

Review of the Characteristics of Mahan Garden: One Type of Persian Gardens

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Abstract—Iranians' imagination of heaven, which is the reward of a person's good deeds during their life, has shown itself in pleasant and green gardens where earthly gardens were made as representations of paradise. Iranians are also quite interested in making their earthly gardens and plantations around their buildings. With Iran's hot and dry climate with a lack of sufficient water for plantation coverage, it becomes noticeable how important it is to Iranians' art in making gardens. This study, with regard to examples, documents and library studies, investigates the characteristics of Persian gardens. The result shows that elements such as soil, water, plants and layout have been used in forming a unique style of Persian gardens. Bagh-e Shah Zadeh Mahan (Mahan prince garden) is a typical example and has been carefully studied. In this paper I try to investigate and evaluate the characteristics of a Persian garden by means of a descriptive approach.

Keywords—environmental planning, Persian garden, landscape, shah zadeh garden, soil and water, gardening.

I. INTRODUCTION

GARDEN construction has a long history in Iran. It has been important in the whole history, particularly in the Islamic era. Iranian ancient religion has insisted on agriculture and garden construction and has always appreciated that. Zardosht says the Ormazd:

Oh! Creator of the world! Oh! The Unique Saint! Who is the fourth one who cheers the Earth most? The Ormazd replies: One who cultivates the most wheat, and plants the most vegetable and trees. One who irrigate the arid land and farms in the muck!

In the Islamic era, construction of gardens has been appreciated by all residents of this ancient land. In addition to construction of large and majestic gardens outside the cities, construction of gardens inside and around the cities have been specific to this land for centuries. In Islam, to plant trees is admired and to cut and remove them is condemned.

We have so many narrations from our Imams in this regard. Also, in the Holy Koran there are many verses regarding the green trees in paradise. Since most parts of Iran have a hot and dry climate, the use of water and plants has always been of great importance. These two reasons have led to the garden construction art becoming of great significance in Iran.

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II. ELEMENTS OF A PERSIAN GARDEN

Four elements including land, water, plants, and space are the important elements of an Iranian garden. Along with each other, these elements in a mental framework of Iranian architecture form the Iranian garden. Other elements, however, can be involved in forming gardens, although they are regarded as ancillary elements or minor components and manifestations of a garden's main elements.

2.1 Soil

So far as land is regarded, which is a major element of garden, apart from general shape and position, other factors including soil type, slope and differences in levels, feasibility of irrigation, and fertility are also of importance. For instance, a main reason to construct gardens in steep lands with natural slope is because of water's natural flux through the garden.

Iranian gardens may be constructed on a land with either a low or a steep slope. In the case where a garden is constructed on a steep slope the type of garden is affected by this and it is constructed in a variety of levels; doing so makes it possible to create waterfalls.

2.2 Water

Flowing water is the most important element to have revived interest in and sustained the Iranian garden. Duct water flows through channels and streams and passing through the main stream, it flows through lateral channels. Water exists at least in three aspects, namely, conceptual, functional, and aesthetic. These aspects can easily be pursued in discussions such as how the water exists in the garden and how it flows there, water supplies, and garden irrigation. In most cases, ducts and springs have been the main sources of supply to gardens, and in many, the amount of water and its management and distribution, done accurately and carefully, has determined the garden's area. How to irrigate the gardens which is directly associated with the type of the land, is important where an Iranian garden is concerned. Of course, considering the lack of water in most regions of Iran, considering the respect and sainthood attributed to water in Iran, and in Iranians interest in applying water in the garden, Iranians have always made it flow in different ways through the garden and have always added to its appeal and elegance.

2.3 Plants

Apart from species and type, vegetation is also significant due to the location, cultivation plan, beauty, and its usefulness. Plants even play a role in protecting gardens

against destructive natural events. In an Iranian garden plants are used for different purposes including shade, yield, and garden ornamentation, etc. Since usefulness is a very important aspect of Iranian garden construction, fruit trees are more prevalent in them and shading trees are less frequent, and least of all are ornamental trees. As a result of the hot and dry climate of Iran, gardens contain mostly trees. Use of flowers and shrubs to provide colour and scent also has their place. Along the streams in long streets are planted cedar, pine and box. Aspen, Tabrizi and rowan have mostly been planted in clay lands. Wych- elm, bid, and purple trees, have often been planted around pools. Plots at both sides of the routes into a garden, were covered by fruit seedlings, plots around the gardens were covered by grapevines, and the pathways, corners, and shelters were covered by fig, senjed, and annab trees. Instead of planting high trees and bushes among the plot to cover the garden's building, spest (a kind of alfalfa) was used. Also flowers have had important role in gardens. Seasonal flowers used to be planted in front of palaces and small aromatic flowers had been planted beside trees.

2.4 Space

The last, but not least element of an Iranian garden, is space or architectural space. With a definition of garden, the space or architectural space, organizes the garden with an elaborate discipline and forms the areas and sections inside and outside the garden. In this regard, structures, landscapes, interiors, ornamental elements, and the relation between water, plant and land are considered. In Iranian gardens, closed spaces are combined with open spaces and are not separated from each other. We even see that water flows through these areas.

The Iranian garden is continuously surrounded with a wall which is generally long and made of adobe, and lacking any ornaments (except fences of ancient governors and regional rich people). Hence, Iranian gardens have been both a place of solitude to rest in, and a place that is secure.

Presenting water to its best advantage has been done by selecting levels to graduate the water's route, to make the sound of water gushing or tickling more audible and to control the speed of flow of the water. A water pool, whose main dimension is along a building's length and in shapes that are usually symmetrical, have usually been built in a prominent position in front of the garden, although sometimes they have been constructed as a basin inside the structure of ancient gardens.

2.5 Geometry

Geometry is the main principle of Iranian garden construction. Paying attention to geometric shapes, and creating square shapes to simplify the appearance of the garden's components, and accurately determining where to plant the trees so that they are seen from any angle, has been of great importance. In Iranian gardens the focus is on the main axis, a pathway usually surrounds the garden and the main routes divide the garden to parterres and parterres consist of plots.

The pools in ancient gardens have often been deep and contain several fountains. An example is the pool in Hezar Jaribe No Garden, Isfahan (Safavian Era) which had included five hundred fountains.

Before Islam Era and at its beginning, rounded pools had been prevalent, but later on, pools have been made in square or rectangular shapes.

Garden castle has been made in different points of the garden. A castle has been made in the middle of the garden in a way that the main view has been made along the garden's linear axis with one third ratio, along the linear axis, are points where the castle was constructed.

Garden's lateral elements mostly include elements which are manifestations of the garden's main elements, and in any of the main elements, these manifestations and lateral elements such as ornamental elements, pools, etc. can be pursued.

III. TYPES OF IRANIAN GARDEN

In a general classification, considering the somatic features, the following gardens can be mentioned:

- Garden located on flat levels: Fin Garden, Kashan and Eram Garden, Shiraz
- Garden located on steep levels: Bagh Takht, Shiraz and Shahzadeh garden, Mahan
- Aquatic Garden: Ael Goly, Tabriz
- House Garden: Amir Garden, Tabas
- Garden located aside a river: Ayine Palace, Isfahan (Safavi Era)

Considering the main function of the garden, the following gardens can be mentioned:

- Fruit Garden: The simplest from a design viewpoint, and economically the most profitable.
- Residential Garden: Garden where most of the rich people and government men have constructed their residential structures there.
- Residential-governmental garden: Gardens in towns lacking administrative and military organizations, at which the governors lived, and consisted of residential structures in addition to buildings to deal with governmental affairs.
- Governmental Garden: Garden in capitals and important cities in which the designing of residential and bureaucratic spaces had been in a manner that no disruption had occurred in activities.
- Grave Garden: A type of garden in which most parts are dedicated to tombs.

A number of famous gardens are as follows. They may be useful in protecting this valuable historical heritage.

Fin Garden, Kashan- Shahzadeh Garden, mahan- Il Goly (Shah Goly) Garden, Kerman- Dolat Abad Garden, Tabriz- Eram Garden Yasd- Delgosha Garden Shiraz- Afif Abad Garden, Shiraz- Jahan Nama Garden, Shiraz- Chehelsotoon Garden, Isfahan- Niavaran Garden, Tehran- Sa'd Abad Garden, Tehran- Abbas Abad Garden, Behshahr.

In this article, Shah zadeh Garden is examined as an example:

An introduction to Shah Zadeh garden, Mahan-Kerman

IV. INTRODUCING SHAHZADEH GARDEN, MAHAN-KERMAN

Shahzadeh Garden is located at a point 35 km from south-eastern Kerman, and at a point 6 km from Mahan, on the Kerman-Bam Road near the altitudes of Joupar. It is an Iranian garden benefiting from the best natural situation. Shahzadeh garden, Mahan has been constructed in Ghajar Era, at 11-year old sovereignty of Abdolhamic Mirza Naseroldoleh. This garden is located near the tomb of Shah Nematollah Vali on the hillsides of Joupar altitudes. Fertile soil, sufficient sunshine, mild wind, and access to Tigran water had made it possible to construct a garden on that scale on an arid and barren land. Shahzadeh Garden is located on Joupar altitudes in an area of 5.5 hectares, in a rectangular form and slope of about 6.4%. A long fence separates it from the undesirable atmosphere of its peripherals.



Fig. 1 Main Entrance of Shah Zadeh garden, Mahan-Kerman



Fig. 2 Main elevation of Shah Zadeh garden, Mahan-Kerman

4.1 Garden's land system

As a result of the 6.4% slope along the garden, and its 407 meter length, a height difference of about 20 meters occurs.

This natural slope has led to divisions in the garden defining the nature of the garden.

4.2 Garden's irrigation system

The vital resource of Shahzadeh garden is streams originating from adjacent mountains. Tigran qanat, originating from Joupar altitudes, is the water supply of this garden. This stream flows into the garden from the highest level and constitutes the garden's designed irrigation system.

The irrigation system at Shazdeh garden follows two principles: to irrigate the garden's plants, and enjoying the advantages and qualities made possible by the water.

Examination of the garden's primary situation seen in photographs indicates that the water's stair flow in the medial axis has continued outward. The garden's two main pools in the upper side and at the entrance have had fountains carrying the water up to a considerable height. This solution has been rare in Iranian gardens, and is definitely an inspiration from European gardens and springs.

4.3 Garden's plant system

The selection and configuration of plants in Mahan Shahzadeh garden plays a determinative role in the garden's identity.

The trees and vegetation seen in the bed of Shahzadeh garden are in the order as follows:

- Evergreen and windbreak trees such as pine and cedar
- Shady and wide-leaf trees such as wild wych-elm, rowan, sycamore and aspen (In addition to their importance in creating shadows, these trees are resistant to the region's climate)
- Ornamental plants including ornamental cedars, and ornamental juniper, and Shirkhesht, yielding pint size blossoms in winter.
- Fruit trees, planted in both side plots, especially create unique view when seen from the upper routes.
- Other trees such as ash, salsify, and pine

4.4 Garden's feeling

When you enter the garden, in the whole space along the main axis landscapes of Joupar altitudes are seen. This long landscape is hidden by the huge size of the main structure and is reinforced by the trees at both sides having different colors at different seasons.

The water's overall stream along the garden's main axis and the waterfalls and their sounds, have contributed to a high quality for this axis. Tree reflections, the façade structure and the gazebo have contributed to a relaxing feel about the garden, one of peace and solitude. Light and shade play a significant role in this landscaping.

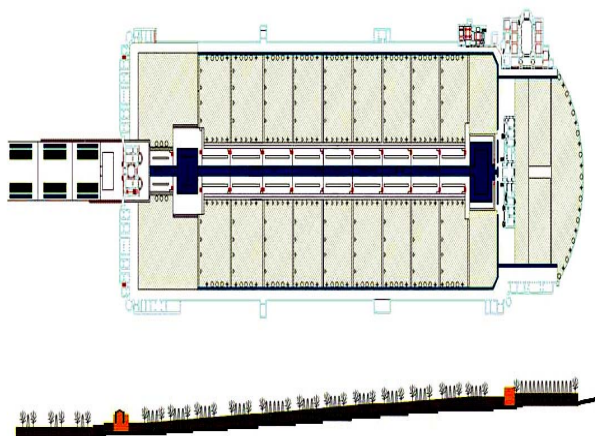


Fig. 3 Plan and section of Shah Zadeh garden, Mahan – Kerman.

V.CONCLUSION

Considering the discussions above, Iranian garden construction features can be classified as follows:

1. Garden is a depiction of Paradise (Considering Iranians' view to Paradise and its role in emergence of the Iranian garden)
2. Role of land and bed is important so far as topography, fertility, and position in function and type of the garden is regarded.
3. Flowing water is the main element in Iranian Garden Construction. It is important from three aspects: Water supplies, how to irrigate the garden, and how to use water as ornamentation (aesthetically).
4. Construction of a greenbelt and its desirable effects against Iran's dry and desert climate have doubled the importance of garden construction.
5. Focus on the main axis, geometry and application of square and rectangle shapes in designing gardens presents a specific platform.

Of course everything mentioned regarding Shah Zadeh garden in Mahan, is a manifestation of the platforms of desert gardens in Iran.

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