



A DISCOURSE ON THE PERSIAN CHAHĀR-BĀGH AS AN ISLAMIC GARDEN

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Abstract

The ancient garden plan, the Chahār-Bāgh, was originally put onto ground for the purpose of organizing garden in an arid landscape of Persia besides a symbol of political territory. This quadripartite plan of garden was found as early as 600 BC during Achaemenid era. Therefore, claims made in various scholarships that referred Chahār-Bāgh as an Islamic garden basic pattern is apparently deceiving the true meaning of Islam, which came into the world in seventh century. The method of content analysis and library search that emphasized on the theories and principles of Persian garden have been adopted in this study. To conclude, Chahār-Bāgh pattern preceded Islam therefore, assigning it as the basic pattern of Islamic garden planning and design is irrelevant.

Keyword: Persian garden, Chahār-Bāgh, Islamic garden, contemporary garden, planning and design

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INTRODUCTION

Most of Iran is predominantly located at an altitude of more than one thousand metres (The Board of Persian, 2010; Kohi, 2012). Strategically located, Iran was in contact with and absorbed a variety of cultural influences from Achaemenids and the Sassanian dynasty from Fars that once ruled the country. Conversion to Islam followed the Arab conquest in the 7th century, and the country was subsequently ruled by Abbasids, Seljuks, Mongols and Timurids (Kohi, 2012). Its major area is located in the eastern Mediterranean with desert-like climate (English, 1968; Khosravi, 2014) that hinders tree planting, thus gardens were regarded as a supreme value (Turner, 2005). Though Persia was dominated by various foreign rulers, its garden survived and was adopted by successive invaders, hence the tradition became diffused throughout the world (Mahdizadeh, 2015).

THEORIES AND PRINCIPLES OF PERSIAN GARDEN

Iran's Persian gardens have become known as UNESCO World Heritage Sites. The gardens include nine gardens in the province (Wilber, 1962). "They exemplify the diversity of Persian garden designs that adapted to different climate conditions while retaining principles that have their roots in the times of Cyrus the Great in the 6th century BC" (Wilber, 1962).

The tradition of constructing gardens and designing open-air spaces in Iran has a long history (Asif et al., 2015; Hensel & Gharleghi, 2012; Rostami et al., 2014; Shakiba & Kamali, 2012). It may date back as far as 4000 BCE (Daneshdoust, 1986; English, 1968), the decorated pottery of that time displays the typical cross plan of the Persian garden that was constructed in Mesopotamia. "It was once believed that the Achaemenids modelled their gardens after those of Mesopotamia" (Shakiba & Kamali, 2012).

The physical pottery evidence shows the world represented by a plaque or bowl appears symmetrically divided into four zones by two axes forming a cross; at the point of intersection a pool is depicted as the focal point of the world (Daneshdoust, 1986; Farroukh, n.d.) This plan was found in the Sassanian period (AD 224-641) in the hunting park (Turner, 2005). The concept of privacy is the most important concept of Persian gardens (Behbahani, Irani & Khosravi, 2006). Several methods of garden designing have existed both in the ancient Egyptian and Mesopotamian civilization under the reign of Nebuchadnezzar II (604-562 BC) (Seddigh, Karimiazari & Ghanaati, 2014). The influence of Maghreb and Mesopotamian (Ibn Balkhi, 1921) gardening techniques and concepts in the renowned 'Hanging Gardens' of Babylon is furthermore evident in the culture of Persia (Seddigh, Karimiazari & Ghanaati, 2014) due to the near vicinity of the two civilizations and the geographical similarities between the three civilizations of Persia, Maghreb and Mesopotamia (English, 1968).

The Iranian garden, as a faultless structure, has been always

demonstrated a close relationship between its cultural and natural basis (Asif et al., 2015; Daneshdoust, 1986; Koshravi, 2014; Ruggles; 2008). This tradition of respecting the environment of trees and green areas was continued by the Achaemenid (550-330 BCE), the first Persian empire, and continued in the Parthian and Sassanid eras. Consequently, the Achaemenian became the novice in actualizing the concept of four-garden or Chahār-Bāgh (Seddigh, Karimiazari & Ghanaati, 2014) and the innovation of dry-land irrigation called 'qanat'.

The concept of fourfold-garden or Chahār-Bāgh started in the Achaemenid era when Cyrus the Great (6th century BC) built a royal city (Asif et al., 2015; Lehrman, 1980; Lincoln, 2003). Pasargadae with a rectangular garden bed opposite the throne hall with symmetric streets and trees (Ibn Balkhi, 1921). Cyrus the Great has undoubtedly employed methods inherited from Assyria and Babylon in order to deliver political messages through the architecture of Royal Gardens (English, 1968). This fourfold-garden became a quintessential structure through many centuries of later Persian garden design. This form of Chahār-Bāgh was also introduced into India in the 16th century by the first Mughal emperor, Babur (Mahdizadeh, 2015).

Pasargadae was the place where the "Persian Gardens" were formed (Mahdizadeh, 2015). Persian gardens usually made use of pools and axial canals and especially pavilions. In the royal garden of Pasargadae which appears to have been divided into four equal plots by a watercourse and a path, later became known as a Chahār-Bāgh may have contributed further to the design of earthly garden crossed by canals to imitate four rivers in the paradise (Bennis, 2006).

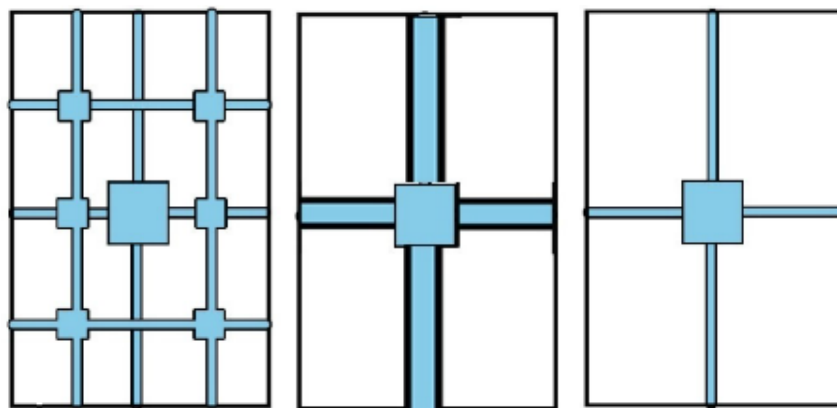


Figure 1 The Chahār-Bāgh water system in Islamic gardens

This is also the point where the application of symmetry, the Chahār-Bāgh and use of defining water courses, avenues, and the closure of vistas, terraces and kiosks originated (Kohi, 2012). "In Chahār-Bāghs, terraces symbolize the cosmic mountains, the creation of the edifice or throne at the

highest level represents the position of God. A great pool is placed in front of the edifice representing the cosmic ocean as the source of all waters which can irrigate the whole garden. The presence of trees, flowers and animals around the edifice complement the figure of the universe” (Farahani, Motamed & Jamei, 2016). The gardens of the ancient world lived on in various forms and were sources of motivation for other cultures in the centuries after the end of antiquity and later, been found in Achaemenid dwellings and Parthian and Sassanian palaces (Khademi, Kabiri & Khan, 2013; Pour, Rad & Pische, 2012; Shakiba & Kamali, 2012).

The classical Persian Chahār-Bāgh layout was found in the ancient royal garden of Achaemenid, the Pasargadae (Mahdizadeh & Sara, 2015), as one of the oldest example of fourfold prestigious garden (Pour, Rad & Pische, 2012). “This classical layout of the garden is the ideal model of the blissful paradise, a garden of perpetual spring, promised as a reward in the afterlife” (Mahdizadeh, 2015). This quadripartite (Chahār-Bāgh or four-part plan) layout is found on the land of Pasargadae, which further defines the plan of a rectilinear orchard, with pavilions that open through loggias on four sides (Shakiba & Kamali, 2012). The walled orchard, water channels, basins, fruits and shady trees, pavilions, baths and towers certainly lead us to conclude that there was some continuity in the idea of a garden through the centuries. It is necessary to define the features of the royal garden type in each period in order to retrace its evolution (Alemi, 1997). As a consequence, the concept of a walled, quadripartite garden containing a pavilion was established (Stronach, 1994).

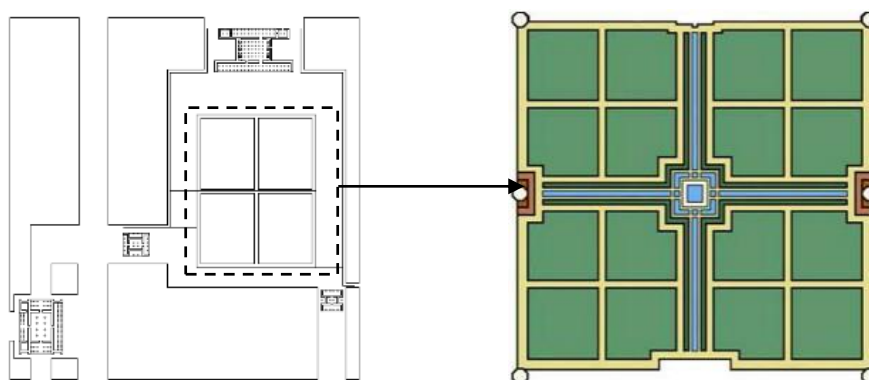


Figure 2 The plan of the Royal City of Pasargadae (Koshravi, 2014) (left) has become the basic pattern of Persian gardens (Halsted, 2014) (right)

The enclosed Persian garden became the prototype for the Islamic garden and the gardens of Mughal India. When adopted by nature loving nomadic central Asians, the gardens became royal encampments (Mahdizadeh, 2003). There is a consensus among scholars that the Chahār-Bāgh is a rectangular walled garden

layout, crossed by two main walkways (Rostami et al., 2014) or streams lined with trees and plants on their banks, intersecting at right angles (Pour, Rad & Pische, 2012) with a kiosk or pavilion and a square basin (Kohi, 2014; Pour, Rad & Pische, 2012), open to four views at the cross section which eventually a four-part garden is created (Rostami et al., 2014). Its major components are the kiosk, alleys, waterways, pools and planted parterres (Habashi, 2000). “It is planted with tall cypresses cast shade over most of the garden, and grass grows in place of the shrub. Roses pomegranates, jasmine, lilac and spring flowering bulbs are grown originally” (Kohi, 2014). There are four plots each with a single species of fruit tree and planted round with clover. Meanwhile, cucumbers and mulberries are planted around the base of the pavilion, apples on its south side where they are shaded by the south wall of the garden and vines on its north side where they are sheltered from the wind (Pour, Rad & Pische, 2012).

The Chahār-Bāgh appears just like a simple manual for gardeners, as a good way of mapping out land in order to obtain an ideal garden (Habashi, 2000). “The Chahār-Bāgh is a symbol of political territory, to organize gardens, highly structured geometrical scheme. Historians believed that the term Chahār-Bāgh referred literally to a garden divided into four parts, or a multiple of four. There is no evidence to assign an Islamic identity to this garden type because the concept of quadripartite planning preceded Islam; versions of it appeared in both Mediterranean and Persian history”.

The Chahār-Bāgh concept blended into Islamic gardens design through the Arabs conquest in Persia in 651. They applied Persian garden tradition at their earliest capitals at Baghdad and Samarra in the 8th and 9th centuries (Asif et al., 2015). “This quadripartite order of Pasargadae gardens has been transferred to Timurid gardens in Samarkand, gardens that were created and shaped in India during Mongol empire and Andalusian gardens in Spain” (Asif et al., 2015). Another factor is due to the incorporation of Mesopotamian and Persian tradition into the Islamic world thus the concept being carried to Syria, Egypt, Maghribi (Pour, Rad & Pische, 2012). Spain and Kashmir (Rostami et al., 2014). Later, the Mongol empire (1286 - 1353) conquest Persia then carried the Persian garden tradition to their empire to India. Accordingly, Babur introduced the Persian Garden to India in Ram Bagh garden in Agra consequently to Taj Mahal (English, 1968).

The second achievement is the innovation of qanats (Tajaddini, 2011), which became one of the most important methods of dryland irrigation during the pre-Islamic era constructed by the Achaemenid. Qanats are gently sloping tunnels dug nearly horizontally into an alluvial fan until the water table is pierced. Once constructed, ground water filters into the channel, runs down its gentle slope, and emerges at the surface as a stream (Dickie, 1976; The Board of Persian Garden, 2010; Turner, 2005). These tunnel-wells that consist of a series of wells linked up at a considerable distance (Wescoat, 1999) are widely used in the deserts for

several causes. First, qanats require no power source other than gravity to maintain flow. Second, water can be moved substantial distances in these underground conduits with least evaporation losses and little danger of pollution. Third, the flow of water in qanats is balanced to the available supply in the aquifer, and, if properly maintained, these infiltration channels yield a dependable supply of water for centuries (Dickie, 1976; Koshravi, 2014). Most of the times, these underground networks were constructed before building the actual physical structure of the cities and gardens and are widely used even in modern gardening styles (Khademi, Kabiri & Khan 2013; Koshravi, 2014).

Later, during the reign of Sassanids (3rd to 7th century CE), under the influence of Zoroastrianism, four element theory preceded. The theory was founded by Zarathustra (600-583) or also known as Zoroaster by the Greeks (Faghhi & Sadeghy, 2012). Zoroastrianism was the religion of pre-Islamic Persia (The Board of the Persian, 2010). The religion set a high value for nature especially admiring and respecting the water, its mythical role has had a great influence on palace-gardens of this era. Most of the gardens in this era were founded next to springs and ponds. The figure square and number four are considered as holy. The number four shows four cardinal points (North, south, East, and west), mankind's special body features (front, back, left, and right), four basic existence elements (water, wind, soil and fire) (Akhgar & Soheilipour, 2010; Ibn Balkhi, 1921), the year seasons (spring, summer, autumn, and winter) and the number of square sides and angles. Square is also a figure having symmetry, balance, and equilibrium (Ibn Balkhi, 1921).

Zoroastrianism remained one of the most influential in the Middle East until the advent of Islam. Its followers praised trees, plants, flowers and rivers as blessed elements and they are strongly encouraged to plant and cultivate. Meanwhile, the wind, stars, the moon, the sun, springs, rivers, lands and plants are called holy creatures. Water, fire and plants are elements to be worshipped. They worship the goods and best waters (Lincoln, 2003).

During the Sasanid era, gardening and garden-making have grown and developed widely. Sasanian kings preferred to construct and built their own palaces in a place that was dominated by big pools that were filled with natural springs and fountains. Probably these natural pools and ponds have inspired the pools in the Islamic gardens. Geometrical variety is the most distinctive characteristic of the gardens of this age and the axial, central and quadripartite order and organization have been improved during this era.

Later the invasion of large parts of the Sassanid and Byzantine empires by recently converted Muslim Arabs after the seventh century CE resulted in the diffusion of the concept of the Persian garden in the Middle East. While the tradition of hunting parks declined after the advent of Islam, the design of pleasure gardens, which represented the Qur'anic paradise, was pursued by both the political authorities and the wealthy. During this period, the underground

irrigation system of qanat allowed the construction of gardens in remote areas despite climatic difficulties (Faghieh & Sadeghy, 2012).

OBJECTIVE OF THE STUDY

The main objective of the study is to revisit the assignment of Chahār-Bāgh plan as an Islamic garden design pattern whereas the plan was long adopted in the past, in the organization of agricultural land of ancient Mesopotamia, Achaemenid and Sassanid.

METHODOLOGY OF THE STUDY

The following methods have been carried out in this study:

1. A close examination on written documents and plans of Pasargadae and Chahār-Bāgh; and
2. Constant comparison analysis (Onwuegbuzie, Nancy & Kathleen, 2012) on the physical features of Persian garden by grouping the texts to codes, then themes to become the key points to be discussed in each paragraph in the article.

PERSIAN GARDEN CONCEPT

Among the terms referred to garden by the Persians are rose garden (bustan, bostan, gulistan), flower gardens (Gulshan and Gulzar), pleasure ground (gulghasht), flower bed (gulkari), a nosegay (guldasta), garden of tulips (lalehzar) and the most common one is bagh. Due to a great interest in gardening among the Persians, they named their garden as 'pearadeasa', which mean 'surrounding the fort (building)', or, as they called it, 'dis'. The word 'dis' means building, and the person who constructed it is known as 'disa'. The Persian word 'pairidaeza' was derived from pairi (around) and daeza (wall), which means 'enclosed space' (Subtelny, 1997) or accumulating and fencing, which on the whole means planting trees and flowers around the building as described by Dehkhoda. This term, 'pairidaeza' is what Cyrus the Great called his garden (Ruggles, 2008) and it has been applied twice in the Zoroaster's religious book (Ibn Balkhi, 1921).

Persian gardens are always behind a wall (Chardin, 1335; Ibn Balkhi, 1921; Khademi, Kabiri & Khan, 2013), that is made up of clay, to mark the garden's boundary and as a border between the dry land outside and shady and cooling area inside (English, 1968). This wall made with no ornaments so as to create both a resting place and a secured place (Chardin, 1335; Ibn Balkhi, 1921). The walls also can be simple or carved and decorated producing a private place for relaxation and also serves as a safety protection. Wall in itself gives out a mystery and the symbol of the third dimension of the space, the wall is considered as a living spatial thing. It is a man-made ecological environment, especially its water and terrain element. Persian garden is usually referred to as having a quadripartite layout to maximize and highlight the role of geometry in the garden.

What is actually meant by symmetry in Persian gardens, however, is visual symmetry in the position and viewpoint of the onlooker from certain spots of the place in the garden (Pinder-Wilson, 1976; Titley, 1979).

A Persian garden always employs the concept of order and symmetry, owns the respect and privacy, lacks the uselessness and extremism, and is suitable for economy and resistance (Ruggles, 2008). Straight lines were used to design the garden to reduce water wastages, while at the same time divided the garden into geometrical shapes (Chardin, 1335; Stronach, 1989) of four parts, which were mostly square, or square-like rectangles that were divided into four other squares. This division continues according to the total area of the land (Chardin, 1335; Ibn Balkhi, 1921).

Persian garden is linked with water as the main source of life and abundance (Lincoln, 2003). Due to the process of irrigation, which is directly dependent on the land type, gardens were usually constructed on a steep hill with a natural slope so that natural flux could therefore create natural waterfalls (Stronach, 1989). The irrigating system of Chahār-Bāgh was used so that water comes again from the upper level to the lower one and gardener irrigates respectively each one of the four pieces by building temporary dams (Chardin, 1335; Ibn Balkhi, 1921). Water was used for irrigation and ornamentation (Khademi, Kabiri & Khan, 2013). Drowning was another irrigation scheme where all plants of a certain patch were watered by drowning of its whole area. For ornamentation purpose, centrally-placed pools (Kohi, 2012), fountains and waterways were used. Rounded pools, which later were replaced by square or rectangular shape or basins, which were sometimes shallower, were placed opposite of the garden (Stronach, 1989). From the pool, clearly defined canals stretched out along the garden's length, and often across it (Kohi, 2012).

There was also a big pond in the middle of each garden and there was a water map that run in the middle of the complex into a large pond with water view or at least a fountain, whose floors have been covered with white stones (sometimes carved to make the attractive noise of water movement possible), or glazed turquoise tiles (Chardin, 1335; Ibn Balkhi, 1921). The main waterways were lined by shady trees to maximize the functionality of water in both mythological and ornamental, besides cooling and moistening the air. Waterfalls and fountains were made wherever the natural slope allowed (Chardin, 1335; Ibn Balkhi, 1921; Subtelny, 1997) in order to produce a more interesting watercourse so that staircase could be built in the middle for the water crossing for a pleasurable sound (Chardin, 1335; Ibn Balkhi, 1921). Water features worked to increase the evaporation, and consequently to make the garden cooler and more pleasant.

Short plants were planted in half waterways; the agricultural fruit gardens were formed in geometrical separation. Evergreen and long acarpous trees were planted based on their medicinal, food and other similar qualities along with

aesthetic factors were considered (Hensel & Gharleghi, 2012). The plants were coordinated with water resources to make shadows and shades as much as possible (Moynihan, 1980). Fruit trees were more common due to their usefulness. Every part of the garden was allocated to one type of fruit and good smelling flowers such as rose and damask roses were planted beside the water paths (Kohi, 2012; Shakiba & Kamali, 2012).

Vegetation includes a range of trees (Chardin, 1335; Ibn Balkhi, 1921; Khademi, Kabiri & Khan, 2013) and other plants of diverse types and functions, with or without flowers and lawn. Trees were planted according to its medicinal, food, aestheticism or any other purposeful causes (Carroll, 2003), which mainly were of three types; evergreens such as cedar, deciduous such as pine, and fruit trees (Halsted, 2014; Ibn Balkhi, 1921). Trees provided shades (Chardin, 1335; Ibn Balkhi, 1921; Khademi, Kabiri & Khan, 2013) to this arid and rainless climate to make the environment pleasant, and protected it from the intense sunlight. More fruit trees were planted in direct lines as the area of the land increases. Irrigating the trees was done by brooks and regular streams which prevented wastage of water. Because of this, most of the Persian gardens were of the same shape including a square (Arianpoor, 1365).

The soothing sound was created by the trickling water of fountains and the song of birds, as well as by conversation and song accompanied by stringed instruments (Kohi, 2012). Also present were small buildings, castles, pavilions, kiosk and other structures (Chardin, 1335; Ibn Balkhi, 1921). The garden offered passer-bys a series of spaces ideally suited for solitary meditation, while pleasing the senses. It offered the warmth of the sun and the freshness of its shade, the whispering of breezes in the leaves and the murmur of running water in the channels, the song of birds, the perfume of flowers, and the bursts of colour (Subtelny, 1997).

CONCLUSION

This article presented the origin of the ancient Persian garden's plan, the Chahār-Bāgh which was highly influenced by Zoroastrianism, and how it has influenced the Persian and Mughal gardens in later periods. It is also evident that the plan has been alleged as an Islamic garden layout plan that emulates the description of the paradise in the Qur'an. However, the Chāhār Bāgh was an irrigation plan that had already been used to irrigate Achaemenid gardens that had existed long before Islam. Since interpretations are unavoidable, therefore, contemporary Islamic garden design should cater the current needs and culture of local Muslim society and address the climate change, rather than imitating quadripartite plan in the garden's planning and design.

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