



ORIGINAL ARTICLE

Study on urban parks Environmental safety in Women Viewpoints based on Crime Prevention through Environmental Design Approach (Case study: Valiasar Park, Shahr-e-Qods, Tehran, Iran)

Alireza Salmani¹, Omid Saberian¹, Hossein Amiri¹, Mohezbollah Bastami¹, Masoomesh Shemshad^{2*}

¹Department of Urban Planning, Shahr-e-Qods Branch, Islamic Azad University, Tehran, Iran

^{2*}Member of Young Researchers and Elites club, Science and Research Branch, Islamic Azad University, Tehran, Iran

*Corresponding authors E-mail: Shemshad.m87@gmail.com

ABSTRACT

Increase of environmental safety in order to improve the "urban spaces uses" are of the most important approaches that developed societies in the field of social sciences, management and environment designing pay attention to it. What is called of security as objective and subjective is because of structure and environment layout, so it is necessary to increase it, considering some criteria and standards for urban spaces design. CPTED approach is of such approaches that emphasizes on crime reduction through environmental design. The purpose of this study that was of qualitative researches was to determine the criteria and regulations that influence on the components of women's sense of security in relation to the environment design. For this purpose, in the sample size at different times, "the flow of people" has been measured. From the comparison of the men and women attendance in the park (based on flow rate) it can conclude the difference between their presences in any path. Then by a questionnaire based on crime prevention through environmental design, the women wanted to describe on fields of reducing sense of security in urban areas in mentioned park and especially spaces that used less. The results showed that respecting visual and public monitoring have important role in increasing sense of security in urban environment parks by appropriate planting crops and the use of light, the use of light bulb from isolated spaces, use of libraries and children's playground space in parks, the increase of daily activities by creating sports sectors in parks, legible and clear signs, to create a sense of ownership for the overall design and people by giving importance to quality and beauty. In countries where there is a deeper cultural and ideological structure, it is necessary to consider finer and more subtle criteria in CPTED approach in relation to women in terms of the design characteristics.

Keywords: sense of security, environmental security, CPTED approach, women, Valiasar Park

Received 09.02.2015

Revised 21.03.2015

Accepted 28.04.2015

INTRODUCTION

Crime and offense in modern societies are of social problems that every year put bad influences on lives of thousands of people. Serious threats and violence against people and their properties, create considerable fear in the communities. Crimes such as robbery, rape, murder and kidnapping in principle are serious threats against the safety and security of the community. The fear of such crimes in themselves can restrict citizens' freedom of movement and prevent the presence of their participation in the community. In particular, some social groups are very vulnerable against crime and the fear of it, such as the elderly, women, hypocrisis, parents, children and adolescents. So, several strategies are needed to deal with complex types of crime and fear of it. All levels are responsible and effective strategies for the design, social functioning and legal constraints in order to achieve the objective of combating environmental crime in this area. In this regard, it should be noted that designers, architects, related companies may have important role in increasing the safety and security of communities and they play important role and impact in design of man-made environments. Communities from the past have referred to police, judicial systems and their protection through intimidation of crimes and punishing the perpetrators, for their security. However, the general negligence in relation to self-protection is as a result of deficiency or absence of awareness of protection. CPTED proves that society, homeowners, designers and architects can play important role in protecting and control of society and themselves against crime through applying full

and complete principles and concepts of CPTED in designing and management of physical and man-made environment. Regarding that the park of Valiasr, is of the largest recreational park and sport center in urban areas and satellite towns of Tehran and due to locating it beside the Ghoort Daghi neighborhood, is one of the crime occurring neighborhoods of Shahr-e-Qods and drugs distributing and assaults. This issue has led to risks to users of the park, especially for women. Because of this reason, by assistance of the municipality of Shahr-e-Qods, a police station with all facilities near the park has been constructed to guarantee and provide the safety of referrers in particular for women and children in the park. The purpose of this study was to increase awareness and knowledge of users, architects and urban designers in the context of CPTED definitions and reaching it and to determine new objectives in seeking to increase the efficiency for safety and security development and reduction of crime incidence opportunity. This research has introduced legislation, developing and providing recommendations on how to optimize the traditional considering the level of safety, especially for vulnerable groups, in particular for women seeking to enhance the use and quality of man-made environment. Awareness of environment mainly are achieved by visibility by others and the availability of the aid if needed. Bet Terla (2004) mentioned three principle pillars in the field of crime prevention in law of social preventions and appropriate environmental planning that without considers them reducing the crimes that is expected is impossible [1-3] (Fig. 1).



Fig 1. The three pillars of prevention by TERLA view, 2004

International centre for crime (NICP, 2006), knows the design and appropriate use of built environment as suitable factors to reduce crime and improve the quality of life. In addition, paying attention to security is on top of primary and basic principles of designing the built environment.

CPTED and principles of environmental design

CPTED means crime prevention through environmental design that based on the following Fig (Fig. 2) different ways to promote this approach is classified.

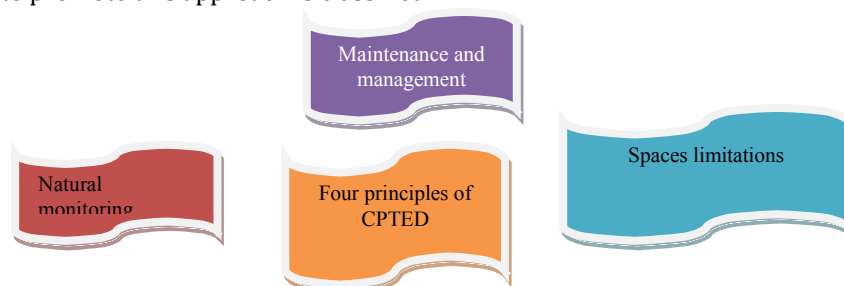


Fig 2. Main principles of CPTED chart

This method, itself covers a three-dimensional structure and shapes it. It is a simple spatial recognition that assists the users in determining, diagnosis and identification of a space or how to design. These, three instructions that are and formed based on role, definition and design. All human spaces that are man-made, have been shaped and formed with specific objectives and functions. All of such spheres have physical, logical, legal, social and cultural meaning that define desirable and acceptable behavior in the areas and the spaces are formed for a particular behavior. Based on this definition, the way of using of human spaces and paying attention to their legibility are of the most important points that should be considered in environment design and should be considered by planners in design strategies that are four principles of subordinates mentioned in CPTED approach and mention them as design planning and strategies to increase security:

- Clear lines and angles
- Providing enough light
- Reduction of space and separate and hidden paths
- Avoid of places where there are possibility of surprise and risk.
- Reduction of separated spaces
- Optimum use of space (multiple uses)
- Register to make optimum and use of space activities
- Create a sense of ownership in order to preserve and protect the environment
- The use of signs and symptoms
- Design development and improvement of its quality in environmental design

Each of these design parameters has subdirectories, which in turn could be used to reach the purpose. These criteria can be used to evaluate the required security of citizens and determining the amount of security in the spaces that have been mentioned in Table 1 [1-4].

METHODOLOGY

The current research in field of theoretical literature was an experimental study and in the field study it was field survey and data collection were performed by observation and fulfillment of questionnaire. Data analysis carried out by correlation between "women's sense of security" and "the way of environment design". Since the human perception of the environment and its assess, was qualitative, the ways that selected to qualitative analysis was content analysis, projection to evaluate the content of the message in the chosen paths by the women on the map of the park. At the first stage, the overall design of the study area prepared and was place in questionnaire to use for questions by respondents. It should be evaluated and judge based on set of determined criteria, rules and situations. To collect information from the environment, a questionnaire was prepared that its questions were selected based on research criteria. Questions in two groups, including essay questions and to specify the path in the park and multiple-choice questions were designed. All questionnaires were distributed in the area of the ValiasrPark, Shahr-e-Qods that somehow ended to international system. Safety and security in urban spaces provided and the person have not a sense of insecurity and risk. The question of the study were "in the time of walking or entertainment more use from which part(s) of the park (mark on the image), describe in which part of the park do not have sense of security, is there enough and natural vision in all spaces of the park, in which part of the park, lack of enough natural vision on others, prevent you for going there, is the lightening system of the park enough at dark time and in which part of the park there is shortage in this case, do you think that presence of gardeners in different spaces of parks increase the sense of security about environment in the space, does park lightening lead to create shading during movement at night, are there hiding spaces in parks that increase the possibility of risk and crime occurring, are there spaces in parks that are isolated from main parts in a way that low people use them." (Fig. 3). In the case of environmental security and perceived insecurity in environment, there were various origins and covered events such as theft, violence, and mental aspects about neighborhood and space security. Quantitatively, insecurity was calculated based on the amount and number of locations of the crime or violence, identity, gender and age of the victim.

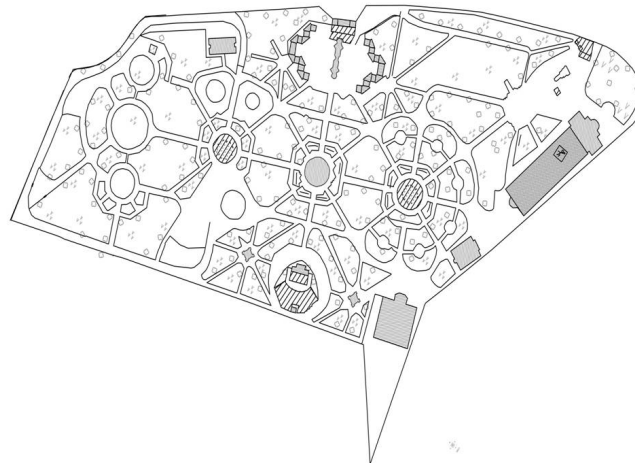


Fig 3. Map of case site in Valiasr Park, Shahr-e-Qods

RESULTS AND DISCUSSION

Security in urban spaces in women's view

Today, in advanced societies, the place of women has been changed to main points in urban design, so that their needs are of major design parameters. Paying attention to daily activity participation of women requires their easy access to their daily activities and these needs cover all areas of business, administrative and recreational for them. Urban design principles consider all fields of providing safe environment for all segments of society in general. But the important point that designers often hidden from view is paying attention to gender in the areas that spaces that are easily used for men are not useful for women and the cannot work in it easily. Sense of security differs with regard to gender characteristics and physical ability and self-defense power undermine the human perception from security. Based on security regulation, public spaces like the Valiasr Park as a case study, shall be designed in a way that be usable by all people. Paying attention to this fact that presence of women in public spaces whether the working place, public spaces like parks stylized and reduce the environmental hazards. Therefore urban designers have picks up the gender index as one of the main principles of their design. In the field of environmental safety, Islamic countries have manifested variety of programs and strategies that Islamic laws and faith have involved in this field. Therefore, the scopes of environmental safety standards in these countries are widespread and enjoy obligations and importance. In this study, in Valiasr Park as a case study tried to make some of these needs to examine from the perspective of women (Tables 1,2).

Statement of research policies and field studies

For the initial study to determine the classification of paths in the park in the case of density and the amount of using during a week, the amount of persons reconciliation of different paths in four minutes were examined. These studies included individuals of both sexes, age, being in moving or sitting (Fig. 4).

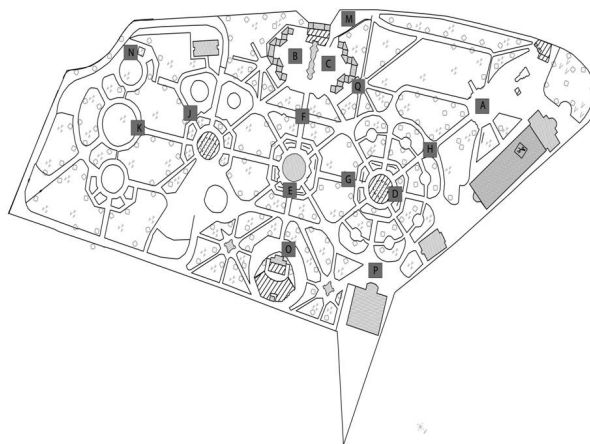


Fig 4. Limits that people flow at different times of the day have been studied and evaluated (reference: authors, 2014)

Based on the survey results, we will be able to recognize the kind of spaces and their amount of use by different genders. The red color, orange color, yellow color, purple color influence the average commute time between 30 to 20 people and less crowded between 4 to 10 people, 10 to 20 persons in rush hours and 5 to 8 people in low density hours, 5 to 10 people in rush hours and 2 to 4 persons in low density hours, 0 to 5 people in rush hours and 0 to 1 person in low density hour, respectively will effect on these numbers (Fig. 5,6)

TABLE 1: EVALUATION OF THE IMPORTANT PARAMETERS AND FACTORS IN THE DESIGN BASED ON CPTED PRINCIPLES (REFERENCE: AUTHORS)

Space and methods to achieve the goals		components
The plant should be planted in a manner that does not impede vision. When designing, the next 20 years growth of plants and being or not being of deciduous or evergreens should be considered. Long obstacles, closed angles, and large leafy plants that are hindering of vision should be avoided.	By people who use the park by the guards and gardeners, and homes around the neighborhood	Vision and general oversight
Planting poles in a way that faces are recognizable of 10 meters. Signs and hidden spaces, input and outputs should be lightened as well as possible. Lighting should not hurt the eyes and should be in amount that does not cause illusion and imagination.	Lights inside the park: Lighting of made uses	Lightening
Use of cameras, placing information Kiosk, creation of service uses, good lighting, natural view from other spaces to desired atmosphere if there is a possibility of surprise should be informed from 50 to 100 m before, try to use of vegetation covers with tall trunks and preventing the overuse of shrubs and evergreen plants.	Impasse routes: routes that are not in cycling process, routes are are hidden and covered by plants and spaces that do not used because of lack of sanitation.	Accesses
Use of proper use of space to have the ability to invite, optimum design of landscape to be readable and have point of view for viewers and attract them toward it, presence of different routes in the case of risk occurring in such spaces.	Spaces that have separate flow paths of main paths of park. Spaces that that specific uses are not intended for them	Isolated areas
Use of places such as libraries and children's playing spaces in parks	Parks urban spaces are isolated areas	Using combination of land uses
By creating areas of sport and camping space, creating playgrounds and recreational spaces, educational facilities or services for such activities in the park for creation of balance	In urban spaces in parks	Increasing daily activities
Due to the development of symptoms that are legible and clear and their messages should be cleared and enough, use of suitable materials that can be used for all classes including literate and illiterate	In hidden and isolated spaces in complex and vast areas	Signs and guidance
Creating a sense of territory in people to create sense of ownership, appropriate spatial design to invite	Environment of local parks, walking paths, urban public spaces	Creation of a sense of ownership
The importance of quality and beauty: they should be designed with the fine and quality in a way that people enjoy of it, the clarity and understanding of the structure must be easily understandable, avoid of areas with no use that their planning objectives are not clear, they also should have uses at night, suitable materials for color, shape and texture for inviting or or not inviting should be used.	-	The overall design

TABLE 2: STRATEGIES AND ADMINISTRATIVE RECOMMENDATIONS IN DESIGNED PRINCIPLES IN CPTED APPROACH

-Continuous use of space by users through environmental design strategies -Use of visual signs and symptoms through visual communication art -Increase of natural surveillance and developing a sense of ownership through social institutions -Use of inhibition strategies by organs of social planning -Use of landscaping, guards and fences in urban design	Enhancing natural areas
-Use of blocker obstacles such as walls, fences and railings -Giving advantages to people from input and output locations -Use of appropriate urban infrastructure such as floor coverings, wall and making landscape	Access control

<ul style="list-style-type: none"> -Suitable and sufficient lighting on gates and a kind of access system -Respect to urban furniture standards such as lightings -Creating appropriate land uses in urban spaces -Consideration to availability ways of public spaces -Locating of telephone kiosks and newspaper selling kiosks or lot of shops in crime-prone areas -The possibility of humans presence with service provisions -Increase of normal vision by increasing vegetation covers 	Natural surveillance
<ul style="list-style-type: none"> -Improvement of spatial planning through efficient use of urban spaces -Creation of density in social activities in crime-prone areas -Placement of certain economic activities in the areas adjacent to the Police stations -Placement of service activities in areas where there is less public scrutiny -Inserting the special spaces in crowded areas 	Supporting of social activities
<ul style="list-style-type: none"> -Repair and maintenance of public facilities such as signs and communication signals -Protection from damage to public facilities, such as the protection of street lights -Landscaping based on increasing criteria of visibility and monitoring 	Repair and Maintenance

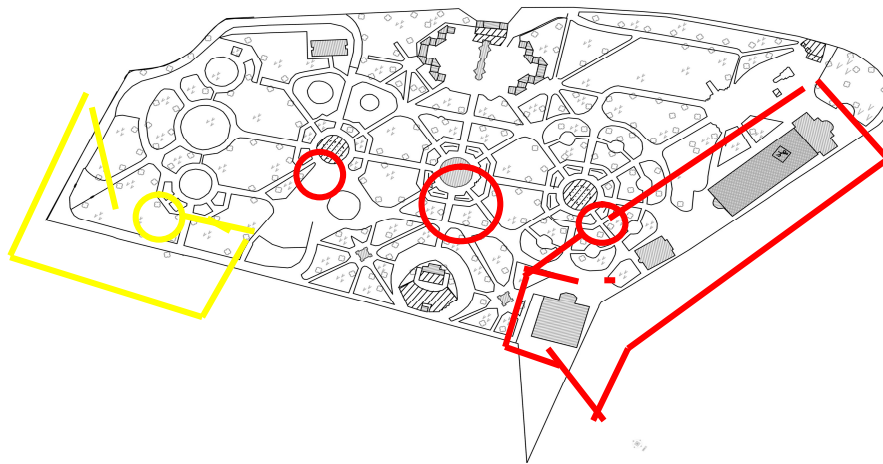


Fig 5. According to the results of the questionnaire, the red color represents the routes that are mainly used by men and yellow color represents the routes that are rarely used (reference: authors, 2014)









Fig 6. According to the results of the questionnaire, the red color represents the routes that were mainly used by women and the purple color represents the routes and places that were very rarely used by women (reference: authors, 2014).

When the crime-prone areas of the park that a crime has happened in its space, based on information of park police, was compared by field studies, the overlaps of these boundaries are defined and the people had less circulation in these spaces based on field studies because of insecurity in the environment. The lack of circulation of citizens in these areas may increase the incidence of crime. By separating genders, it was determined that the spaces that were used by men, were higher than places and routes that were used

by women. These findings indicated that women had different understanding about environmental safety of these spaces. The routes that mainly were used by women were routes with wide paths, high density with vegetation that did not obstruct vision and had a lower slope. According to studies conducted in the field of environmental safety in urban spaces as a case study in Saeed Park from the perspectives of women and the current study, it can be concluded that the last approach of CPTED emphasizes on the prevention of crime based on the design principles and is a method to improve the benefits of environment that can optimally use urban environments. It seems that in determining these limitation and laws have not considered a lot of attention to gender or these principles have formed on the basis of west culture. Regarding the place of women in modern societies and limitations and present crimes, particularly in Islamic countries, these indicators should be highlighted a little more in order to provide sense of environmental safety in different sectors of urban spaces especially in parks and circulation spaces at different hours of a day for women to use these spaces easily and without hassle. In the following table, table 3, the reasons for not using or less use of the areas that have been marked in purple color in the picture by women inside the park have been mentioned. Starred sections are new points that were taken into consideration based on women views.

TABLE 3: THE POINTS FROM WOMEN PERSPECTIVE IN THE PARK (REFERENCE: AUTHORS, 2014)

The reasons for refusing the use of routes and spaces	Ranges
<ul style="list-style-type: none"> -The presence of low people in this route is of obstacles for walking. -Presence of young boys with the street and unhealthy appearance 	
<ul style="list-style-type: none"> -The Space was isolated from the mainstream -The domestic routes was illegible The presence of mysterious persons with strange appearance in low-density hours prevented of walking in that spaces. 	
<ul style="list-style-type: none"> -At nighttime, there was little lightening among cedars and the possibility of hiding people behind the trees caused panic. -There were some routes separate from the main routes. -Few people were moving there 	
<ul style="list-style-type: none"> -Almost the end of the path was unused and had not access to anywhere. -Narrow path and access of few people and low traffic 	
<ul style="list-style-type: none"> -The routes were narrow and labyrinthine -The path were not well-designed in case of landscape -There were few people -In the summer trees and shrub coverings led to hide the path and created delusion, but in winter, it was appropriate. 	
<ul style="list-style-type: none"> -Privacy and the presence of low people -Narrow path -Inappropriate landscaping that was not inevitable. 	
<ul style="list-style-type: none"> -These routes had not suitable vision. -Because there were many hidden paths, the spaces were illegible. -presence of unused instruments in the park, including broken bucket and seats had created a dangerous place. -There were other people that prevented from going into these spaces. 	

Many of these factors may not have materialized but this was mental thinking of persons about environment security that prevented them from going in the relevant areas. Therefore, new methods to improve the readability and clarity of the public spaces are of ways to increase their efficiency and the options listed in Table 3, oblige organizations and current approaches to consider gender, cultural and

religious characteristics, in addition to the general perceptions of people about their environment, in order to value the present approach in the world. International institute knows battling with crime through designing and appropriate use of environment as appropriate factors to reduce crime and improve the quality of life. The principle of social motivation and enhance community supervision along with the increase transparency of public spaces and elements in the urban environment and meet and improve the physical disorders in urban spaces and creating landscape are part of the mechanism of maintaining a secure environment [1-4].

REFERENCES

1. Pour Jaafar MR, Akbari H, Mousavi M, Ansari M. (2013). To promote environmental safety and reduce urban crime, with an emphasis on CPTED approach. *International journal of engineering Sciences*; Iran University of Science and Technology, 40(17): 76-79.
2. Sheykhi MT. (2008). Social security and elderly pathology in Tehran: A research from the perspective of sociology. *Journal of Aging*; 2(6): 454- 461.
3. Salehi E.(2009). Environmental features of safe urban space, Center for the research and study of urban planning and architecture, Pp:107-114.
4. Sarami H. (2002). The relation of population and security. *Journal of geographical research*; 501:65-70.

CITATION OF THIS ARTICLE

Alireza S, Omid S, Hossein A, Mohebbollah B, Masoomah S. Study on urban parks Environmental safety in Women Viewpoints based on Crime Prevention through Environmental Design Approach (Case study: Valiasar Park, Shahr-e-Qods, Tehran, Iran). *Bull. Env. Pharmacol. Life Sci.*, Vol 4 [5] April 2015: 95-102