



Selection Criteria for a Regeneration Site in Shiraz Gardens Using SWOT Method

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ABSTRACT

The garden has a special place in Iranian culture and Shiraz is known for its abundant and beautiful gardens. Due to the climatic and historical conditions, the garden is an available product of civilization, with well-known concepts and meanings to the inhabitants of Shiraz city; it has been carrying the orientation and prosperity of its development as a major element of the city. The regeneration of a cultural view aims to preserve and continue the natural and historical values reflecting the beliefs and culture of a nation and indicative of man-nature interaction throughout history. Regeneration in the concept of quantitative growth of contextual elements for the promotion of life quality will take place in the texture development plans. The site on Mirza Koochak Khan Street (Qasr al-Dasht), with an area of 50,000 m², is located in District 1 of Shiraz municipality. This land has no slope and its form is relatively conventional geometrically. Appropriate access from different directions and parts of the city and a commanding view to a quiet and beautiful environment in the vicinity of vegetation were the key factors in choosing the studied site. To select the site for regeneration of gardens based on the SWOT method, the considered factors were suitable spatial distance from the recreational and cultural centers, access to private-public transport, natural outlook for enhancing sense of relaxation in citizens, and the development of social interactions for people in the place, expandability of the selected site, and proper readability upon entry.

Keywords: Shiraz garden, Garden regeneration, Persian garden scenery, SWOT method

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1. INTRODUCTION

The garden has a special place in Iranian culture and Shiraz is known for its abundant and beautiful gardens. Due to the climatic and historical conditions, the garden is an available product of civilization, with well-known concepts and meanings to the inhabitants of Shiraz city; it has been carrying the orientation and prosperity of its development as a major element of the city. Before the urban changes of the Pahlavi and contemporary periods, the historical gardens of Shiraz were considered as the outstanding urban elements. It seems that the depiction of the city's historic core and its development in different periods, both in terms of the structural garden-city relationship or with regard to the use of the garden and its elements in the city body, has been dependent upon the garden phenomenon. Most of the gardens in the city are today located in the northwest, including Qasrasht, Koshan, Chamran, and Maaliabad.

Owing to its geography, Shiraz city has a large number of globally known gardens, such as Eram Garden, Takht Garden, Jahan-Nama Garden, and Delgosha Garden. Determining the role and capability of Iranian gardens in improving the quality of micro and local climates, along with investigating the role of these decorative elements in the improvement of indoor

climatic conditions, are considered as the most important research product.

Paying attention to urban gardens is important both in terms of meeting the environmental needs of citizens and in providing leisure spaces and the context of social communication and interaction. Urban gardens, as one of the most important public service spaces of the city, can play a major role in promoting the social, cultural, economic, and environmental conditions of urban areas. Therefore, the research topic is "what are the characteristics of urban gardens in order to meet the public interest, to bring life and vitality therein, and to enhance social interaction?" The feasibility of systematic expansion of urban green space was studied with regard to the social interaction approach and landscape design within the gardens of the Shahed Boulevard in Shiraz to be effective in preserving and enhancing the current and future urban identity of Shiraz metropolis. Garden texture on a natural background accounts for one of the major strategies of a city.

Currently, one of the quality defects of cities is the high congestion and lack of urban open spaces. Additionally, designing green spaces by merely mimicking European parks has transformed our parks into similar spaces without identity and with high maintenance costs. Most of these places have more users in certain warmer seasons due to the specific climate of Iran and remain unusable in other seasons due to cold weather and limited outdoor recreation. Moreover, many citizens do not have the opportunity to use the park in present-day cities. Given the psychological impacts of vegetation and its

relationship with people's work efficiency and health, citizens should be provided with green space with a novel depiction. Furthermore, the majority of these green spaces are not welcomed by people because of foreign designs and lack of visitors' contact with space, resulting in insecure and crime-prone areas. On the other hand, if space evokes memories and creates a mentality for its visitors, it will have a significant and growing impact thereon. The necessity of city gardens and dependence of human, nature, and mental health on the one hand, and previous experience in the construction of gardens and the pleasant quality of the intertwining of nature and the artificial environment therein on the other hand, have drawn the attention of designers and researchers to the principles of historical gardens in order to redesign and recreate them tailored today's life.

The theory of creating social events in open spaces designed for urban gardens, utilizing the social potential of people in these environments, enabling the participation and establishment of social interactions, garden general planning spatially with human-centered abilities, and explaining social functions in a public space all enhance the vitality and sense of place belonging resulting in achieving the desired level of spatial quality for the visitors. Practically, placement of urban gardens along the Shahed Boulevard creates the potential that regeneration of these gardens and enhancement of designed open spaces encourages people to attend and engage in social interaction in urban open spaces, in addition to creating dynamism.

2. THEORETICAL BACKGROUND

Regeneration

Maintenance of old and historical textures is initiated as repairing. During the period that can today be denoted as the maintaining-repairing history of architecture and urbanization monuments, three evolving sociocultural movements have been experienced worldwide, particularly in the Central and Western Europe. As a whole, the urbanization process and attitudes towards the texture changes, particularly in historic areas and city centers, have often been confronted with two major approaches, A) attitude towards the maintenance of valuable texture and elements, and B) a new wave of renewal and regeneration along with direct and macroscale interventions within such areas.

1) First movement: Confrontation of protection and development in the 1st half of the 20th century

The protection of cultural wealth has been put into action since the mid-nineteenth and early nineteenth centuries. The

transformation of traditional and urban architecture owing to the establishment of architecture colleges in France, Italy, and England and the formation of new construction styles and patterns have highlighted the architecture and urbanization history and its heritage, leading to the formation of a value system for architecture and urbanization monuments. Architectural repair theories are formed in such a space and different approaches and styles emerge in the face of architecture and urbanization entities, which are distinct from the valuation system for monuments.

2) Second movement: Functional regeneration as the interface of protection and development

The development of planning rules together with the prime repairing charter and the commencement of listing historical building (1931) has led to the legal protection of buildings both historically and architecturally. One of the notable points mentioned in this charter is Article 67 stating that "... provided that the protection of what mentioned above about Athens (Greece) congress emphasis does not require scarifying human groups involved with unhygienic conditions". Peoples' living conditions in historic textures represent the confrontation of development and the texture protection meaning that the regeneration process and protection of historic textures must be so collective that the behavior of such changes and the effects on the inhabitants are simultaneously taken into consideration when implementing regeneration operations including economic, physical, etc.

3) Third movement: Economy-centered regeneration, the era of integrating protection and sustainable development

The economic revolutions at the end of the 70th decade and the beginning of the 80th decade and changes in the structure of resource use management have led to the emergence of the third wave of strategic changes in the protection movement of valuable urban textures. The attitude towards the reuse of historic monuments began since the preceding decade, along with the tendency of authorities to prioritize economic values, has led to reconsiderations in the protection issue. With the development of rules, guidelines, and protocols in planning policies influenced by common economic trends, the conservation movement path shifted to the profitable (economic) use of historic monuments and buildings. Since then, historic buildings played an important role as key resources for development and modernization plans. Washington charter (1987) considers and emphasizes on protection as a component of integrated socioeconomic policies in urban and regional planning.

Table 1: Analysis of the Iranian gardens

Spatial structure	<ul style="list-style-type: none"> • Rectangular geometry whose roots are unclear is one of the most important features of Persian gardens. • The importance of the axis in Persian gardens; paying attention to the elements in the axis including water in the middle, the row of trees on the margins, and flowers at the tree foot; the creation of a long and deep perspective (inducing sense of immensity). The main axis sometimes becomes an open field of view. • In Persian gardens, no axis is left untargeted; the axes also achieve a specific goal while providing a deep view. <ul style="list-style-type: none"> • Persian gardens can be created in any situation and in any place (with different species). • • •
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<p>Sight and view</p>	<ul style="list-style-type: none"> • Construction at height and building platforms for better visibility • Establishing a close relationship between man and nature <ul style="list-style-type: none"> • Deep internal vision • Four-way view of the central mansion to the garden axes • Limited interior scenery with limiting the view by tall plants • Visual communication with environmental natural scenery: mountains, forests <ul style="list-style-type: none"> • Interest in framing nature • Providing suitable outdoor garden landscapes (using environmental quality) <ul style="list-style-type: none"> •
<p>Vegetation</p>	<ul style="list-style-type: none"> • Planting trees in a very ordered line • Planting barren and tall trees on the edges, and fruit trees, shrubs, and bushes among the plots <ul style="list-style-type: none"> • Avoiding unproductive green space • Planting flowers intermixed under trees and next to waterways • Combined planting of evergreen and deciduous trees along the main path <ul style="list-style-type: none"> • Planting flower bushes at the foot of trees • Use of land-covering plants instead of water axis in arid and dry zones • Planting tall and shady plants in the main axis of arid-zone gardens <ul style="list-style-type: none"> • Use of native plant species in the Persian garden •
<p>Water</p>	<ul style="list-style-type: none"> • Paying special attention to the natural element of water <ul style="list-style-type: none"> • Decorative and functional water use simultaneously • Water shows in the garden often in such different forms as streams, pools, fountains, waterfalls, etc. <ul style="list-style-type: none"> • Creating a better water look and view by aligning the table edge with the garden floor • The close connection of water and architecture and creation of water-related buildings <ul style="list-style-type: none"> • Optimal use of any amount of water in the garden in different areas <ul style="list-style-type: none"> • Presence of streams in the main axis of the garden • Indoor water use due to high heat in central zones of Iran • The tendency to circulate and display water throughout the garden <ul style="list-style-type: none"> •
<p>Architecture elements</p>	<p style="text-align: center;">Garden Mansion</p> <ul style="list-style-type: none"> • Building construction according to the ground conditions <ul style="list-style-type: none"> • Scattered on flat grounds • Integrated at the highest point on steep grounds • Using outside and inside interface elements, such as the porch in the mansions, for more connection with nature <ul style="list-style-type: none"> • Building construction higher than the ground on flat grounds (building platforms) • Construction of the main mansion with four-sided view on flat grounds <ul style="list-style-type: none"> • <p style="text-align: center;">Wall</p> <ul style="list-style-type: none"> • Most gardens are enclosed by walls for various reasons <ul style="list-style-type: none"> • The enclosure of signs reaching inside from outside the fence • Millennium elements, inscriptions, plaster or clayey arches, sitting platforms on some walls <ul style="list-style-type: none"> • Relative strength and height of the walls for some reasons <ul style="list-style-type: none"> • Facading on both sides of the wall in some gardens • The most important factor for recognizing the overall garden form from the outside <ul style="list-style-type: none"> • The separator of nature inhibited from outside <ul style="list-style-type: none"> • Creating a sense of security and privacy •

Important principles of garden regeneration in cities

1. Contextualism

Contextualism guarantees the success of interventions and repair projects in our cities and the key elements of global success in the process, must be identified and adapted to their own contexts.

2. Continuation of interventions

The combination of gradual and emergency measures cannot instantly lead to the rehabilitation of urban centers. Continuity is an important principle of such projects. Reconstruction plans should be able to gradually re-establish past values with the present and the future and help to create a sense of identity and collective memory. The scale and pace of intervention in valuable ancient and historical contexts should be chosen so as not to disrupt the flow of life therein and continue increasing

the hope and sense of participation in the process of rehabilitation among residents.

3. Tradition and authenticity

Tradition is usually accompanied by mental habits and a habitual manner of doing things. Generally, something that belongs to the way of doing things in the past known as traditional. Tradition can include criteria on what is right and

appropriate to be used in the context. Authenticity is undoubtedly an accepted value and goal for intervening in ancient contexts at any time, which can be defined specifically as belonging to a particular person, society, place, and time. For example, the authenticity of worship ceremonies or special celebrations can be maintained beyond time, place, and even by changes in its essential aspects.

Table 2. Some views on garden regeneration

Viewpoint	Highlights in each school	Ref.
Garden regeneration in man's living environment	Garden regeneration in man's living environment can create a stable environment that has the least fermentative impact on future generations, and future generations and individuals become familiar with their ancient history and civilization.	Forootan et al. (2015).
Garden regeneration develops sustainable tourism	Garden regeneration leads to the development of sustainable tourism and the creation of a safe recreation place, considering crisis management issues, which is the near horizon. To this end, it relies on the theoretical foundations endorsed by the conservation societies and documents	Mafi et al. (2014)
Urban garden regeneration	Urban garden regeneration, quantitative section: First, the indices for the city are determined using the difference coefficient of the criterion and calculated limit, then the city position is determined by comparing the indices. Qualitative section: It is also sufficient to provide a brief overview of existing and drafted policies for citizens.	Tabibian et al. (2014)
Garden regeneration in urban green spaces	Garden regeneration in urban green spaces as an essential and integral part of the single body of cities plays a key role in their metabolism, whose deficiency can cause serious disorders in urban life. Therefore, the creation and development of green space play an important role in the life of all organisms, including humans. Addressing green city standards can be one of the largest positive environmental developments in the city. Green space as an indicator of the development of communities has environmental, social, economic, and physical dimensions; to be able to perform well its roles and functions, the first and most important step is its suitable localization.	Mabhoot et al. (2015)
Garden regeneration indicative of green areas	Most of the urban green area indicators are very different from the average green city, so planned actions must be taken by city officials and planners to turn the city into a green city.	Marashi and Sepehrar (2016)
Garden regeneration with culture home	Application of these principles not only creates a certain order and structure of the space but also manifests the garden semantic principle and thus creates mental peace.	Ghaffari et al. (2016)
Garden regeneration a history derived from the garden totality	Garden indicators, garden history, garden physical structure, and son on are documentations of gardens that should be considered in the restoration and renovation of historic gardens.	Hatefi Shoja and Zareie (2016)

Important strategies for regeneration of urban gardens include (Izadi, 2006) greater commitment to conservation of a historical environment and recognizing the importance of preserving key buildings and spaces, more centrality of culture, art, and entertainment to the regeneration and modernization process of urban gardens, emphasis on community involvement in the performance and emergence of a

"community-based" approach to deprivation of urban garden distress, emphasis on increasing employment, reduction of poverty and social exclusion, provision of neighborhood facilities and training schemes rather than instead of merely physical renewal, and more cooperation and engagement between residents and the involved agencies.

Table 3. Perspectives affecting urban garden regeneration

Viewpoint	Highlights in each school	Ref.
Culturism	<ul style="list-style-type: none"> - Considering cultural heritage and preventing the destruction of past history - Considering national culture and old traditions in urban garden development and renovation - Completing gardens by the past style, the use of museums, and renovation of urban garden texture 	Habibi, 1996, p. 163
Humanism	<ul style="list-style-type: none"> - Considering nature and culture - Considering human movement in urban garden spaces - Inspiration from the hidden foundations and manifesting them in the renovation of urban gardens - Improving the environment of urban gardens and living conditions of dwellers with the participation of citizens - Introducing regenerative plans with plans for geographic environment preparation and recognition - Improvement and renovation based on organic texture and functional hierarchy of the old city and adaptation of location and time to the building or complexes of urban gardens accompanied by planning studies on urban gardens 	Hall, 1995, p. 229
Realism (intermediate)	It believes that the totality referred to as the old texture is not a homogeneous and equivalent complex, but rather includes a range of the most valuable historic landmarks and collections to the highly timeworn part of urban gardens, which in some cases even lacks preservation value.	Arman Shahr, 2007, p. 14

Landscape in Iranian gardens

The landscape reflects man's relationship with the surrounding nature from the past to the present. In today's world, the landscape is regarded as a relative and dynamic entity influenced by man and the living style on the one hand, and by man's image and association of memories that have long occurred on its context on the other hand, influencing the civilization, culture, and living style of humans.

In communication with nature, the Iranian man creates a small world by gathering the excerpts of nature and creates a small world to make his/her world objective and cohesive. In such a situation, the garden is more than a green spot in pristine nature. In this sense, the garden brings nature to the existence and hunts and integrates all meanings of the existing nature.

The concept of landscape generally encompasses two types of tangible and intangible heritage resources that, by influencing and planning on these resources, it achieves the managerial goals in urban regeneration. Tangible resources include palpable and embodiment of vegetation resources, buildings, etc., and intangible resources include immaterial resources such as cultural and spiritual resources including rituals and religious ceremonies.

Currently, one of the quality defects of cities is the high congestion and lack of urban open spaces. Additionally, designing green spaces by merely mimicking European parks has transformed our parks into similar spaces without identity and with high maintenance costs. Most of these places have more users in certain warmer seasons due to the specific climate of Iran and remain unusable in other seasons due to cold weather and limited outdoor recreation. Moreover, many citizens do not have the opportunity to use parks in present-






day cities. Given the psychological impacts of vegetation and its relationship with people's work efficiency and health, citizens should be provided with green space with a novel depiction.

While lying on the ground without mental projection in the Iranian garden, one is bonded to the sacred realm and inspired by a sense of relaxation and free of any tension, along with being present in a thoughtful environment. Therefore, measures should be considered to increase these sights at the level of human artifacts.

The Iranian garden has a real identity and entity and belongs to Iranian society and culture. This issue has frequently been emphasized by Iranian writers, historians, scholars, itinerary writers, and non-Iranian artists. However, no one is thinking of returning the Iranian garden pattern to the planning and designing of the urban environment in Iran, or if so, can do nothing.

On the one hand, the dependence of man on nature and mental health, and on the other hand, previous experiences in the construction of gardens and the pleasant quality of their linking to nature and the artificial environment have drawn the attention of designers and researchers to the principles of historical gardens in order to redesign and recreate them tailored to today's life. The relationship between landscape and mental health has long been of interest in different cultures and societies. The natural environment can lead to psychic recovery and decrease individual stress. The artificial environment is depicted according to human needs and the natural environment is organized based on the system of human beliefs and needs. If the connection between man, nature, and the artificial environment is desirable, mental health in society will also uprise as a promising quality.

Table 4. Indoor and outdoor garden samples

No.	Garden name	Image
1	Nabito	
2	Stadtpark Papenburg	
3	Tree museum	
4	NEO Bankside	
5	Bagh-e Honar, Shiraz	

6	Vesal-e Shirazi (Farzanegan) garden	
7	Ra'az garden	

Analysis of the selected site

This section reviews and analyzes the selected site from various aspects.

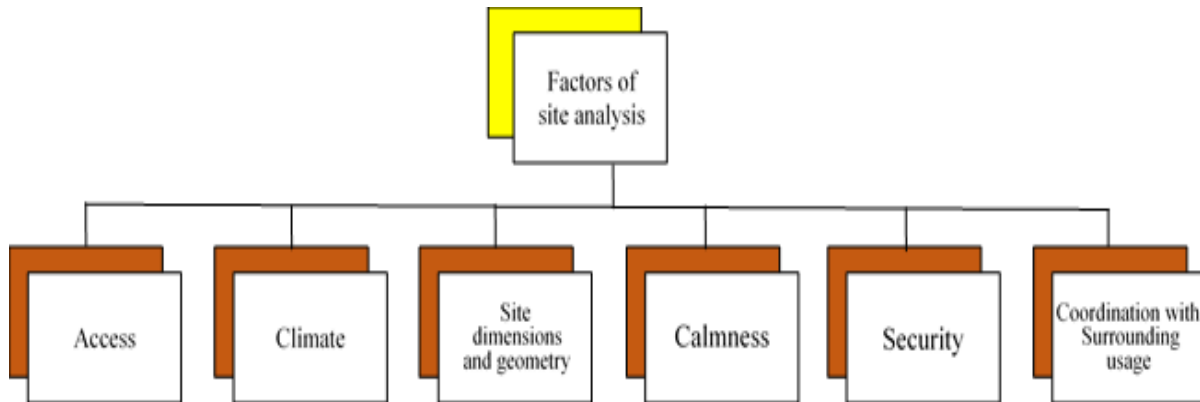


Chart 1. Factors of site analysis

The site on Mirza Koochak Khan Street (Qasr al-Dasht) with an area of 50,000 m² is located in District 1 of Shiraz municipality. This land has no slope and its form is relatively conventional geometrically. Appropriate access from different directions

and parts of the city and a commanding view to a quiet and beautiful environment in the vicinity of vegetation were the key factors in choosing the studied site.








Figure 1. Location and geometry of the selected site (Source: the author)

In the old times, people came in and out of the Sahebo-al-Amr alley (water reservoir) in order to earlier go through a shorter route and reach the main street: Mirza Koochak Khan (Qasr al-Dasht). The main access to the site is through Shahed Boulevard, Mirza Koochak Khan Street (Qasr al-Dasht) and the minor access route is from Sahebo-al-Amr alley (water reservoir). Another factor that has made easier roadway access is the area of proximity to the public transport system.

Based on Shiraz detailed plan, three lands were proposed from the outset of this research. A hierarchical analysis by the SWOT method was done according to the criteria mentioned for locating gardens in the book Garden Regulations and Standards. Given the criteria, the best location was finally selected for a suitable design.

Table 5. The options for selecting the project context

Site	Location	Area	Aerial image	Land image
Mirza Koochak Khan (Qasr al-Dasht)	The Mirza Koochak Khan site has three important access points making it outstanding in the urban space. It has a good view in every respect, with a well-marked vegetation, wide and good sidewalks, a quiet quarter and an old access road.	35,000 m ²		
Water reservoir	The water reservoir site is located in a completely local area away from the main access and mostly serves as private use. There is no different regional access around the site.	10,000 m ²		

Shahed boulevard	Shahed Boulevard is located near two training complexes causing high noise and there is no different regional access around the site.	15,000 m ²		
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In the design of garden regeneration, the selected site should have appropriate views of the surroundings in addition to being located in an area with favorable access to the surroundings to create a sense of increasing relaxation for citizens through beautiful scenery. Besides, proximity to residential centers should be considered for garden regeneration to facilitate traffic.

3. CONCLUSION

The main factors to consider when choosing a site for garden regeneration are:

1. Appropriate distance from recreational and cultural centers
2. Proper access to specific public transport
3. Having a natural outlook for enhancing a sense of calmness in citizens and developing social interactions in place for the people
4. Expandability of the selected site
5. Good readability on entry.

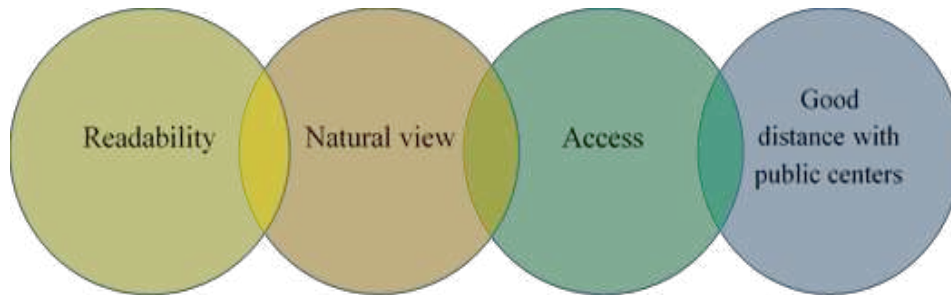


Figure 2. Selection criteria for the regeneration site of Shiraz gardens

Table 5. Selection criteria for the regeneration site of Shiraz gardens using the SWOT method.

Criteria	Options	riterion weight	firza Koochak Khan sit		Water reservoir site		Shahed boulevard site	
			Option score	riterion score	Option score	riterion score	Option score	Criterion score
Site and view	Skyline	1	2	2	1	1	3	3
	Visual field	3	2	6	1	3	3	4
Access	Pedestrian access	3	3	9	2	6	3	5
	Roadway access	2	2	8	1	2	3	6
	Surrounding vicinity	2	3	6	2	4	1	2
	Surrounding open space	1	2	7	1	1	3	3
nvironmental capabilities	Lighting possibility	3	1	8	2	4	3	6
	Good landscape	3	3	9	2	6	3	9
	Memorable space	2	3	6	1	2	2	4
	Expandability	2	2	4	1	2	3	6
Noise pollution	Sense of calmness	3	2	6	3	9	1	3
	Traffic	2	2	4	3	6	1	2
	Proximity to high-noise activities	2	3	2	2	4	1	2
Readability	Proximity to street	3	3	9	2	6	3	9
Security	Proximity to security bodies	2	3	6	2	4	1	2
Total				92		60		66

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