



The Importance of using Iranian Terraced Garden Forming Elements in Designing Tourist Resorts (Case study: Designing Terraced Garden - Residence in Shiraz)

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ABSTRACT

Nowadays tourism and travel are considered as fundamental concepts in human life. In this context, nations such as our country as one of few countries with historical, brilliant and precious background, with great cultural values can offer their culture and rich historical background to the world. On the other hand, garden that is a form of deep connection between man and nature due to its structure and elements has long had an important place in the architecture of all nations. Considering the Iranian architectural design of gardens in tourist resorts can to a large extent addition to introducing of Iranian and vernacular architecture to domestic and foreign tourists, due to its special structure and characteristic elements induce an atmosphere of calm and comfort to residents. Purpose of present descriptive analytical paper is introducing the main elements of the Iranian garden and resort designing based on these elements in Shiraz. Because of many historical and touristic monuments Shiraz is very important and in addition to accommodation a large number of tourists, it can be also introduced as known Iranian gardens architecture

Key Words: Iranian garden, Traced garden, Tourist resort, Shiraz

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INTRODUCTION

According to Arthur Pope: "Iranians love to trees, water and flowers has become eternal love which is manifested in the Iranian garden". Due to the innate tendency of humans in interaction with nature and significant impact of relationship with nature on human mind and body, human beings always sought to establish reasonable and appropriate relationship between the internal space and external nature (Mehdinejad et al. 2013). Maybe that's why; along with search and travel it has tried to achieve a better understanding of the world

It is worth noting that today, as in previous periods, migration instinct and movement is still in human nature and it is an incentive that makes him travel. Thousands of years ago, roads were communication arteries and in these paths, buildings like inn, Rabat, shelter, and harbor were built for travelers rest (Pirnia, 1979). These settlements are created with different incentives and depending on the existence motivation they find diverse forms. Inspired by the ideas of garden of thrones and daersara on the one hand and modern residences on the other hand, you can create new solutions based on striking architectural structure of regional resorts. What this study considers is designing a residence using the principles of Iranian gardens architecture in Shiraz, since this has large gardens and tourist attractions such as Delgosha Garden, Jahan Nama, Eram,

Afif Abad etc. it enjoys a lot reputation. Due to the high potential (agriculture, medicine, industry etc.), Shiraz attracts many tourists every year.

Research Literature

Iranian Garden

Old Iranian garden, rooted in the Achaemenid era is divided into two groups of flat gardens and terraced gardens. View of the scenery in flat gardens has received less attention and has created introverted landscape. Extroverted landscape has been considered in terraced gardens and intruder vision has been raised as an issue in these gardens and these gardens were inclined toward specialization.

The main elements of Iranian gardens geometry can be summarized in these cases: breadth of vision, introspection, water axis, rectangular geometry, symmetry, and centrality.

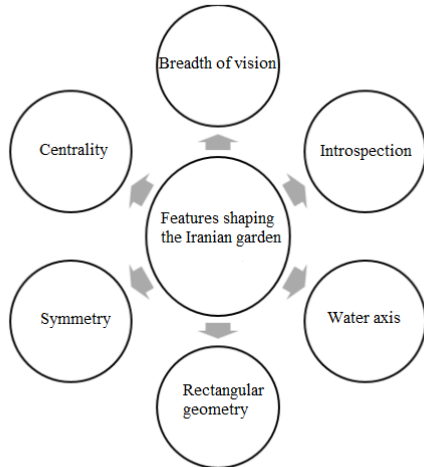


Figure 1: Features shaping the Iranian garden (Source: Writer)

Breadth of vision: There is an axis in Iranian garden drawn at its greater length. This axis is the backbone of the garden and the location of important elements forms its original landscape. Creating a space for reflection through human exposure to timeless atmosphere and making boundless and infinite landscape in finite recreation field is the pursuit of happiness, joy and liberation from the everyday chores. Organizing the main axis is done through the creation of aggravated perspectives and relies on depth in space: Street stretched to the horizon, body of trees that provides depth of visibility, the stream that extends to the end, gardens of trees beds etc. Also natural slope of the land provides a good position for pavilion to take place in high spot that is the impact of paradise in heaven Shaddad. Difference in man's view angle above and below the horizontal line leads to look closely and encourage observers to continue the path. Conversely, when a person looks from palace, the distance seems longer and gives a greater breadth to the garden.

Introspection: Introversion has been introduced as one of the principles of Iranian architecture, gardens follow this form and they were surrounded by walls. In addition to the main mansion or pavilion, there was head building that is located along the main axis and it was considered as reception locations (Fig. 2).

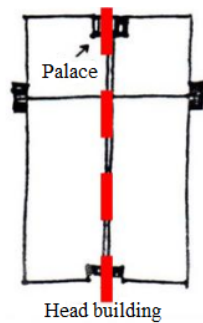


Figure 2: Position of the head building and the pavilion along the main axis of the garden. (Pirnia, 1994)

Water axes: Iranian garden builder artist in his interpretation of garden as a holy place, first of all collects sacred symbols that among them water has important role. The most important thing to enliven the garden was delivering the water from far away that this problem was solved by digging wells and aqueducts. Subterranean water was located in rivers and regular charts, by passing through the main garden veins and flow to arteries streams and sub-flow charts. This method has been effective irrigation in garden design or in other words the garden design is formed based on passage of water and gardens segmentation and to create major and minor axes.

Rectangular geometry: Considering simple geometric shapes and creating square shapes to show the elements of garden and determining the exact location of planting trees so that rows of trees can be seen from every side was of particular importance. In fact, wherever it was possible Iranian garden allocated rectangle land to itself (Fig. 3).

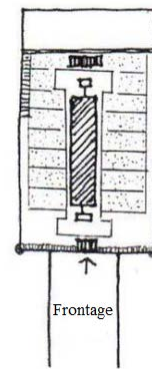


Figure 3: Rectangular geometry governing the Iranian gardens (Pirnia, 1994)

Symmetry: The principle of symmetry as the most perfect form of equilibrium is widely used in Iranian garden. Made pavilions are symmetrical and are located on the center of symmetry. The peak of mirroring can be seen in the main axis, that even trees, shrubs and flowers have been planted symmetrically. Rectangular garden depending on the location of the pavilion, have one or two axis of symmetry and four axis square plans (Fig. 4).

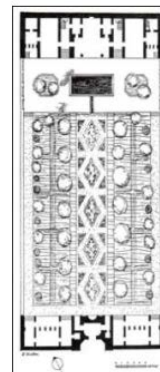


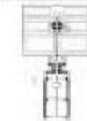



Figure 4: Longitudinal symmetry used in the Haftanan garden and mansion in Shiraz (Naima, 2009)

Centrality: Mainly the principle of centrality can be seen in pavilions. Especially pavilions with Eight Paradises plans. This principle in square plan with Pavilion at the intersection of the axes is at its peak (Ahmadi, 2008). Table 1 indicates the presence or absence of these elements in some of the famous Iranian gardens.

Table 1: Investigating the main elements that form the geometry of the gardens in Iran (Ahmadi, 2008)

	Plan	The breadth of vision	Water axes	Rectangular geometry	Symmetry	Centrality
Shiraz Throne Garden		+	+	+	+	+
Mahan Prince Garden		+	+	+	+	+
Nishapur Garden Ghadamgah		+	+	+	+	+
Qajar Palace		+	+	+	+	+
Result	As flat gardens, the same geometry principal is used in the entire terraced garden.					

+: Having
 -: Not having

Iranian Terraced Garden

As it was mentioned earlier, one of the Persian gardens is terraced garden. In some cases that situation was somehow a natural fit for garden building, the possibility of exploiting a hill with steep slopes to make part of the building and garden spaces, garden was organized in such a way that the maximum utilization of the areas of high and steep levels take place. In gardens designed in such a situation, at the top of a hill or in part from hillside that there was relatively flat areas and surface some of the buildings and spaces were designed and constructed and on the other the surface and area at the bottom of the hill there were elements and spaces that provide the proper perspective were. Ramps were often used as green space. Shiraz throne garden and Tehran Qajar palace and Prince Mahan garden are of these gardens.

With respect to the geometry of terraced gardens it can be said the Iranian garden where it was possible, allocated rectangular space to itself. And in parts the imposition of this geometry to the natural surroundings is evident. This issue is important in traced gardens. Geometric principles governing the of traced

garden system had been crystallized in the same way that it was in flat gardens. With this difference that manifestation of the water and taking advantage of the sound and movement created by this sacred element is more prominent (Fig. 5). Therefore, all the told geometric principles such as symmetry, breadth of vision, water axes, rectangular geometry and centrality are firmly in the terraced gardens (Ahmadi, 1999).

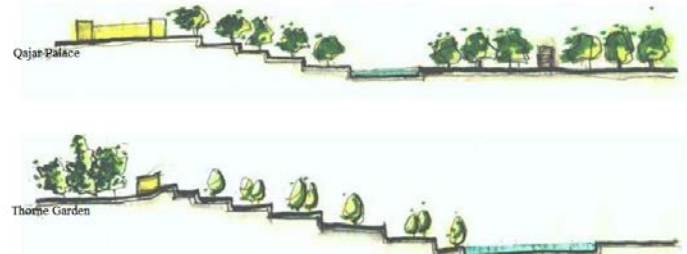


Figure 5: Traced Gardens (Source: the writer)

Study the Different Aspects of Iranian Garden Architecture

It is important to address various aspects and features of Iranian gardens and it can very helpful in designing. For this purpose in this section these aspects will be discussed.

- *The integration of building and garden:* One of the most important issues in Iranian gardens architecture have been the integration of the building and garden and these two have been mixed so much that that cannot be felt where garden construction is started and where it is ended. Building does not break garden space in the Iranian garden, but human vision crosses it and makes connection with other spaces of garden. Also the garden space finds a way into the building and no interface occur (Shahcheraghi, 2012). According to Naima (2009) and Shahcheraghi (2012), looking at the composition of architectural space with perspective in different gardens will provide some interesting points. For example, in throne garden, in some cases that the natural position for the garden construction and part of the building created garden spaces, the garden was designed and organized in such a way that maximize the utilization of high areas and ramp. At the top of a hill or flat section of mountain slopes required spaces were designed and built and other levels that were low the landscape and views were embedded (Fig. 6a). In internal courtyard garden indoor space in a range of outdoor space of courtyard garden that is like a small garden is deployed. So that the closed space is completely open. And in the internal courtyard garden, the physical indoor spaces are placed in peripheral space and courtyard in the center (Fig. 6b). It must be said also about the courtyard garden that in a small number of large houses and affluent city dweller, part of the house, the garden was designed and built which describes its combination with a variety of home environments (Fig. 6c). Extensive gardens that are among the most known Iranian gardens typically are made in a broad

and rectangular ground and out of dense tissue of the city (Fig. 6d).

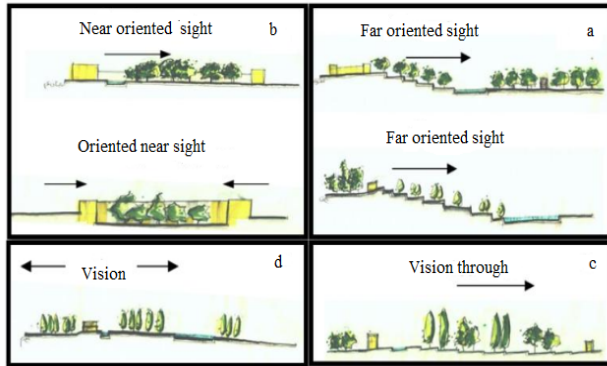


Figure 6: Spatial composition of landscape architecture in a variety of gardens; (a) throne garden, (b) Extroverted and introverted courtyard garden; (c) courtyard garden; (d) Extended gardens. (Source: the writer)

- **Confidentiality:** Wall is one of the most important elements in Iranian garden privacy so that almost all of Iranian gardens are enclosed by walls that in addition to climate issues, creating privacy and security are of the most important factors in building a fence around the Iranian Gardens. In addition to the wall, the entrance was existed too that sometimes there was also a typical door instead but there was a press in front of it, it means a lattice wall that makes the inner space of garden invisible from outside.
- **Pavilion:** The pavilion or main buildings were built in the different parts of the garden. For example, when the main building was in the middle of the garden it could be seen from four sides and the garden main building was on one side and minor buildings were around. In some places pavilion was in a one-third proportion along the longitudinal axis and the inner buildings were in the backyard garden and original view was in the opposite direction of inner space, thereby a sort of privacy can be created and the inner spaces are kept away from the eyes of outsiders.

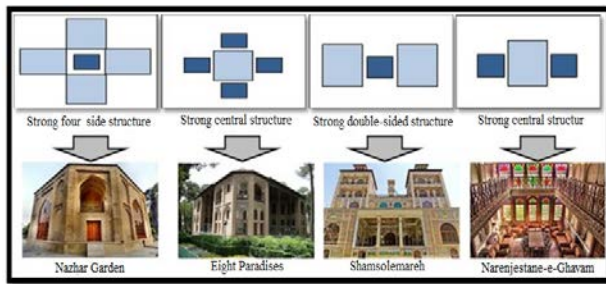


Figure 7: Investigating the pavilion structure with gardens (Source: the writer)

Usually pavilion architecture in the Iranian gardens have enjoyed extroverted and introverted way and in the middle of a pavilion there is usually octagonal space sometimes pond and

fountain were made (Such as Eight Paradises Garden pavilion and State Garden of Abad pavilion in Yazd). (Mottahedin, 1995, p:235).

- **Garden entrance:** Entrance to gardens were like a building that entering space was part of it, that usually it was called head mansion that in some cases it was only consisted of entering space and in other cases it had one or more rooms. Head mansion on a limited number of gardens was a relatively large building. Entering spaces of introverted building has two views: A view seen from the outside and the view seen from inside. The garden entrance because of the importance of inner space inside and its impact on view the entrance internal space is designed (Fig. 8).

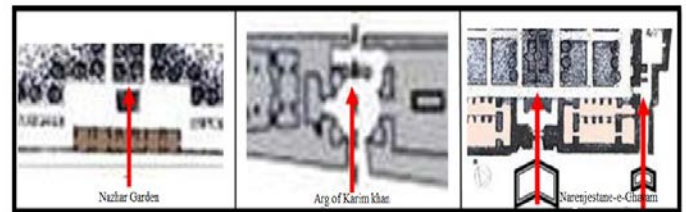


Figure 8: Analyzing garden entrance (Source: the writer)

In fact, secondary goals of combined input components can be expressed as follows: Ensure confidentiality and security, entering with modesty and calm, form an indirect path, entering gradually, draw attention, inviting and openness. In one word the garden input functions can be divided into two parts: the main and auxiliary. The first part of the connection between inside and outside and monitoring this relationship was considered and in subsection welcoming and farewell could take place and has been the place of inscriptions, dedications or command.

- **Various species of relationship between garden - courtyard and housing:** Courtyard garden is a type of Iranian garden which is normally built in terms of land and limited material resources and it is formed from the inclusion of residential around the yard space; building has an one sided vision to garden. Usually the main buildings and garden courtyard entrance are on the opposite side (the width of garden) to benefit from the original garden landscape, in proportion to big and small courtyard and need of more space, building is constructed on the other side (Shahcheraghi, 2012).

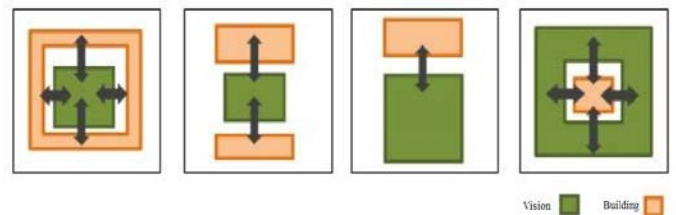


Figure 9: Variety of housing and courtyard relationship (Source: the writers)

- **The role of the porch and hallway:** Porch is as a semi-open space intermediate between open and closed

spaces or in other words filled and empty spaces. Also in terms of temperature and light it is considered intermediate space. From one side this filter space reduces the heat, on the other hand softens the light by Panj Dari.

Corridor along with courtyard, as home communication arteries, with taking into account the main layout with narrow width is medium and wide. Narrow corridor usually connects the vestibule to the courtyard, the corridors with average width were between small three-door and five-door rooms and corridors with large width placed have along alcove. Hallway can be found both bright and dark in Iranian housing architecture. Mainly dark corridors were used to connect the building outside space into the space within the building or have taken places between the rooms. Bright corridor also was a connecting factor of courtyard and inner space of the room and from one side was associated with of the room and on the other side with courtyard (Fig. 10).

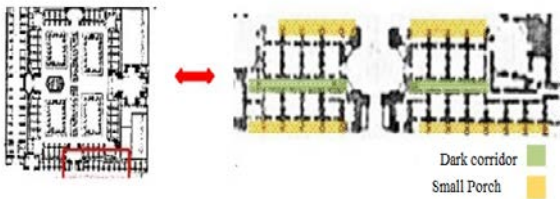


Figure 10: Showing the hallways on the first floor plan of Madarshah school (Source: the writer)

- *Terraces in the terraced gardens:* Terraced garden is a rare example of Iranian garden. The terraced part of the garden seems as detailed and plat formed and suspended building. Today this form of platforms is called terrace. But if we get help from Iranian architecture terminology, we will call these successive podiums as suspended and compact terraces. On the one hand Terraces in floors in terms of capital was for garden pool and scenic city vision, and the hierarchical recourse to "alcove" and "private garden" and viewer was enthusiastic to climb.
- *Entrance building:* In many gardens (residential, government, or both) mansion was built in the inner space that in most cases, it is the settlement for guards, gardeners and other service workers. Building located in the inner space only in a small number of gardens may be converted to larger Garden Home that was the residents' settlement.
- *Interior building:* In a variety of habitats gardens, especially habitat-governmental garden one or more building are considered for permanent residence that it's often called Andaroni (Inner space). Because it was designed and built in such a way that it was socially and physically a definite, specific privacy so that if party events was held in the garden pavilion and where passers were treated, solitude and privacy of Andaroni would be protected.
- *Services and ancillary spaces:* In many large gardens, in accordance with their size, the type and function of the garden as well as the number and status of users

one or more service space such as stables, warehouses, tea house, baths and cisterns were built. Size, location, the proximity to other spaces and other physical features of these spaces were affected by other main features of garden (Naima, 2006).

Tourism and Resort

The human need for shelter and refuge, not only at presence but also at journey from previous ages has been the focus of attention. In Iran from very long ago these form of works such shelters and road resorts are seen that many of which can be in terms of construction methods, from architectural and artistic are considered as masterpieces of their age.

Resorts are created with different motivations and depending on the existence motivation they find diverse forms. The root of the word hospice, about from year 656 AD was used to designate centers that had adequate facilities for travelers temporary stay. Hospice is a place where the necessary facilities for traveler short stay, the destination or the route are provided. The other equivalents include: the inn, guesthouse, motel and lodgings that regardless of the degree and quality of their services in the world have a history of several thousand years (Azimi, 2007).

Early forms of resort in European countries, was very naive and often this type resorts were built along the trade routes, on horses switching site that were built as upscale and more convenient place for masters and other parts were considered separately for the public (Shahroodi and Seyyedan, 2010). What today attracted the attention of designers as a major objective of the new residences as hotels, is the guests' convenience. It means creating an environment that is more warm, happy and family friendly and have the same privileges and facilities of family life and individual and collective spaces where can meet physical and perceptual needs of the newcomers.

2. Identification and analysis Design Site

Shiraz is the center of Fars province and one of the five largest cities in the country, it is 10300 square kilometers, it is limited to Sepidan and Marvdasht from the north, from the south to the Jahrom and Firozabad, from east to Estahban and Fasa, and from west to Kazeroun and Mamasani. Shiraz is 1540 meters above thesea level. In terms of geographical position, the city is located at latitude of 29 degrees and 32 minutes north and longitude of 52 degrees and 35 minutes east.

In addition to tourist attractions of this city, Shiraz is considered as medical and industrial and agricultural hub so every year draws many visitors and tourists.

The target site is located on the southern slopes of Baba Mountain close to the entrance to the city and is located on the eastern side of Luna Park. The site is also very close to the city center and tourist attractions of Shiraz. This site has a slope that is appropriate for project and also located in the mountains on the south side that can benefit from proper lighting.



Figure 11: The target site for design (Source: the writer)

Presentation the resort plan

In Iranian residential gardens, that are actually the followed pattern of this design, concepts have been met that show the identity of garden with respect to original underlying with regard to modern space. What is included in the plan have been considered as follows: taking advantage of the constituent elements of ancient residential architecture (like Sofeh, terrace, Porch) as a semi-open spaces and connecting the interior and exterior; use a variety of bright and dark hallway; dominant spaces designed to reduce visibility; entries in spaces designed for readability; one-side oriented vision in order to make balance the living spaces; choose a suitable site that dominates the landscape according to local patterns and climate, attention to the design of step-oriented landscape to increase visibility and reduce the nuisance and merge it with green roofs for more fun and sustainable architecture.

With respect and consideration of all these factors designing terraced residence garden will began. In the first stage of design, the main lines formed from rocky architecture which has a smooth fracture lines plan, and based on site land it has been created. In the second stage, the plan form took shape and the it was paid to layout spaces and thus achieved its original design form. In the third stage, more regular form and general plan has been designed with the fusion; and the site plan was designed based on existing slope lines and plans.



Figure 12: The final design of the residence based on terraced garden

This residence on two floors includes 12 double rooms, 12 triple rooms and 5 double rooms. In addition to rooms there are

spaces for reception room, waiting room and living room, bathroom, cronies station, lobby, service spaces, recreation, office, utilities, parking, and indoor and outdoor public spaces such as restaurants and coffee shops have been considered.

CONCLUSION

Garden in the course of history as a part of the skeleton of the body has been of the city's most decisive indicators and face and always has held coordinating role of the relationship between man and nature. So taking into account the shape of Iranian garden design in lodgings can greatly addition to building refreshing and lively and the natural environment, can help to introduce the Iranian garden culture to foreign tourists. Therefore, in this study it was attempted to identify important elements of gardens and then plan for a settlement based on the dimensions of the Iranian terraced garden. It is hoped that the contents of this research, lead to awareness and improving knowledge of Iranian garden and residences design with regard to the skill of the design and manufacturing locations.

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