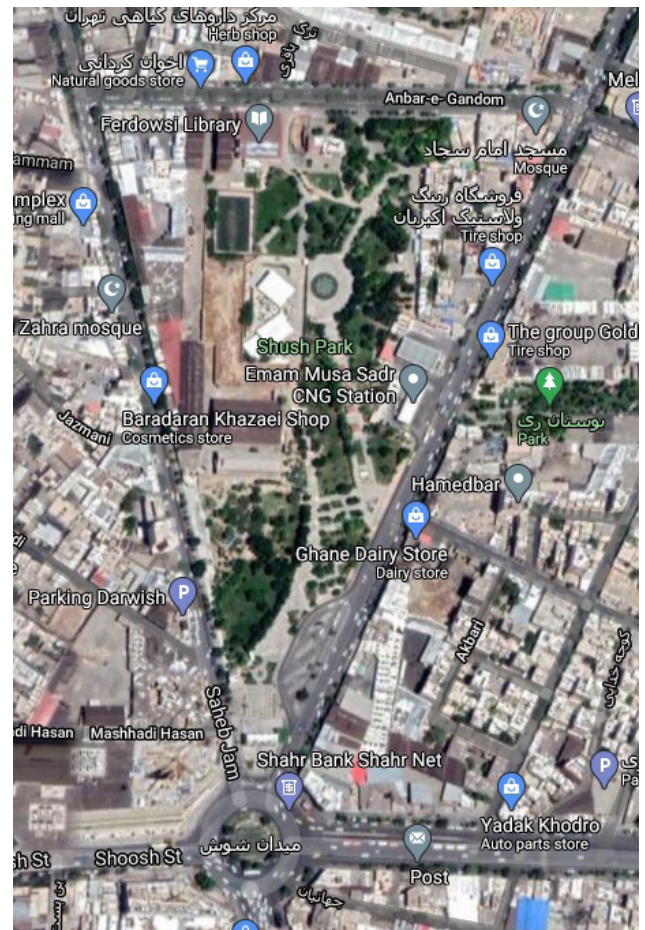


Fig. 1. Nearby lands and accessible paths of Shush Park in District 12 of Tehran. Source: www.google.com/maps



Fig. 2. Location of Shush Park in the dilapidated and historical context of District 12 of Tehran Municipality. Source: www.google.com/maps

is related to spring of 1985 (before changes in the park's vegetation) and spring of 2008 (exactly one year after the changes are made); (Figs. 1 & 2).

In this regard, before beginning the main discussion, it is necessary to give a brief explanation about the terms vegetation, social anomalies and the feeling of security.

The simplest definition of vegetation is plants considered collectively, especially those found in a particular area or habitat, including trees, shrubs, grasses and perennials, and seasonal natural and artificial.

There are several aspects to classify vegetation. In North America, cover species are based on a combination of criteria of climatic patterns, plant habits, phenology, and dominant species. In Europe, however, classification is often done entirely on species composition without reference to climate and phenology; Like any biological plant, they change on all possible scales. It is often that changes in plant composition occur (Vegetation, n.d.).

Social anomalies are a set of behaviors that are publicly and practically inappropriate, as a result different definitions can be found in various societies at particular times. To avoid any confusion a few specific cases of social anomalies are classified in this research. These include addiction, homelessness, drug dealing, fights and beatings, gambling, blackmailing, and illegal sexual affairs.

According to Persian encyclopedic dictionary by Dehkhoda safety means the condition of being protected from danger, unlikely to cause, risk, or injury. It means fearlessness, safety, a safe place, being safe and secure. Security is readiness to face any threat or attack. Security is one of the most essential needs of a society (Ashouri, 2019, 42). In the Universal Declaration of Human Rights, security has to be parallel with freedom and governments are responsible for ensuring these rights and establishing security in cities. Given the definition of vegetation and safety, the question is still about the relationship between vegetation characteristics and the security of urban parks. Who has addressed this issue and what have been the achievements?

Research background

Sullivan showed a negative relationship between plants and a sense of security in residential areas (Kuo & Sullivan, 2001, 359). As stated in police archives on the occurrence of social abnormal behaviors, a distinctive negative relationship between vegetation and the occurrence of social abnormal behaviors was revealed (ibid, 360).

On the other hand, the role of plants in security can also be defined by the theory of "routine activity". This theory emphasizes that crime occurs when three elements converge: (1) a motivated offender, (2) a suitable target, and (3) the absence of a capable guardian

(Troy, Morgan, O'Neil & Dunne, 2012, 256). Another study of 243 female students at universities in Poland, Latvia and China compared trees and shrubs, bushes and their effects on hidden crime and danger. In this study, participants positively assessed the presence of plants in reducing the sense of danger and increasing the sense of security, but the trees or bushes that provide a place to hide had a great effect on increasing the sense of danger (Lis, Pardela, Can, Katlapa & Rabalski, 2019, 1-22). For this reason, participants ranked photos of the green space of the parks. The results are provided in this paper.

Furthermore, a study in 2013 indicated that although urban vegetation has aesthetic, environmental and psychological benefits, it causes problems for people's sense of security. This study expressed that the features of vegetation are crucial for a person's sense of security from the environment. For instance, these features include landscape design, visibility and control, vegetation density, and the amount and quality of vegetation maintenance. Less vegetation may have positive effects on a person's sense of security (Jansson, Fors, Lindgren & Wistrom, 2013, 127-133). Another study conducted in 2014 on the negative aspects of urban green space proved that insecure spaces that increase the fear of crime cannot be identified with a single feature. Rather, a combination of attributes creates this feeling. In this study, the characteristics that cause fear of crime in urban green space and their complicated connection with the adoption of a socio-environmental framework were systematically investigated. The results of this study showed that individual factors (i.e. gender and past experience) are more effective than other factors (Maruthaveeran, 2014, 1-18).

In Iran, some research has been conducted on the relationship between vegetation in urban parks and the level of security. In this regard, according to a study conducted in the city of Tabriz, it was shown that the elements of green space in parks, including grass, green cover plants and water landscapes, increase the sense of security in parks. And the planting pattern with medium density and suitable physical access is safer than the planting pattern with closed view. This study also showed that when there is no grass on the ground, people feel safer, but when the ground is covered with a lot of plants, people do not feel safely. They have a greater sense of insecurity (Hami, 2018, 101-106).

As indicated before, many experimental studies present that there is a link between crime and environmental factors. (Leon & Sung, 2015,2) The crime prevention depends on security. When there is no way to commit a crime, it will never happen. However, crime prevention is really a complex issue (Sakip & Abdullah, 2012, 341). There are architectural solutions to prevent criminal acts.

For instance, through comprehensive analysis this will be possible. Equally crime prevention by environmental design or CPTED socially limits committing crimes in three aspects: motivationally, environmentally and criminally (Kang, 2013, 16).

In 1961, Elizabeth Wood worked on the relationship between crime and the physical environment. (Mohammadi Hamidi, Kalantary & Waysian, 2015) Theories related to the influence of man-made environmental factors on the occurrence of abnormal and criminal behaviors are called "Theories of Location-Based Crime Prevention". Location-based theories include approaches such as situational crime prevention, environmental crime prevention, security through design, and etc. In the meantime, the crime prevention approach by environmental design or CPTED has been proposed since the 1960s. In this method, it is believed that influencing environmental factors is easier than changing and fighting human weaknesses and correcting the personality of criminals.

Equally crime prevention by environmental design or CPTED is the most popular approach in reducing the chances of crime. This approach began with the use of the ideas of "consumer mixing" in the environment and "observer eyes", which was introduced in 1961 in the influential book "Death and Life of Major American Cities" written by Jane Jacobs (CPTED approach, n.d.).

In 1971, Jeffery, a criminologist from Florida State University coined CPTED and later, a book with the same title was published. In this book, the conditions for a crime to occur are discussed. In this multidisciplinary approach, criminal behavior is prevented by designing the environment.

At the same time, in the late 1970s, Oscar Newman published his ideas in a book entitled "Defensible Space: People and Design in Crime-Rising Cities" based on accurate statistics on the amount of crime reported in residential environments. Accordingly, this theory consisted of four elements: zoning, monitoring, improving the quality of the environment, living in a space with other facilities required (Colquhoun, 2004).

Consequently, this is summarized in three major changes. The first generation of CPTED: (From 1960 to 1970): it focuses on physical modifications and the environment to achieve security.

The Second Generation of CPTED: (From 1997 to 2000): To analyze the first generation of CPTED, the psychological and social aspects of security are mainly considered in the process of the research in this paper.

The Third Generation of CPTED: (From 2000 onwards): To maintain security, a multilateral security expansion model is provided in this paper (Ghaffari & Nematimehr, Abdi, 2014).

In this regard, and with increasing attention to crime prevention through environmental design in crime-prone areas, a pilot project was conducted in South Korea. The results show that in cases where crime prevention (CPTED) is applied through environmental design, theft decreases but increases in adjacent areas, while violent crime increases in both types of areas. These results show that crime prevention through environmental design (CPTED) reduces the crime rate of property but has no effect on violent crime (Kang, 2013, 543).

Findings of theoretical studies

Based on what has been discussed, two important issues can be mentioned here as the findings of theoretical studies:

1. In CPTED, as the most popular approach in reducing the chances of crime; incorporating the ideas of "multifunctional" in the environment and "observer eyes" is the most important strategic method.
2. Some theoretical studies on the effect of vegetation and the sense of security in urban parks have been conducted. The majority of these experimenters had no results and they could not make adjustments to the vegetation of an urban park. The results of this paper's long-term qualitative research made it possible to change vegetation of an urban park. This is the most significant feature of this study.

According to CPTED, the hypothesis of this research is formed in this way: To increase the yield field for observer eyes and increase consumer mixing, the pattern of plants is changed. As a result, the occurrence of social anomalies in this park is reduced and generally the sense of security is increased.

To test this hypothesis, it is necessary to qualitatively evaluate the characteristics of the existing vegetation, the incidence of social anomalies and the sense of security in Shush Park before and after the intervention during a field study. The basic method selected in this study is a method with which a graphic plan is produced. As a result, in this graphic plan, changes in vegetation of the park are shown and to determine the location of social anomalies in this plan at various times of the day.

Field survey

In 2000, Shush Park with an area of 42,250 square meters in District 12 of Tehran was constructed. The park is enclosed to Shush Square from the south, Rey Street from the east, Sahib Jame Street from the west and Anbar Gandum Street from the north. The main goal was simply to create a green space, along with entertainment for citizens. The park's executives, consultants and designers were clueless about the current situation.

During the design, the issue of security in the park and

the role of vegetation in it were not considered at all. The original design of Shush Park is shown in Fig. 3:

1. Plants (*Ligustrum vulgare* or common privet) more than one-meter-high and 70 cm wide were planted on the outer edge of the park.
2. Also, massive bushes were used along the sidewalks and passageways inside the park.
3. In the middle part of the green spaces (gardens), a dense volume of ornamental Barberry and *Piracanta* with a height of more than one and a half meters were planted. This spot created a suitable hiding place for criminals.
4. In the early years, the park had no visible entrance or parking area for cars.
5. On the west side of the park, there are many dilapidated commercial buildings. This is the particular spot for addicts and the homeless.
6. On the west side of Shush Park and along the street with open shops, there are dense trees and bushes. It is a place for shops' garbage disposal.

Shush Park has become a center for criminals and addicts because families and local residents do not care about this park. The park is near Shush Square and Tehran's Crystal Bazaar. This is a very crowded place but people do not enjoy being in the park. After a few years, a lot of criminal acts took place in this park during the day and night. Therefore, this location became one of the main concerns of city officials in this area. Unfortunately, increasing the physical protection of the park did not have an effect on reducing crime. Until 2007, with field studies and theoretical studies, it was found that the initial design and selection of plant species was not only used to reduce social harms, but in many cases also increased insecurity in this park. Most of the social anomalies that occurred in Shush Park in 2006 and have increased the insecurity of the people present in the park, are related to the constant presence of addicts and the homeless, drug sales, gambling, fights and beatings, illegal relationships and blackmailing. For this reason, and according to interviews with security forces, managers and observers present in the park, the graphic plan in Fig. 4, Table 1 and Table 2 has been prepared until the occurrence of the most social anomalies in the park during the day and night should be specified in the spring of 2006.

As can be seen in Fig. 4, social anomalies are more prevalent in certain places. As stated by the park's security force (in 2006), criminals chose certain spots for their abnormal behavior. For example, to deal drugs, it is necessary to choose a hidden space. Therefore, dense plants provide the best room for this type of abnormal social behavior to occur.

Or in another example, people who want to gamble, prefer a place that is exposed to other criminals, and take advantage of their eagerness, and possibly they

attract more gamblers. These people usually avoid the hidden spots, therefore they tend to live invisibly. They fight when they gamble. Gambling turns the space into a battlefield.

Most of the time illegal sexual affairs take place in a secluded and private spot, and usually without force and completely consciously. What can be seen in Table 2 is a summary of the type of crime and the reasons for choosing the place of the crime.

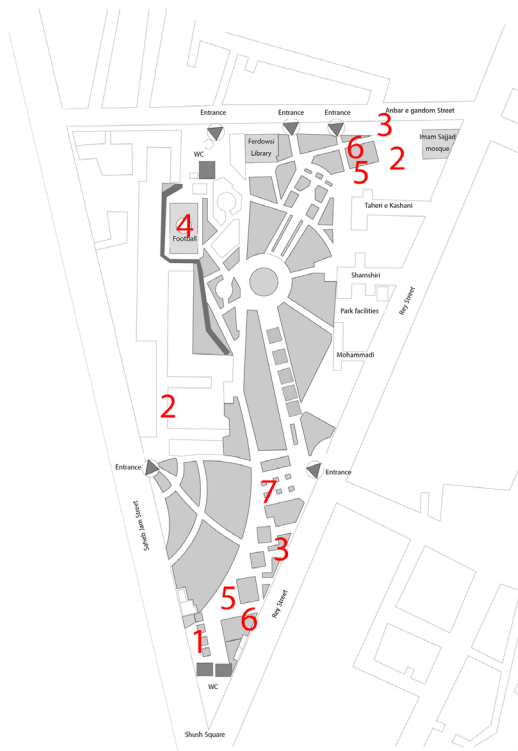
Security forces and observers living in Shush Park provided information about the time of the social anomalies. Regarding the permanent presence of addicted and homeless people in the places specified in Fig. 4, abandoned places in the park were part of gamblers' territory.

Early mornings and at dusk are the time when most of the blackmailing in the park happen. Also, dealing drugs happen either before the sunrise or after the sunset.

Gamblers gamble from 10 am to noon. Occasionally there is a fight between them whenever they do not reach an agreement. In the case of social anomalies in row four, Table 2 also usually lists the most frequencies in the evening or late at night.



Fig. 3. Shush Park Plan. Source: Author.



Map Guide

- 1. A place of permanent gathering of addicted and homeless people indoors
- 2. A place of permanent gathering of addicted people in the open air
- 3. Suffocation
- 4. Illegal relationships
- 5. Gambling
- 6. Fights and beatings
- 7. Selling drugs

Fig. 4. In this graphic plan, the type of social anomalies and their location (based on observations and comments of security and management forces residing in Shush Park) in the spring of 2006 are shown. Source: Author.

Table 1. Type of criminal behavior and reason for choosing the place for it, based on the testimony of security forces and observers residing in Shush Park in the spring of 2006. The table is based on the results of the research. Source: Author.

Type of criminal behavior	Location
1 The indoor gathering place for addicts and the homeless	In abandoned shops on the west side of Shush Park adjacent to Sahib Jam Street
2 The outdoor gathering place for addicts and the homeless	A comfortable place behind the walls of the mosque and dense plants adjacent to Anbar Gandom Street
3 Blackmailing	Along the bushes, the addicts stalk passersby.
4 Illegal affairs	At a distance away from the traffic and behind the dense plants and high walls
5 Gambling	Outdoors and close to the gathering place of wrong doers and the homeless
6 Fighting and falling out	Usually at the gambling place and after a dispute between gamblers
7 Drug dealing	A place where people pass and where it is possible to hide drugs in the dense bushes.

Table 2. Type of social anomalies and their occurrence in the spring of 2006 according to the security forces and observers present in Shush Park in Tehran. The table is based on the results of the research. Source: Author.

Social abnormality		From the dawn till 10 AM	From 10 AM till 2 PM	From 2 PM till dusk	From dusk till midnight	From midnight till sunrise
		1	Gathering of addicted and homeless people	Indoor space		
		outdoor space				
2	Blackmailing					
3	Illegal relationships					
4	Gambling					
5	Fights and beatings					
6	Selling drugs					

These behaviors were not limited to these times and places. During the research period, these behaviors occurred on a regular basis therefore they are listed here. These misbehaviors created a lot of costs for park officials; Including the cost of cleaning up leftovers, replacing stolen items, faucets, signposts, lights, repairing breakdowns and fractures.

Urban service managers believe that the family park is quiet and safe. This is the key for urban parks (Equivalent to the observer's eyes in the approach of CPTED). Recent studies showed that to solve the problems and to increase the sense of security in this park, some changes to the type and arrangement of vegetation must be considered. These changes include 7 steps.

First, fences, railings, and low walls were removed from the park's perimeter walls. This increased access to the park and transformed the park from a closed space to a semi-open space (Figs. 5 & 6).

Second, the park has dense vegetation that separated the interior from exterior. This separation prevented visual communication between the two sides. This created a cozy atmosphere for hiding and committing a crime. In the new plan, the height of the vegetation, which was more than one meter, was reduced to about 30 to 60 centimeters, and the connection between them was removed (Fig. 7).

Third, it was needed to remove the green bushes' wall along the main street and the active commercial space and turn it into separate gardens that contained only one tree. There was both space for pedestrians to cross the street and a place for trash bins (Figs. 8 & 9).

Fourth, to harmonize the landscape of the park, dense vegetation on the south side of Shush Park is reduced. These changes made the park look better. As a result, this approach attracted some tourists (Fig. 10).

Fifth, on the east side of the park, along Rey Street, some

part of the vegetation is removed. A landmark entrance, a taxi station and a wide path with eight pavilions with a fountain are constructed. These changes reduce crime and increase security (Fig. 10).

Sixth, on the west side of the park, the removal of dilapidated buildings and a green fence and the creation of a vast sidewalk widened the visibility. The sidewalk also became a place for birds. As a result, the citizens are more attracted to this side of the park (Fig. 11).

Seventh, the middle part of the park had some changes. Cutting trees, trimming them and planting new trees are among those changes. These new plants made the park look nicer (Figs. 12 & 13).

As can be seen in Figs. 14 & 15, the renovation was done in the fountain and appearance of Shush Park. The modifications of the main square of the park made ordinary people more interested in being in this space, and their presence caused the main road and the inner square of Shush Park to be transformed from a secluded environment to a lively and dynamic environment.

Summary

Principally how to change the vegetation, reduce social misconduct, and improve the sense of security in a public park are the focus of this paper. As a consequence, one examines the relationship between plant characteristics and the occurrence of social anomalies and feelings of insecurity in a public park. As mentioned in the theoretical studies of this study, this relationship, (by explaining the two main solutions in the approach of crime prevention through environmental design), present a practical way to change the planting pattern and change the form for vegetation of Shush Park to the city managers of District 12 of Tehran Municipality. In Shush Park according to Figs. 5 -15).

To better understand the issue and to summarize the



Fig. 5. Part of the remaining fence and short wall around Shush Park. Photo: Seyed Mohammad Ali Mohammadi, 2020.



Fig. 6. The vacancy of the deleted plants in the peripheral part of Shush Park. Photo: Seyed Mohammad Ali Mohammadi, 2020.

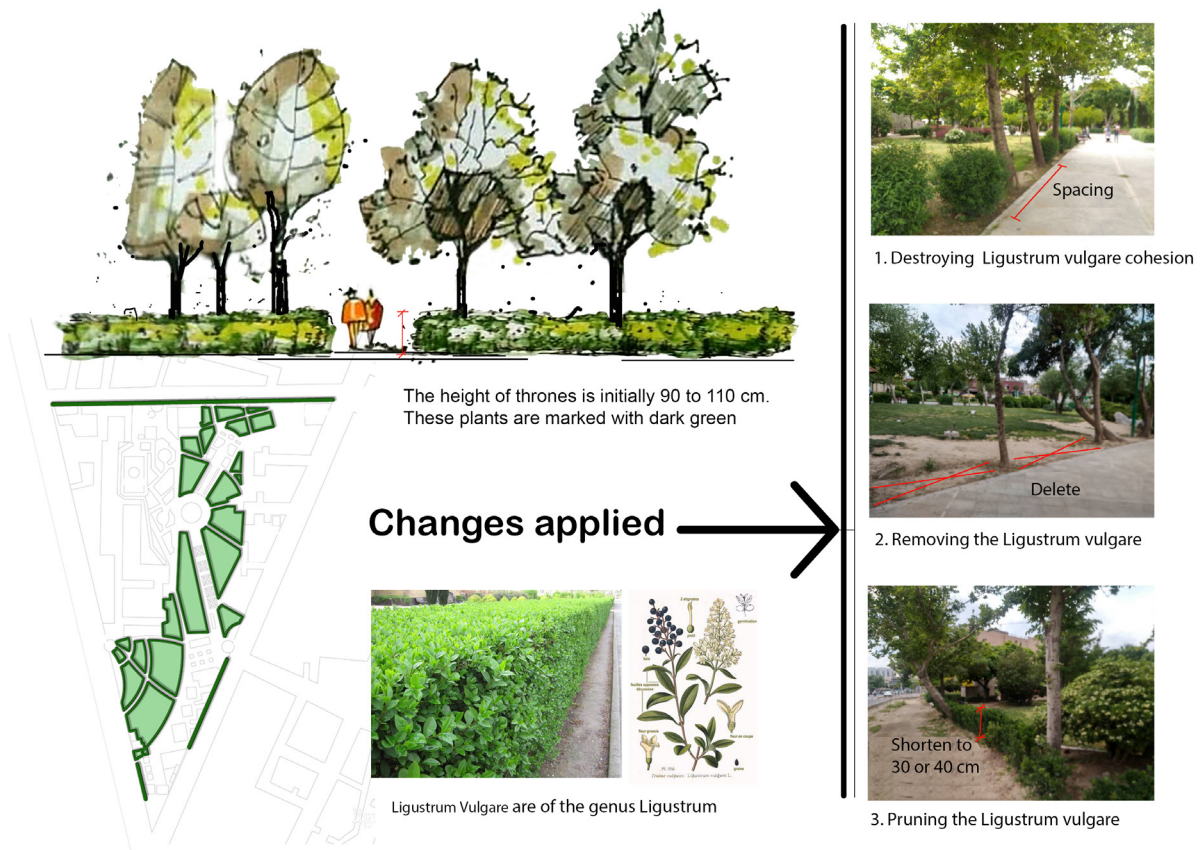


Fig. 7. Trimming, removing or spacing between bushes in the outer and inner of Shush Park. Source: Author.



Fig. 8. Removing bushes along Sahib Jame Street and turning it into small single-tree gardens. Photo: Seyed Mohammad Ali Mohammadi, 2020.



Fig. 9. The sidewalk is transformed. The bushes are removed. There is a place for trash cans. Photo: Seyed Mohammad Ali Mohammadi, 2020.

activities carried out, Table 3 has been set up in such a way that the executive changes made in the vegetation of the passages, paths and gardens in Shush Park are in line with this approach.

To better comprehend the results of these adjustments,

the second phase of field research was carried out in Shush Park, Tehran. Security forces and residents were interviewed about the place and the time of abnormal social behaviors during the spring of 2008. The graphic plan in this research is based on conducted

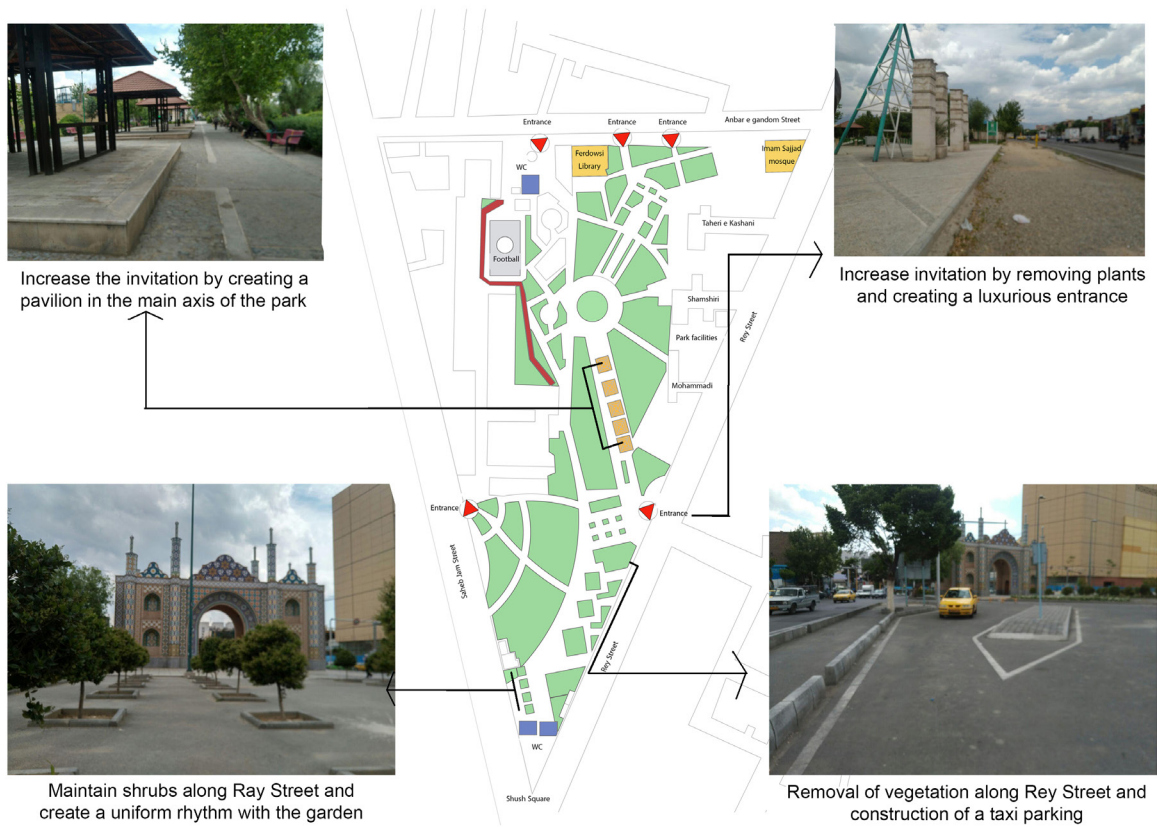


Fig. 10. Changes made on the east side of Shush Park, including the visible entrance, installation of a pavilion along the main passage of the park, removal of dense plants and shrubs for the construction of the parking lot. Some bushes remained. Source: Author.



Fig. 11. Changes made on the west side of Shush Park, including the removal of debris from empty shops, the removal of tall and dense shrubs outside the park, the improvement of the fountain and the appearance of the park, the creation of a platform for birds. Source: Author.



Fig. 12. Trimming cypress trees to increase the depth of view and reduce the hiding place. Source: Author.

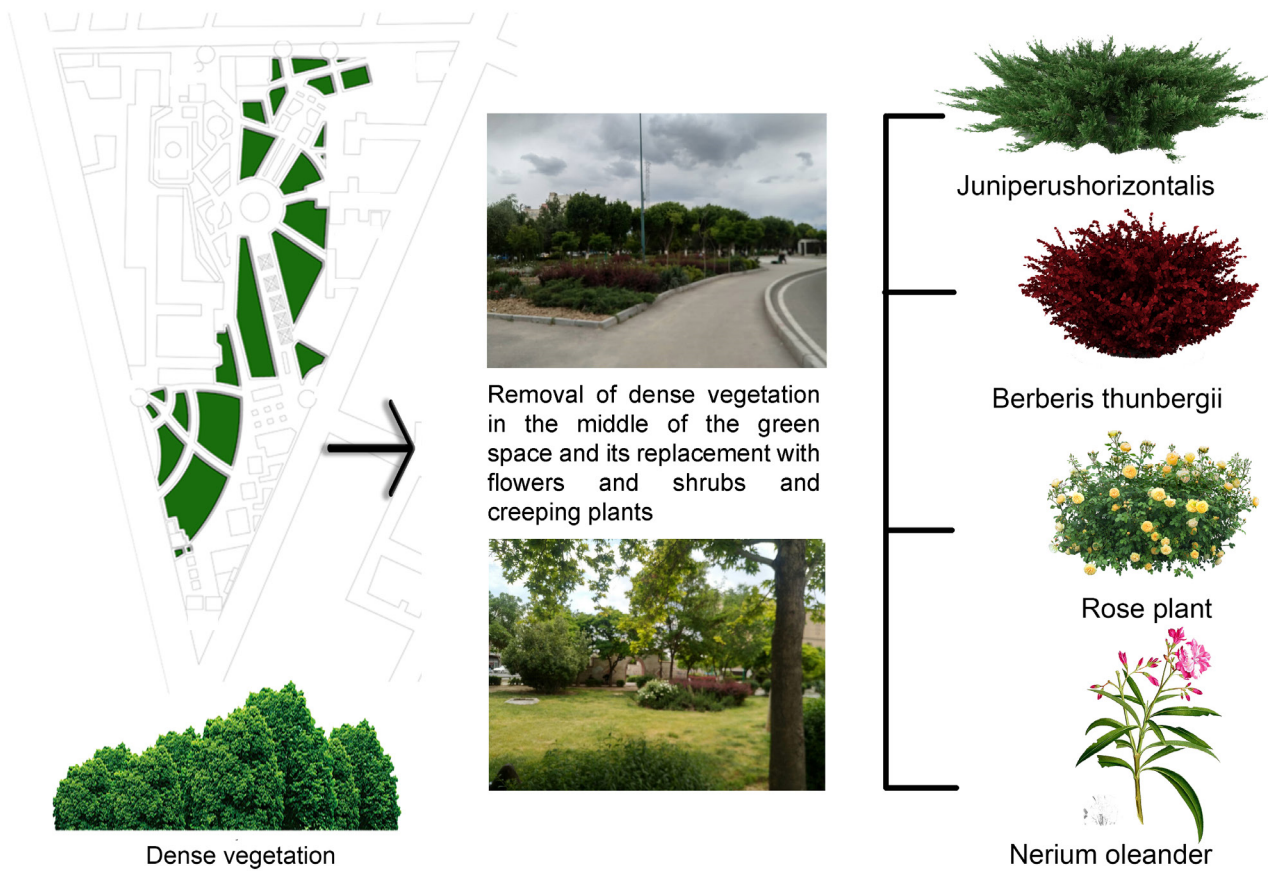


Fig. 13. Removing dense vegetation in the middle gardens of the park and replacing it with seasonal plants. Source: Author.



Fig. 14. Improving urban furniture such as benches and trash cans around the fountain of Shush Park. Photo: Seyed Mohammad Ali Mohammadi, 2020.



Fig. 15. Improving the fountain along the construction route of the pavilions and the main entrance of the park. Photo: Seyed Mohammad Ali Mohammadi, 2020.

Table 3. Comparative table of changes made in Shush Park based on the seven rules obtained from the findings of theoretical studies. The table is based on the results of the research. Source: Author.

	Current Condition	Suggested solution according to CPTED	Transformations done on Shush Park
1	Dense plants that block the view	Trees must be trimmed	To solve this problem, trees are trimmed (e.t. Pinus. mugo, Fraxinus excelsior, Eucalyptus, Ulmus, Catalpa bigonoides, Olea europaea, Crataegus carrierei, Robiniapseudoacacia)
2	Vase crown trees limit the view and also increase abnormal social behavior	Vase crown trees are removed	Vase crown trees are removed (e.t. Cercis siliuastrum, Punica, Junipers communis, Platycaldus, and replace it with plants and shrubs e.t. creeping cypress or juniper, Versus, cypress, Juniperus horizontalis, Berberis thunbergii, Lavandula, Nerium oleander, Roses)
3	Some dense shrubs reduced visibility	Some shrubs are removed	Bushes and tall plants around Shush Park are removed
4	High-density trees reduced visibility	Dense trees are removed	Pine and Cypress trees are replaced
5	The unpleasant appearance of the park reduced the presence of people and the use of this space	More attractive places must be designed	The park should be preserved. The fountain should be innovated
6	It costs a lot to keep the park tidy and clean. Therefore trees that are easier to keep can be planted in the park	Trees that are easier to keep can be planted in the park	To manage the maintenance of the trees, some other trees should be planted
7	Normally addicts and the homeless avoid nice places	To make more use of different spaces in Shush Park, multifunctional places can be a solution	Some new changes must be done (e.t. constructing a landmark entrance, parking and taxi station, children's playground, wide sidewalks and installing pavilions on the platforms, improving the appearance of the park)

studies (Fig. 16). In this graphic plan, as appeared in Fig. 4, the type of abnormal behavior in the park plan is specified.

As can be seen in Fig. 17, The homelessness, blackmailing, illegal sexual affairs, and gambling, as abnormal social

behaviors, do not exist in this place any longer. And three other cases (the presence of addicted and homeless people, drug dealing and beatings and fights), were seen in a smaller area in the park. But no transition was spotted in the time frame of these three behaviors.



Map Guide

1. A place of permanent gathering of addicted and homeless people indoors
2. A place of permanent gathering of addicted people in the open air
3. Suffocation
4. Illegal relationships
5. Gambling
6. Fights and beatings
7. Selling drugs

Fig. 16. In this graphic plan, the type of social anomalies and their location (based on the observations of security and management of Shush Park) in the spring of 2008 and after changes in vegetation and landscape of Shush Park are shown. Source: Author.



Fig. 17. Graphic plan of a comparative study of the occurrence of abnormal social behaviors in the spring of 2006 and spring of 2007 in Shush Park, Tehran. Source: Author.

Conclusion

According to the evidence, in 2008 (the year after the developments) compared to 2006 (the year before the transformations) somehow creepy face of Shush Park, which was a center for the occurrence of various social anomalies during the day, has become a relatively secluded and quiet park. It is necessary to limit and control the number of criminals and homeless people in this park. Also, taxi station and children's playground are available for passers-by who come to this neighborhood to visit the Crystal Bazaar. In concordance with the evidence presented in this qualitative study, the two main strategies of "multifunctional places and "observer eyes" are derived from the crime prevention approach by environmental design. Complete elimination of four cases of abnormal social behaviors (permanent indoors presence of addicted and homeless people, blackmailing, illegal sexual affairs and gambling) and reduction of three more cases (the presence of addicted and homeless people, drug dealing and beatings and fights), which was previously shown in the comparative graphics plan, is a proof of this claim. But as has been the case in the third generation since 2000; only by changing the physical environment (changing the vegetation to increase the observer's eyes and multifunctional places) cannot eliminate all the factors affecting the occurrence of social anomalies and lack of security in urban parks, and to achieve this goal, various factors are needed. Considered social, cultural, psychological, etc. in the form of a multilateral model.

In the end, and despite all the shortcomings that may be detected in this method, based on the presented

documents, the role of vegetation can be considered as an effective role in the formation of social anomalies and the sense of security in urban parks. In this regard, by reducing the negative effects of plant cover and modifying them in order to increase the field of view of the observer and combining lands with different uses in the environment, we can prevent the occurrence of social anomalies and increase the sense of security in the environment.

Recommendations for future research

In the municipal management system, the design and construction of urban parks are often left to consultants and contractors, and usually the only important issue for them is to develop a plan that leads to the fastest and cheapest construction of a green space for entertainment and sports of citizens. Consultants and contractors are less familiar with the social problems that the users and security forces of urban parks. Therefore, they cause social problems that cost citizens and managers a lot more. It is suggested that in the municipal system, people specialized in social affairs and familiar with the negative effects of plants on the security of parks be employed to manage the design of the urban parks. By overseeing landscape design, these experts can minimize the negative effects of vegetation on creating insecurity in urban parks. In this regard, it is suggested that people who are interested in studying the factors influencing the creation of a safe space in urban parks address other issues such as the role of social activities and lighting in reducing social anomalies and promoting a sense of security in urban parks.

Reference list

- Ashouri, D. (2019). *Daneshname-ye siyasi (Farhang-e estelahat va maktab-ha-ye siyasi)* [Political Encyclopedia (Dictionary of Political Terms and Schools)]. Tehran: Morvarid.
- Colquhoun, I. (2004). *Design out crime: creating safe and sustainable communities*. Oxford, England: Elsevier Architectural Press.
- *CPTED approach*. (n. d.). Retrieved July 3, 2019. from: <https://www.http://www.cpted.net/>.
- Ghaffari, A., Nematimehr, M. & Abdi, S. (2014). Evolution of Crime Prevention through Environmental Design. *JHRE*, 32(144), 3-16.
- Hafeznia, M. R. (2014). *An introduction to the research method in humanities*. (19nd ed.). Tehran: Samt.
- Hami, A. (2018). The relationship between landscape planting patterns and perceived safety in urban parks in Tabriz, Iran. *Journal of Geography and Planning*, 22(65), 101-116.
- Jansson, M., Fors, H., Lindgren, T. & Wistrom, B. (2013). Perceived personal safety in relation to urban woodland vegetation – A review. *Urban Forestry & Urban Greening*, 12(2), 127-133.
- Kang, S.J. (2013). Crime prevention in ethnic areas focusing on crime prevention through environmental design. *Journal of Building Construction and Planning Research*, 1(1), 14-23.
- Kuo, F. E. & Sullivan, W. C. (2001). Environment and crime in the inner City: Does vegetation reduce crime?. *Environment and Behavior*, 33(3), 343-367.
- Lis, A., Pardela, L., Can, W., Katlapa, A. & Rabalski, L. (2019). Perceived danger and landscape preferences of walking paths with trees and shrubs by women. *Sustainability*, 11(17), 1-22.
- Leong, K. & Sung, A. (2015). A review of spatio-temporal pattern analysis approaches on crime analysis. *International E-Journal of Criminal Sciences*, 9, 1-33.
- Maruthaveeran, S. (2014). A Socio-ecological exploration of fear of crime in urban green spaces: A case in Kuala Lumpur, Malaysia. *Urban Forestry & Urban Greening*, 13(1), 1-18.
- Mohammadi hamidi, S., Kalantari, M. & Waysian, M. (2015). Analysis of Lighting Situation and Safety of Urban Spaces Using CPTED Strategies and Safety Audit Assessment Model (Case Study: Mellat Park of Zanjan). *Geographical Urban Planning Research*, 3(3), 325-341.
- Nazmfar, H., Alavi, S. & Eshghi Chahar Borj, A. (2018). The assessment of security in urban public spaces (Case Study: Tehran city parks). *MJSP*, 22(2), 133-165.
- Sakip, S. R & Abdullah, A. (2012). Measuring crime prevention through environmental design in a gated residential area: A pilot survey. *Procedia-Social and Behavioral Sciences*, 42, 340-439.
- Troy, A. R., Grove, J. M., O’Neil-Dunne, J. P.M., Pickett, S.T.A. & Cadenasso, M. L. (2007). Predicting opportunities for greening and patterns of vegetation on private urban lands. *Environmental Management*, 40(3), 394-412.
- *Vegetation*. (n. d.). Retrieved July 3, 2019. from: <https://www.zistonline.com/tag/%D9%BE%D9%88%D8%B4%D8%B4-%DA%AF%DB%8C%D8%A7%D9%87%DB%8C/1>.

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