

Garden Culture in Islamic Civilization: A Glance at the Birth, Development and Current Situation

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Abstract—With the birth of Islam, the definitions of paradise in Quran have spread across three continents since 7th century, showing itself in the palace gardens as a reflection of Islamic Culture. The design characteristics of Islamic gardens come forth with the influence of religious beliefs, as well as taking its form as per the cultural, climatic and soil characteristics of its geography, and showing its difference. It is possible to see these differences from the garden examples that survived to present time from the civilizations in the lands of Islamic proliferation. The main material of this research is the Islamic gardens in Iran and Spain. Field study was carried out in Alhambra Palace in Spain, Granada and Shah Goli garden in Iran, Tabriz. In this study, the birth of Islamic gardens, spatial perception of paradise, design principles, spatial structure, along with the structural/plantation materials used are examined. Also the characteristics and differentiation of the gardens examined in different cultures and geographies have been revealed. In the conclusion section, Iran and Spain Islamic garden samples were evaluated and their properties were determined.

Keywords—Islamic civilization, Islamic architecture, cultural landscape, Islamic garden.

I. INTRODUCTION

THROUGHOUT the ages, the meaning of gardens has been the unreachable heavenly lifestyle and the dreams, yet people have always tried to reach there, dreaming of the salvation from pains and dead-ends with it. The paradise is the place to which the people have always tried to reach, and it has been the herald of the happiness that the people have been trying to find. These opinions have a determinant effect on the structures and the themes of garden culture of western civilization. Within this scope, it is of particular importance for the terms “garden” and “paradise” to have a common origin of language. The lexical meaning of the term “paradise” comes from old Persian “pairi -dae`-za”. “Paradisus”, as an old Babel term, is just another expression for “pairi -dae`-za” [1]. It can be described as an area surrounded with walls, fences, or just a restricted area. The Hebrew term “pardes” and the Greek term “paradeisos” bear the same meaning, which also describe the pleasure gardens of the Persian Emperorx” [1].

II. HISTORICAL DEVELOPMENT OF ISLAMIC GARDENS

The birth of Islam was in Saudi Arabia, spreading from Palestina to Iraq, Syria, Mesopotamia, Egypt, Iran, Turkistan, a certain part of Punjab, North Africa and Spain, thus revealing the culture of Islam. Islamic culture and art do not

belong to a certain country or society, but rather it rose as an independent art with local characteristics along with the common ones with the effect of religion, while developing under the influence of various civilizations’ cultural and artistic senses [1].

“Islamic civilization brought dramatic changes to the landscape it inhabited. With the skillful acquisition and transportation of water, the parched lands of the middle-east and northern Africa flourished with man-made verdant oases that not only transformed the economy with their agricultural products but also became a powerful form of cultural expression. The techniques employed to effect this transformation originated among ancient Persians and Romans. But, Muslim communities implemented them more broadly for a complex web of motivations having to do with the system of land ownership and labour, inheritance laws, taxation, urban growth and an idealized vision of country life” [2].

The understanding of Islamic gardening is based on the depiction of paradise in the Holy Quran. The emphasis as “the streams, waters, trees in blossom, any kind of fruit” in the verses formS the idea of the place of happiness.

In Quran, the term “Paradise” is termed under 7 different names according to the verses as follows:

- Jannatu-al Kjaled (al-furgan) “garden of eternity” or “garden of immortality”,
- Darul-us-Salam (el-anam, 6: 127), "Territory of Peace"
- Darül-El-Qarar (el Mu'min, 40:42), “Garden” or “harden of happiness”,
- Jannatu-al-adn (el-Bara'ah, 9: 72-73), "Garden of Eden" or "Garden of Eternal Happiness",
- Jannaty-al-Ma'wa (el-Sajdah, 32: 19), "Garden of Hospitable Houses",
- Jannatu-al-naim (el-Maidah, 5:70) "Heaven",
- Jannatu-al-firdaus (el-kahf, 18: 107), "Garden of Eden" [3].

Islamic garden concept is designed as earthly symbol of heaven. The term Islamic garden was first adopted by the establishment of the Persian garden in the seventh century [1]. Persian gardens, which are thought to be the foundation of Islamic garden, inspired many other leading Islamic garden examples such as "Kashmir, India and Alhambra and Generalife" gardens.

The Islamic garden is built on the concept of simplicity. Petruccioli [4] states: The influence of the Islamic garden first began to manifest itself in the European garden culture in the 17th century. Islamic garden art began to be perceived as one of the seductive symbols of a new exotic world, a place where

the new concept for space and design was freely expressed. The influence of the Islamic garden can be seen through the garden design in Florence and the Royal Pavilion of Brighton, England. In the 19th century, while the expansion of the influence of Islamic gardens became attractive, it was identified as one of the architectural styles recognized at fairs around the world. Throughout the 19th century and until the beginning of the 20th century, Islamic garden art gradually began to lose its influence with the emergence of modern movement. [4]. The flow of the development of the Islamic garden is presented as follows: [5].

TABLE I
DEVELOPMENT OF THE ISLAMIC GARDENS

5 th Century	The Pre-Islamic Era (Before the Establishment of the Islamic City)
6 th Century	The Establishment of the First Islamic City state, Medina
7 th Century	The Formation of the Persian Garden
14 th Century	The Establishment of the Generalife and Alhambra Garden Spain
16 th Century	The Establishment of the Mughal Garden, Kashmir, India
17 th Century	The Recognition of the Islamic garden by the European Culture
19 th Century	The Influence of the Islamic garden throughout the world
20 th Century	The Interference of the modern movement in the Islamic Garden

III. GENERAL CHARACTERISTICS OF ISLAMIC GARDENS

The common characteristics that can be seen on the main components of designs (i.e. formal and symmetrical structure, water usage) have not undergone changes, while the cultural changes and ecological differences, as the communal living style, stand out in the plant selection and usage. *Chahar bagh* garden system's spatial characteristics, along with the sizes due to the topography, vary across each area. Water and flowers have always been the most significant elements of Islamic Garden. The pools are generally placed on the most important main axe of the courtyard or the garden. Where there is more than one pool in the garden, these pools are connected to each other through ducts, thus utilizing the coolness and voice effect of the water. The environmental conditions of the country have played a significant role in placing the gardens to an important position in Islamic Culture and recognizing water as an indispensable element of the same. The water was mainly used in a manner constituting visual water feasts in gardens by means of bringing the water from snow-capped mountains through underground ducts. To Islamic garden perception, the garden is the land of paradise where people feel at peace. On the other hand, the gardens reflect the culture of society due to being influenced by customs and traditions [6].

IV. USAGE OF WATER ELEMENTS IN ISLAMIC GARDENS

Water is the main and critical element of a garden. It has been used through a substantially effective and artistic perspective in the Islamic gardens. Along with the objective of irrigation and plant breeding, it has also been treated within a conceptual manner through a poetic and artistic perspective, while presenting a fresh, colorful and beautiful view by

ornamenting the garden area. Islamic gardens emerged with the combination of "water" and "plants", generally in arid regions. The contradiction between the desert and the garden was depicted as the creation of gardens representing the paradise in arid regions, as well as an example for the prosperous view of the same.



Fig. 1 Alhambra, Generalife, Granada/Spain (Original, 2019)



Fig. 2 Shahgoli Park, Tabriz/Iran (Original, 2019)

A. Islamic Gardens in Iran

The first evidence of Persian gardens was recorded as 600 BC. The gardens date back to the Pasargad Palace area and go back to the last years of Cyrus the Great (559-30 BC). Love for gardens and flowers is an integral part of ancient Persian gardens. Persian gardens are an indicator of superior values and concepts and are symbolized as a bridge connecting this world and eternal life. [7].

Environmental conditions of the country play a critical role for the garden to be an important living place in Iranian Islamic culture and for the water to be an indispensable component. Water was brought from long distances and from tall, snowy mountains through underground conduits and it was used commonly to generate water shows in gardens [8].

Water use is recognized as one of the most distinct elements of Iranian gardens. Within the most critical part of the backyard or garden are the pools placed. With a number of pools in the garden, as well as connecting them with each other through conduits render it possible to achieve coolness, air circulation and musical water flow. On a slight slope, the

pools' construction allows the overflow of water from the pool, thus forming miniature waterfalls. For decorating the small conduits which surround the pools, colorful ceramics are used. One of the other typical characteristics of Iranian Islamic gardens is the use of colorful ceramics within the pools. In the center of gardens are the walls of palaces, which are decorated with colorful ceramics and china. In the pools and water conduits, water, which is described as a critical element of the garden, is used. In general, the pools are located at the crossing points of the garden's main axis. The pools are decorated with ceramics of different forms (square, rectangular, circle).

One of the most conspicuous factors within the scope of Iranian gardens is the use of water. The pools are placed on the most critical parts of the backyard or the garden. Water elements of the Persian gardens are constituted as "Chahar Bagh" of the formal plan in four parts of two conduits intersecting each other vertically (Fig. 3). In the center of gardens located the main pool of palace gardens, which are decorate with colorful ceramics. In general, the pools are located at the crossing points of the garden's main axis.

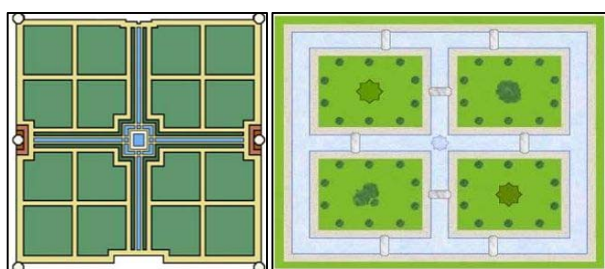


Fig. 3 Chahar Bagh Plan Scheme



Fig. 4 Fin Garden/Eram Garden, Iran [9]

B. Islamic Gardens in Spain

The Islamic culture left a mark on the sense of garden as in each and every field of art, during the Islamic reign starting at the Iberian Peninsula in 732 B.C. and ending in 1491. Some of the designers coming from the Eastern Islamic States were used for city planning, along with the architectural structures, garden plans and designs during the Islamic Reign. The most beautiful examples of the Western Islamic World can be seen in Spain, where Islam ruled over for 800 years. These pieces

of art can be summarized as the Alhambra Palace and the Generalife constructed as a summer house in Granada, along with the Alcazar Palace and gardens in Sevilla [1].

Spanish gardens developed incorporating principles and elements of garden design from precedents in ancient Persian gardens, Roman gardens, Islamic gardens, and the great Moorish gardens of the Al-Andalus era on the Iberian Peninsula. These gardens were created to represent paradise on earth. Traditionally, the paradise garden is interpreted with a central cross axis, in the four cardinal directions, with long ponds or water channels where water reflects and flows, set in a walled courtyard. The quadrants often had fruit trees and fragrant plants. A clarity from the symmetrical simplicity often results [9].

Granada-Generalife is the last Islamic civilization of the Nasrid kingdom in Western Europe. The Alhambra and Generalife (Granada, Spain), built in the 13th and 14th centuries, have been in use since then and serve the public both for ceremonies and festivals as well as for visiting tourists. These gardens are regarded as the oldest settlements in Western Islamic civilization [10]. The most emblematic gardens in Granada are the ones in the Alhambra and Generalife, together they have been declared to be a World Heritage Site the same as the nearby Albayzín suburb.

Alhambra complex was built continuously during the thirteenth and fourteenth centuries; most of the older structures were dismantled to build the new ones and most of halls and interior spaces were redecorated with plaster ornament and Arabic inscription [11].

In the gardens of Spain, elegant and thin columns surrounding the courtyards, circle and horseshoe-shaped arches, geometric stone adornments, tile flooring were the most prominent architectural features. One of the most important features of these gardens was the use of water. Water elements are sometimes used as a long channel in rectangular, polygonal, square pools surrounded by semi-circles. In order to give movement and sound to the space, the water channels are surrounded by sprinklers arranged rhythmically.



Fig. 5 Alhambra, Generalife, Spain (Original, 2019)

V.CONCLUSION

As the point of origin for the spatial conception of paradise, the Islamic gardens have always been recognized as the open-green areas representing the paradise with its metaphysical and spiritual aspects, in addition to meeting the physical needs of people (functional and aesthetical). In this context, the main characteristics of the Iranian Islamic gardens surviving to date as are follows:

- The most important characteristic is the description of the spatial conception of sacred paradise, which does not exist in the world, yet is idealized by people.
- Built with the influence of Islam, all the gardens are surrounded with shallow walls or porticos.
- In addition to the use of water in conduits, it is also a determinant characteristic for these gardens to have fountain pools for creating a stationary ambient or an acoustic effect, along with cascaded conduits due to the slope,
- Islamic gardens have a formal and symmetrical structure, in which the four-part system (Chahar Bagh) is used in general.
- The trees are generally used in a manner lined by the water conduits or following the lines of the roads in order to crystalize the existing geometry within the scope of the use of plant material.
- The use plant materials vary depending on the climatic conditions of the region they are placed in. However, the following trees are used in general within all the gardens: *Cupressus*, *Populus*, *Phoneix*, *Fraxinus*, *Platanus*. *Rosa*, *Narcisus*, *Iris*, *Hyacinthus*, *Jasmine*, *Violet*, *Lilium*.

architecture, Islamic gardens and Turkish-Anatolian architecture and gardens design, Ottoman Era palace gardens.

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