

HISTORICAL PROCESSES FROM PAST TO PERESENT AND THE LANDSCAPE CHARACTERISTICS OF THE IRANIAN GARDENS

A Thesis

by

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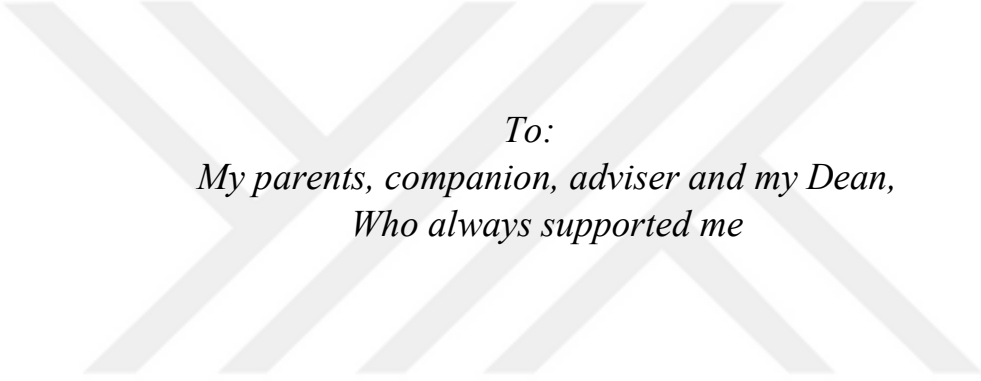
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*To:
My parents, companion, adviser and my Dean,
Who always supported me*

ABSTRACT

The history of Iranian gardens is regarded as the four thousand millennium B.C. The duration of establishing Iranian gardens is observable in semiotics and turneries of Persepolis.

The ancient Persian prophet paid special attention to agriculture and gardening. We read that Zoroaster tells Ahura Mazda in Avesta verse 33rd: "who is the fourth person that gets to the top rank? Ahura Mazda replies, "The one who grows the most wheat and vegetables, and plants the most trees, the one who dips the ground and dries the soil (marsh) and cultivate it". (AhouraMazda 1500Bc)

Iranian gardens always have been one of the most significant examples of Iranian art, science and taste. They are mentioned in most sources that aim to introduce and describe the cities of Iran. The Islamic world has adopted the traditional gardening practices of Iranians. In some of these gardening practices, the garden is a container and the buildings are located in the middle of the complex. Gardens are surrounded by historical monuments like pavilions. Also, urban open spaces have been used to establish gardens. Gardens have been used as recreational areas, as well as a place for social interactions since the Safavid era began. Such gardens can be found in different regions of Iran, including Birjand, from the east to Afghanistan, from the south to Nehbandan and Kerman, and from the west to the cities of Ferdows and Tabas, which has a desert and a semi-desert climate. (Bambang S., Budi, S., & Hermin, W. 2012)

In Iranian gardening, water defines the geometric divisions of the garden. The unique feature of Iranian gardening is building river-like streams of water in the heart of desert. Iranians were using natural springs or subterranean bodies of water, Qanat, for this purpose. Qanat is an

underground sloping channel. Utilizing subterranean bodies of water which is one of the Iranian innovations to address water scarcity and perform agriculture in dry areas.

Creating glorious and beautiful venues for holding the royal festivals before Islam was the main purpose of building gardens and pavilion for Iranians. Even Iranian carpets are entirely designed based on gardens, flowers and trees. Iranians also admire beauty and delicate designs. Drawing of the pavilions are indicative of this desire. All the rulers of ancient time were obligated to build gardens in their territory. The magnificence of royal gardens and holding festivals in Iranian gardens indicated the power of the kings. The kings of other countries of the world have built glorious gardens to show their authority as well.

After Islam, the nature of the Iranian gardening has changed from celebration to challenging after life and paradise. It changed a challenge to build paradise on the earth.

The word paradise, “ferdos” in Persian, “Jannat” in Arabic and “paradise” in other languages have the same meaning: “The best style of life”. In Quran, paradise is defined as the green gardens with full of tall trees, sweet fruits, lovely flowers and streams. Creating gardens with full of streams and abundant flowers that make people relax in the shadows of the trees was the best way of encouraging people to act well in hot afternoons especially in dry and hot climate of Iran. The gardens were surrounded with tall trees that associate the “prohibition of the damned from entering the paradise”. In the scope of this thesis, Iranian historical and cultivated gardens are examined by considering the continues spectrum with urban design and architecture at one end, and the nature and the wilderness of the region on the other. Thus, this important relation has been fully studied in two separate parts: before and after Islam. One of the main purpose of this thesis is to introduce and identify the symbols used in the physical and spatial structure of Iranian gardens (before Islam) other purpose is to study how they relate to the religious beliefs of the creators, especially the

association with the idea of visualizing the garden of the eternal paradise. In this thesis, the method of historical interpretive research has been used and the method of analyzing information is qualitative and comprehensive.

The conclusion of this thesis indicates that the physical and spatial structure of Iranian gardens before and after Islam. The symbols used in Iranian gardening after Islam have different meanings in order to visualize Islamic beliefs, especially the concept of Paradise and testimony of the Qur'an in this regard.

Key words: Iranian gardens-paradise-behesht

ÖZET

İran bahçelerinin tarihi dört bin yıl olarak bilinmektedir. İran bahçelerinin yapılış süresi, Persepolis'in semiyotik ve turneryalarında gözlemlenebilir. Eski Pers peygamberi tarım ve bahçecilik için özel bir önem vermiştir; Zerdüştçü, Avesta'daki Ahura Mazda'ya 33. ayetinde şunları söylemektedir: "en üst mertebeye çıkan dördüncü kişi kimdir? Ahura Mazda, en fazla buğday, sebze, ağaç ve bitki yetiştiren kişi, aynı zamanda yere çöken ve toprağı verimli hale getiren kişidir. (AhuraMazda 1500Bc) İran bahçeleri her zaman İran sanatı, bilimi ve zevkinin en önemli örneklerinden biridir. Bu bahçelerin İran şehirlerini tanıtmayı amaçladıkları birçok kaynakta vurgulanmaktadır. İslam dünyası, İranlıların geleneksel bahçe uygulamalarını benimsemiştir. Bu bahçe uygulamalarının bazılarında bahçe bir konteynirdir ve binalar kompleksin ortasında bulunmaktadır. Bir başka deyişle, bahçeler konak tarafından çevrelenen anıtlarla çevrilidir. Ayrıca, bahçe yapmak için kentsel açık alanlar kullanılmıştır. Safavit dönemi başladığından beri bahçeler rekreasyon alanı olarak veya sosyal etkileşimler için kullanılmıştır. Bu bahçeler Birjand, doğudan Afganistan'a, güneyden Nehbandan ve Kerman'a, batıdan Ferdows ve Tabas şehirlerine kadar İran'ın değişik bölgelerinde bulunabilir. Bu şehirler genellikle çöl veya yarı çöl iklimine sahip olan bölgelerdir. (Bambang, S., Budi, S., & Hermin, W. 2012)

İran bahçelerinde su, bahçenin geometrik bölümlerini tanımlar. İran bahçeciliğinin eşsiz özelliğı, çölün kalbinde nehir benzeri su akıntıları inşa etmektir. İranlılar bu amaçla doğal yaylar veya yeraltı su kuantları Qanat kullanıyorlardı. Qanat yer altı eğimli bir kanaldır. Su

altındaki bünyelerden faydalanmak, su kıtlığını gidermek ve kuru alanlarda tarım yapmak, İran'ın yeniliklerinden biridir. İslam öncesi kraliyet festivallerini gerçekleştirmek için görkemli ve güzel mekanlar oluşturmak, İranlılar için bahçe ve köşk inşa etmenin ana amacıydı. Hatta İran halıları tamamen bahçeler, çiçekler ve ağaçlara dayalı olarak tasarlanmıştır. Bu arzunun bir göstergesi olarak İranlılar da bu güzelliği ve zarif tasarımları köşkların çizimlerinde kullanarak takdir etmişlerdir.

Eski çağın tüm yöneticileri topraklarına bahçeler yaptırmakla yükümlüydüler. İran bahçelerinde kraliyet bahçelerinin ihtişamı ve festivaller düzenlenmesi kralların gücünü gösteriyordu. Dünyanın diğer ülkelerindeki krallar, otoritelerini de göstermek için muhteşem bahçeler inşa etmişlerdir. İslam'dan sonra, İran bahçeciliğinin doğası, hayat sonrasını ve cenneti temsilen, "yeryüzünde cennet" yaratmayı hedefleyerek yapılmıştır. Cennet kelimesi, Farsça "ferdos", Arapça "Jannat" olarak bilinmektedir. Bu iki dilde de diğer dillerde olduğu gibi "cennet" aynı anlamı ifade eder yani: "en iyi yaşam tarzı".

Kuran'da cennet uzun ağaçlar, tatlı meyveler, güzel çiçekler ve akarsularla dolu yeşil bahçeler olarak tanımlanır. İnsanlara ağaçların gölgesinde dinlenebilecekleri akarsu ve bol çiçeklerle dolu bahçeler yaratmak, sıcak öğleden sonraları özellikle İran'ın kuru ve sıcak ikliminde insanları iyi hissetmeye teşvik etmenin en iyi yoluydu. Bahçeler "cennete girmesinin yasaklanması" fikrini birleştiren uzun ağaçlarla çevrelenmişlerdi.

Bu tez, tematik olarak İran tarihi ve ekili bahçeleri ve peyzajlarına, onları bir uçta kentsel tasarım ve mimariye, diğer taraftan bölgenin doğası ve vahşi doğasına sahip sürekli bir spektrum üzerine yerleştiriyor.

Dolayısıyla, bu tezde öncelikle İran bahçelerinde kullanılan simgeler ve bu simgelerin türleri ve görünümü üzerinde arařtırmalar yapılmıřtır. İran bahçeleri söz konusu olduđunda, kullanılan semboller, bitkiler ve bahçenin kutsallığı arasında dođrudan bir bađlantı vardır. Dolayısıyla, bu önemli iliřki iki ayrı kısımda incelenmiřtir: İřlam öncesi ve sonrası. Bu tezin temel amacı, İran bahçesinin (İřlam'dan sonra) fiziksel ve mekansal yapısında kullanılan sembollerini tanıtmak ve bu yapıların mimarların dini inançlarıyla nasıl iliřkili olduklarını incelemek, özellikle bahçeyi cennet gibi görselleřtirme fikri ile iliřkilendirmektir.

Bu tez çalıřmasında tarihsel-yorumsal arařtırma metodu kullanılmıř ve bilgi analiz metodu nitel ve kapsamlı olmuřtur. Bu tezin sonucunda, İřlam öncesi ve sonrası İran bahçelerinin fiziksel ve mekansal yapısının benzer prensipleri izlediđi görölüyor. Bununla birlikte, Pers bahçeciliđinde İřlam'dan sonra kullanılan simgeler, İřlami dini inançları, özellikle de Cennet kavramını ve Kuran'ın bu açıdan ifadesini canlandırmak için farklı anlamlara sahiptir.

Anahtar kelimeler: İran bahcelari-cennet

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CHAPTER I

INTRODUCTION

Iranian gardens have a unique design in the world. All of these gardens have pavilions, tall trees, and rivers that have lived through different historical periods of Iran. However, “Pasargad” garden, being the oldest one in Iran has no trees, flowers, rivers or pavilions. It is just desert. According to UNESCO laws, there are two kinds of historical gardens: live gardens and archaeology gardens. Archaeology gardens are the ones we cannot see at present, but there are some historical indications like floodway, Channel and several pavilion walls to prove their existence in the past. Their gardens like heritage story from oldest one (Pasargad) gardens to contemporary. (Mehr news, 2017)

Creating glorious and beautiful places for holding the empire festivals before Islam was the main purpose of building gardens (pavilion) for Iranians. Even the whole drawings and designs of Iranian carpets are about gardens and flowers and trees. Long ago the Iranian concern in gardening was not summarized only to the great emperor gardens but the special beautiful designs and drawings of the houses are indicated as the signs of this concern. Other countries of the world built glorious gardens to show their authority. Because of it, Iranian kings built Royal gardens to indicate their government’s power. They celebrated Imperial Great Feasts in gardens.

After Islam, the nature of the Iranian gardening has changed from celebration to challenging future life and paradise, “paradise on the earth”. The UNESCO selected nine gardens from many various regions of Iran: (UNESCO, 2011) Table1.

Table 2: Iranian gardens (UNESCO, 2011)

Name of the gardens		location
1.	Ancient Garden of Pasargad	Shiraz
2.	Bagh-e Eram	Shiraz
3.	Bagh-e Chehel Sotun	Isfahan
4.	Bagh-e Abas Abad	Behshahr, Mazandaran
5.	Bagh-e Fin	Kashan
6.	Bagh-e Shahzadeh	Mahan, Kerman
7.	Bagh-e Dolat Abad	Yazd
8.	Bagh-e Pahlavanpur	Mehriz
9.	Bagh-e Akbariyeh	Birjand, Khorasan



Figure 1: Location of gardens, (Geometricarchitecture, 2012)

2. Historical process of Iranian gardens

Iranian gardens are the most famous gardens from the 560 BC to the present. Since Iran had the most powerful emperor in previous times this power reflected on the gardens and constructions. Other communities applicate the gardens styles. The construction style, life style, and the garden style was replicated because of the political power of Iran. The height of the trees symbolized the durability of the government. Furthermore, Iranian people loved plants and flowers.

Most of the people thought that four gardens style are just for after Islam, but it is not correct. Four gardens (Chahar Bagh) style was used before Islam and this style coincides with Islam's iconic elements. Therefore after Islam, this four gardens style is also used. Four gardens represents paradise on the earth. It is not just for after Islam. Iranian people were Zoroastrian before Islam. Paradise had same meaning in Avesta (Zoroastrian holy book). For instance, there are four floors in paradise according to the Avesta. Hence, four is a holy number before Islam too.

4 (Four) is the most effective number in Iranian art and architecture heritage. For example, there are four main elements and holy elements for the ancient Iran as, Fire, water, soil, and air. Because of it, the best form for historical gardens' plan was foursquare. This is the reason of rectangular plan for historical gardens before and after Islam. Therefore it is not just Islamic number. They used Four rivers, canal, paved Four places in gardens and they called Chahar Bagh (Four gardens). We have two design for Chaharbagh. Figure 2.

In this way garden built in one long way that connected with secondary crossing from a length, like Chaharbagh Abbassi in Isfahan.

The proposed method performs well compared to the previous one by providing some advantages. In such a method the garden would be divided into four squares/rectangles using two intersecting lines that the point of intersection is the location of the pool. This is considered as the main element of the garden. The mentioned schema should be repeated in each separated part of the garden as much as possible.

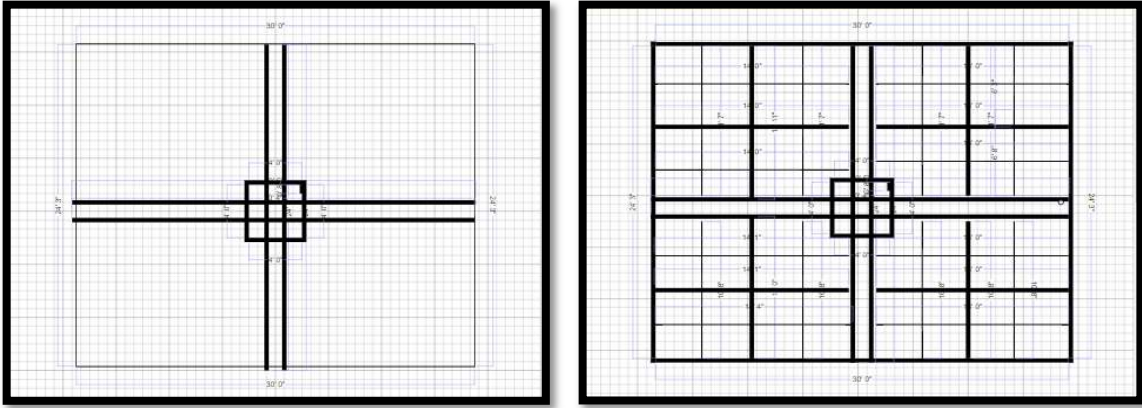


Figure 2: two models of 4bagh, (Beizaeijouybari , 2017)

According to evidence, about 200 stonemasons were used to build this structure. Undoubtedly, this huge number of workers needed the direct support of Safavid Government. Later, several constructions like Taj Mahal, meaning the land between the rivers, is considered as the source of inspiration for designing the gardens. If one pays attention to the point that the idea of Mesopotamia has been repeated through the Asian religions and ideologies along the history, it may seem logical for the idea to lead to so many innovative, beautiful and unique designs in Asia (Dalley, 1993).

Iranian garden was the best example for paradise. Because of it, Indian architecture used the design of Iranian garden. Therefore, they used the Octagonal shape for pavilion plan like (8Behesht in Isfahan) it was mentioned before the main platform for this garden is the Iranian type of “Chahar Bagh”. Also as mentioned in the section about gardens in Iran after Islam, water plays an important role in Islamic- Iranian gardens. As Taj Mahal is benchmarked from an Iranian pattern, water is also of high importance in it. This is obviously seen in the role which is given to the water in the channels to be shown in a fountain manner.



Figure 3: Tajmahal, (D,Castel)

One of the main trees in the garden is Cypress in a background of Iranian garden, which is a symbol of power of the government, always tall and green like impair immortality.

As mentioned before Taj Mahal was built on a basis of Islamic Iranian gardens and so it has some verses of Quran written on the walls of the buildings inside. To conclude the above, it can be said that there is a perfect harmony between the design, the garden and the architecture in Taj Mahal. Generally, all of them are deployed to infer the meanings of life, death and rebirth.

When we look paradise we understand that:

1. Paradise is rectangular.
2. There are tall walls around the paradise that separate paradise from other places.
3. There are a lot of tall trees, which makes it totally different from the world outside.
4. Most important elements are trees and flowers.
5. There are four gardens in garden with four rivers.

This is traditional story of Iranian Gardens according to the Quran. (Figure 4)

THERE ARE 4 RIVERS IN THE PARADISE AS MENTIONED IN THE HOLY QURAN CHAPTER 47 VERSE 15	
<p>The description of Paradise which the Muttaqun (pious - see V.2:2) have been promised is that in it are rivers of water the taste and smell of which are not changed; rivers of milk of which the taste never changes; rivers of wine delicious to those who drink; and rivers of clarified honey (clear and pure) therein for them is every kind of fruit; and forgiveness from their Lord. (Are these) like those who shall dwell for ever in the Fire, and be given, to drink, boiling water, so that it cuts up their bowels?</p>	<p>مَثَلُ الْجَنَّةِ الَّتِي وَعَدَ الْمُتَّقُونَ فِيهَا أَنْهَارٌ مِّنْ مَّاءٍ غَيْرِ آسِنٍ وَأَنْهَارٌ مِّنْ لَّبَنٍ لَّمْ يَتَغَيَّرْ طَعْمُهُ وَأَنْهَارٌ مِّنْ خَمْرٍ لَّذَّةٌ لِلشَّارِبِينَ وَأَنْهَارٌ مِّنْ عَسَلٍ مُّصَفًّى وَلَهُمْ فِيهَا مِنْ كُلِّ الثَّمَرَاتِ وَمَغْفِرَةٌ مِّن رَّبِّهِمْ كَمَنْ هُوَ خَالِدٌ فِي النَّارِ وَسُقُوا مَاءً حَمِيمًا فَقَطَّعَ أَمْعَاءَهُمْ</p>
QURAN CHAPTER 47: VERSE 15	

Figure 4: symbol of rivers, (Quran, Chapter 47, Verse15)

1. Methodology

“Historical process from past to present and landscape characteristics of the Iranian gardens” is a qualitative thesis. The questions related to my studies that I was trying to answer are:

What is the situation of constructing gardens in Iranian culture? How did the Iranian gardens change during different periods of time?

What changes were made by Islam on the Iranian Garden Structure?

14 Iranian gardens have been studied in this thesis as shifting in the eras is clearly manifested in them; from the first Iranian garden (Pasargad) to the contemporary time.

My research method: the study of registered papers and relevant books, careful study of the plant kind of the surface plant, the climate of the area, the beliefs of every era and studying the gardens (closely) Pasargad garden is the oldest garden in Iran but there are not any trees, flowers, rivers or any pavilion in this garden. It is just desert.

According to UNESCO laws, there are two kinds of historical gardens: live gardens and archaeology gardens. Archaeology gardens are the ones we cannot see them at present, but there are some historical indications like floodway, channel and several pavilion walls to prove their existence in the past.

4. Material

In Iranian gardens Trees such as willow, plantain and elm were used to create shades. They designed narrow width passages, so the shadow could cover all the path. Cypress and plantain were used in the main axes of the garden. Sometimes they planted them one among. They also planted trees like elm, red mint and orchid around the pool. In Iranian gardens, the distance between the parallel axes that were called Crete, was a flat land used for planting four seasons plants such as spices and peaches. The planting of spontaneous among the Crete also prevented water loss. The flowers also played a role in Iranian gardens. Some flowers were planted more because of their profits such as roses used for rose water extracting. I have selected 14 gardens which have been carrying the marks of Iranian gardens characteristics from past to present because all of them show a period of historical process of Iranian garden. For example, “pavilions location and number of garden” changes in different periods. These gardens’ geometric form infers a symbolic meaning. The gardens’ platform are square which has the meaning of human’s life on the earth and this world before the other world and that human is from the soil of the earth. (Herbert E.W, 2012). Those gardens were examined on site.

4.1. Pasargad garden (559-530 BC)

The Achaemenian gardens contain exact rectangular designs along with intersecting streets and trees. The remaining. Fossils of the Achaemenian era with the straight tall trees, absolutely indicate the importance of gardens for Iranians and geometrical regularities among Iranian gardens. These old rules of forming gardens were followed during the age of Sasanian kingdom: the regular geometrical combination, inside the basic site (yard), the vertical streets and right _ angled. The gardens were very vast and were designed and kept so carefully. Sometimes they were about 25 km² vast.

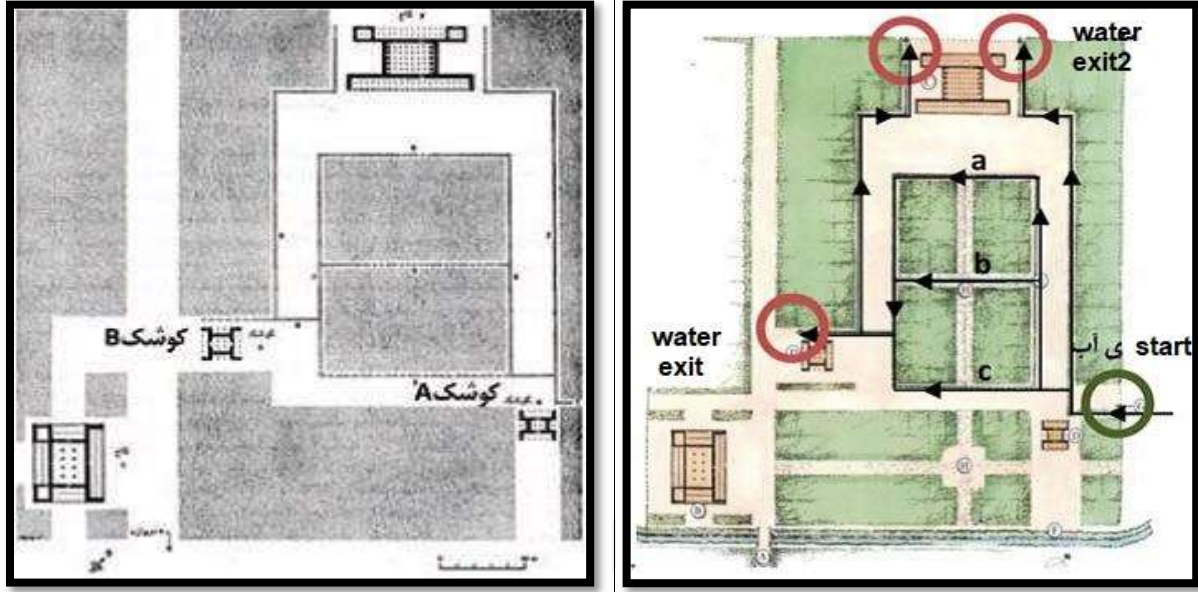


Figure 4: Pasargad gardens plan, (www.iranicaonline.org/articles/pasargadae)

According to the historical papers, Pasargad garden was just small places of Pasargad collection. The First King of Iran (Cyrus) designed this empire collection and gardening by himself. Hence, it was the first Idea of Iranian garden. There is a vast garden in this collection that Bagh Shahi (Royal garden) was only small part of that. Paraphrase, we had Bagh dar bagh (garden in the garden) design. According to remaining historical documents first location of Garden was in front of a platform and then they added places for worship and Royal pavilion around garden in Sasanian Empire. Some archaeologists believed that Pasargad gardens were first Chaharbagh (four garden) and just continue after Islam. (Rahaei o, 2015)



Figure 5: Pasargad remains (pasargad.ir)

“Pasargad” garden, being the oldest one in Iran has no trees, flowers, rivers or pavilions. It is just desert. According to UNESCO laws, there are two kinds of historical gardens: live gardens and archaeology gardens. Archaeology gardens are the ones we cannot see at present, but there are some historical indications like floodway, Channel and several pavilion walls to prove their existence in the past..

4.2. Chahar Bagh Abbassi (1500-1591 AC)

One of the most important gardens of Iran is 'Chahar bagh Abbassi' in Isfahan. Although it isn't as vast as it was in the past, this collection is formed of four gardens that were built around a main street in the city. Shah Abbas I selected Isfahan as the capital of Iran, then he ordered to build and design those gardens. Next dynasties after 'Safavi' to 'Pahlavi' added 2 more gardens in this collection. (Figure 7)

They built a canal in the garden originated from Zayanderood (the big and famous river). They designed a street specialized only for carriage drive inside the garden. They planted two rows of plane-tree (Chinar) along with the main street.

Unfortunately on the time of Qajar one of the kings decided to destroy the garden and cut some of the trees, but people demonstrated and opposed against the king and stopped destroying it, but at that time the king had demolished most parts of the gardens.

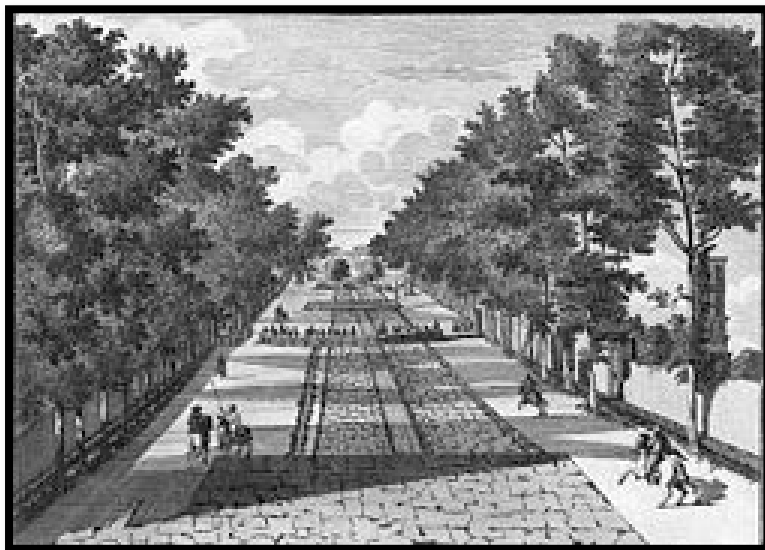


Figure 6: old picture of 4Bagh, Isfahan, (Wikipedia, 2012)



Figure 7: Plan of 4bagh abbassi, (googlemap/4bagh,Isfahan)

4.3 Shah Gulu Garden (1500-1800 AC)

E-elgoli or Shahgulu means king's pool in Azari language. This lake built in 1785 AC but nobody knows who built this garden. Archaeologists guessed it dates back to Safavieh and Aq-qouyulunhas empires. While the archaeologists dredging the lake, they found out that pool is on the bare ground without any building materials or stone. The depth of the pool can reach 3 to 9 meters. This is a step garden. There are 2 rows of stairs in two parties of the garden that connect pavilion and the pool to balcony. There is a 55cm-Wide River in the main part of the garden. The river bed is made of shaven stones. In the past, this lake was the biggest cistern for farmlands and west gardens in the city. Then, they built tall stone walls around the garden during Aqquyouluns Empire. They built a 2-floor pavilion like a flower in the main part of the pool during Ghajarie Empire. They added some extra stream in the garden too. The king died before the pavilion decoration. Kings family believed that was inauspicious, therefore they left the garden. This pavilion was abandoned. People just used the lake for farming and gardening. Pahlavi Empire changed this garden to public resort and

park. Pavilion was demolished by humidity in 1967. And it was rebuilt in 1970.

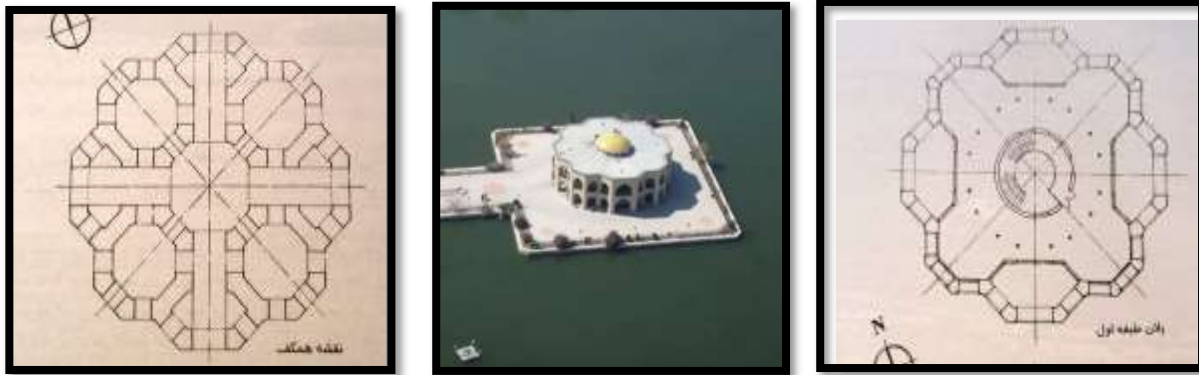


Figure 8: eelgoli pavilion, (<http://irtravelguide.com/item/el-goli-historic-park/>)

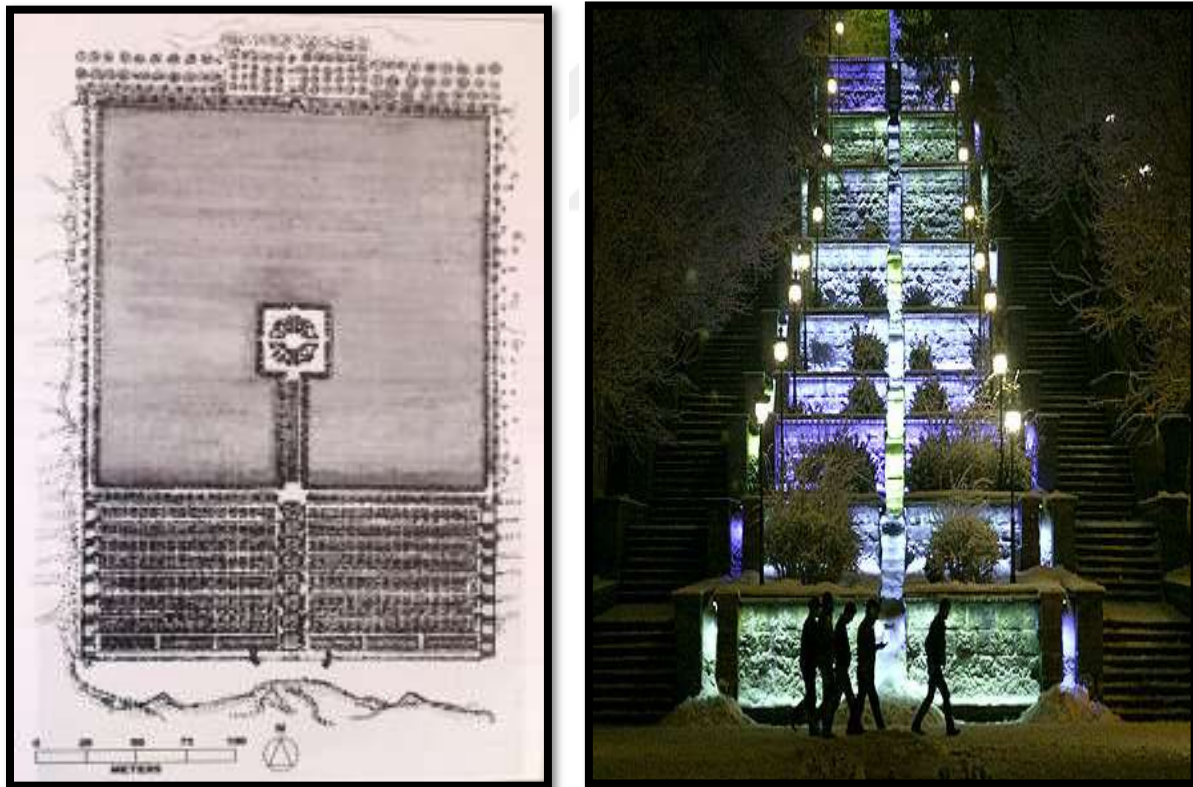


Figure 9: Shagulu garde (<http://1host2u.com/?ez=5618>)

4.4 8 Behesht garden (1669 AC)

Sultan Suleiman Safavi built it in 1669 AC in Isfahan. That was Last Safavieh kings palace. It have second floors, Octagonal with 130cm high. It has four separate elevations. It seems north elevation is main. Other people say eastern elevation is main because pool is there.

They tried to use number eight as a holy number in this garden. Like gardens name, pattern, number of trees. There are eight octagonal rooms in the building for eight wives of king (suguli). The main pool is octagonal, all of the Bricks are octagonal too. There are paintings of historical stories on the tiles and a lot of Myths like (Simurgh).

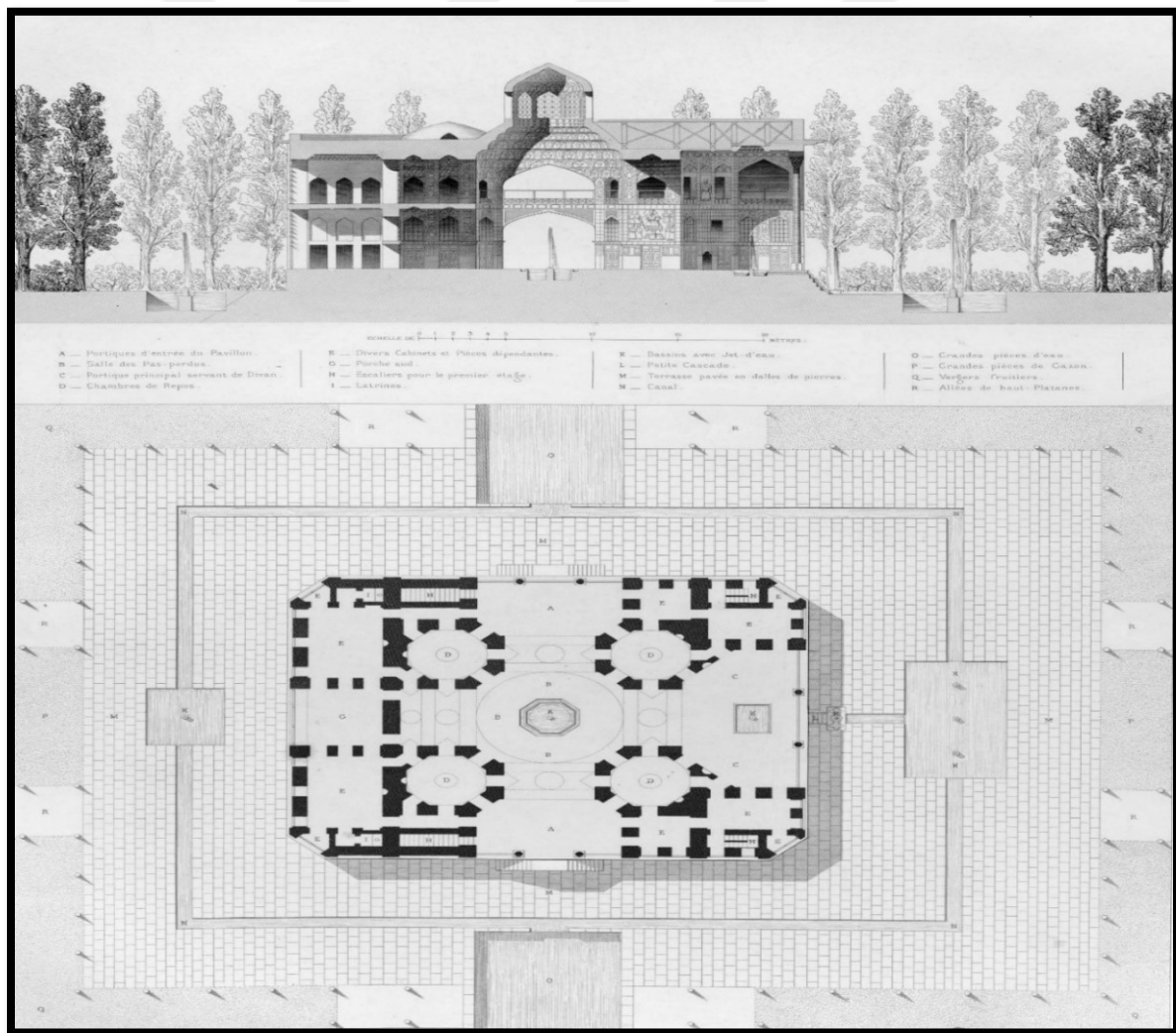


Figure 10: Behesht garden, (wikipedia, 2013)

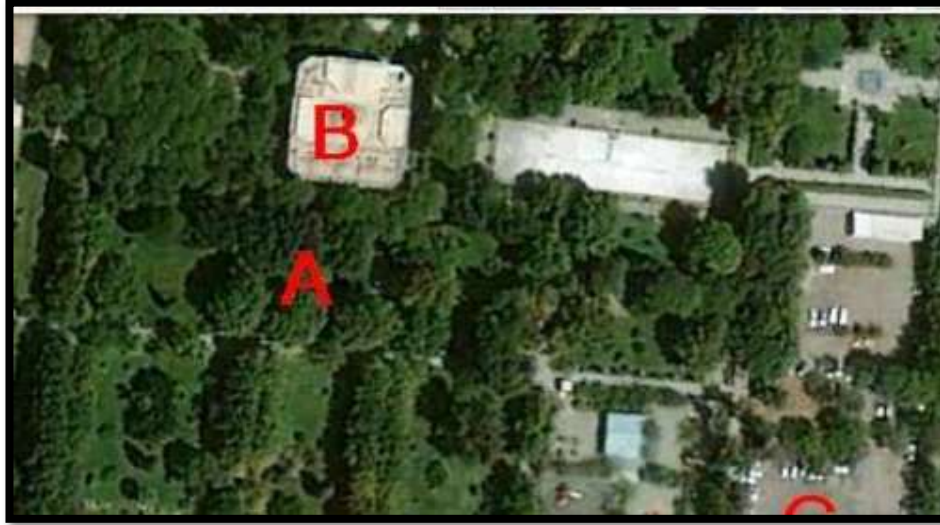


Figure 11:8 behesht location plan, (@2011,google)

In the southern part, after crossing the four ponds, the creek water crossed the sub-basement and faces the north face of the small waterfall and flows into the large straight-axis

4.5. Ashrafolbelad Behshahr (city hall garden 1612)

Garden of Chehelsotun or the new city hall garden it is a stepping garden for Iranian and Islamic gardening of the Safavid kings in Behshahr city of Mazandaran province. The area is 8 hectares m^2 which was built in 1612, with a general design of Iranian Gardens, surrounded by “verandahs” and pools connected by two-way roads and water in the garden. The garden originates from the foothills and goes through the central square of the garden. This garden with dimensions of 170 meters in width and 550 meters in length, in 1878 AC, was designed by Shah Abbas. In a few years, Shah Abbas had been at the forefront of hospitality. This garden has two main streets, the longitudinal axis of the garden with a view to the north and the sea, and at the intersection of them, a large pool garden. Plant species of the garden:

pool in the north axis (with the diameter of 366 x 416 m) erected against the mansion.

Vegetation of the garden is mainly: cypress trees (lined along the main axis of the garden), orange, citrus, and persimmon trees (in different plots of the garden), as well as plain, chestnut, mulberry, pomegranate trees and various flowers such as roses forms.

Citrus (1525), palm (19), Cyprus (522), plum (32), plain tree (13), eucalyptus (6), walnut (41)



Figure 12: Ashrafolbelad, (Beizajahybari, 2017)

Around the pool, at the time of Shah Abbas, there used to be pits for putting candles which were lit them at ceremonial occasions. For this reason, they called it “the light pond and by water slopes”. The small waterfalls on the floor of the chest, in the place of water falling from one surface to another on the main axis.



Figure 13: north view of Ashrafolbelad (Beizaeijouybari, 2016)

4.6. Bagh Takht (747-1844)

Takht garden is one of the historical attractions in Shiraz. Sultan Atabak Gharache built it in 11th century 747 AC. Later on, Aqa Muhammad Khan Qajar rebuilds it in 1794 AC and Muhammad Shah Qajar adds another building to this collection in 1844 AC. Unfortunately, this collection was destroyed by the end of the Qajar dynasty and only small rooms of some buildings remain.

The garden was built with 9 floors. This garden followed historical Iranian gardening style. In those days, it was used to be a military fortress. The main pavilion was Karim Khan's Castle in the north of this garden. The royal palace was located at the last floor of the seven-floor garden, and there used to be a very large pool in the first floor and as well as tall water fountains on either sides.



Figure 14: paddock, 1851Ad, (metropolitan Museum Network)

4.7. Dolat Abad Garden (1747)

Dolat Abad Garden is one of the oldest Iranian gardens which is world renowned and is as old as 260 years. Looking at each corner of this 6.4-acre area of the garden one can see symbols of paradise, inviting the observer to another world. Fruit trees such as grapes, cedar and pine are seen everywhere, and the smell of the flowers of Mohammadi and Red rose welcomes the visitors.

In 1747 AC, along with the late Afshariyah, the ruler and the governor of Yazd, Mohammad Taqi Khan Bafqi, known as Khan Grand, built a garden that was used as the residence of the contemporary rulers such as Shahrokh Mirza and Karim Khan Zand.

Water was the most important element for the construction of this garden, and for this reason, at the beginning of the work and before the construction of the building, Khan built a 65-meter-long aqueduct to transfer water from Mehriz to Yazd and the current location of the Dolatabad Garden.

Marble stones are the most important materials used in gardening. These rocks are brought here from the city of Maragheh, which is very controversial because marble stone of the Yazd has always retained a certain reputation for quality, but it has not been used in the Dolatabad garden.

The garden surface consists of two rectangular sections, one of which is 116 by 274 meters, and another 104 by 278 meters and is perpendicular to each other. These two rectangles make up two different sections of the garden, in other words, the interior and exterior of the garden.

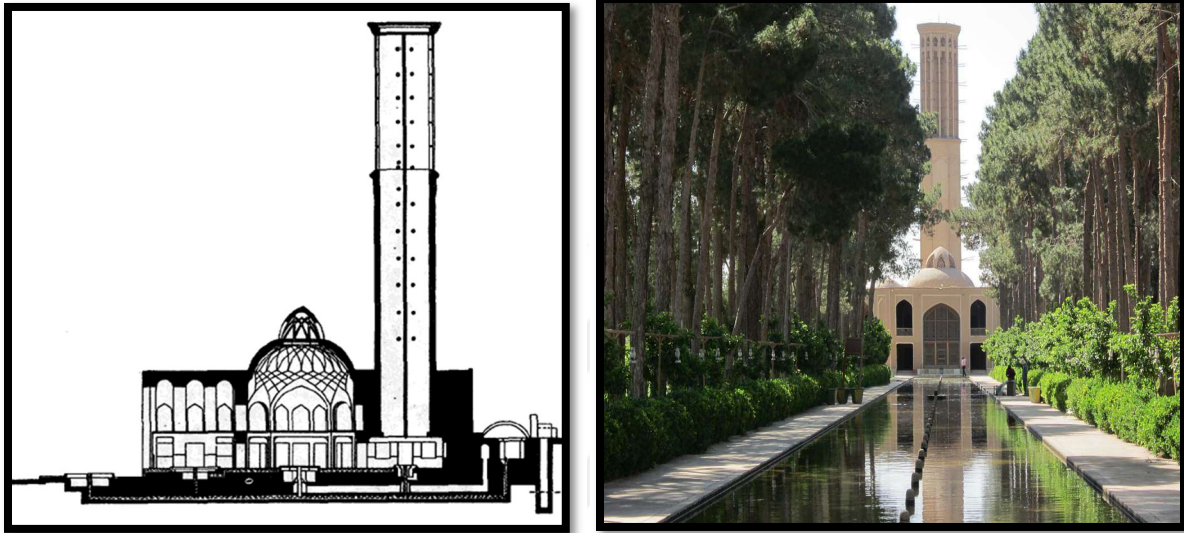


Figure 15: Dolat Abad garden (Yazdnews.ir)

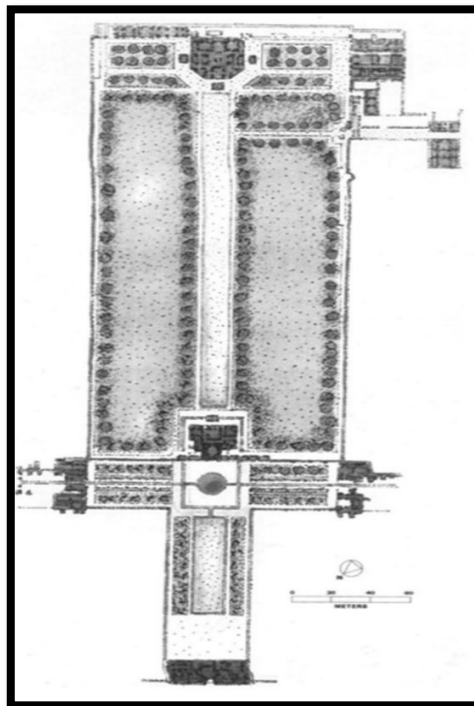


Figure 16: Dolat abad garden, Yazd. (Karnaval.com)

4.7.1. Wind catcher (Badgir)

The function of windproof is to take the suit wind and lead it to the main rooms of the building, Cistern. When there is no wind, the warm air of the inside of the building goes up and through the wind catcher transfers to the outside and there is a continuously transfer of air inside the building, although it's strength is less than the air stream in the open space. After encountering the upper ceiling, the wind is led to the vestibules and contacts the surface of watering (pool) like this garden and cools weather inside the room. Dolat Abad Garden has tallest Wind catcher (34 meter height) in the world. (Figure 18)

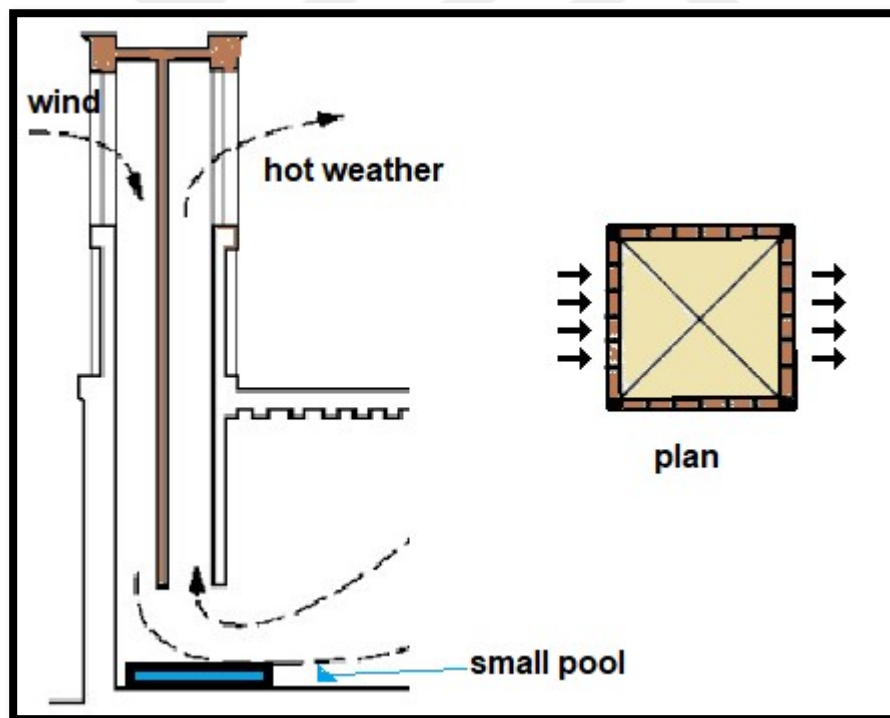


Figure 17: schema of Wind catcher (Beizaeijouybari 2017)

4.8. Golshan Garden Tabas (1850_1890)

The garden, which is famous for its name on the historic street of Golshan, was built during the early thirteenth century, late in the rule of Lotf Ali Khan, and is in the midst of the reign of Aghami Mohammad Khan Qajar and on the orders of Amir Mohammad Hassan Khan Arabs Zangui, the king of Toun (Ferdos) and Tabas. The Golshan Garden, which has an area of approximately seven acres, is approximately 266 meters in length, and approximately 260 meters in width, is almost square. The two main crossover streets divide the gardens into four large squares, each with squares divided into four crossroads. There is a relatively large pool in the garden, which has three natural fountains, including class gardens, which have a large pond, where swimming pillars.



Figure 18: Golshan Tabas, (by:Stockphoto)

4.8.1. Artesian well or jumper well

In this type of wells, water does not require any external force to get out of the ground, and this is the pressure of water that drains water from the well. This natural outflow of water can be explained by the location of the well relative to the elevation of the area. The artesian wells are designed and drilled so that the level of groundwater adjoining the well is higher than the wellhead (exit point of the water), which, as a result, the pressure of groundwater causes a water eruption from the wellhead to create a level ground.

The Golshan Garden uses these two irrigation systems to have permanent water and is among the rare gardens in Iran.



Figure 19: Golshan Tabas (F,asadi)

4.9. Afifabad Garden (1867AC)

Afif Abad Garden is a perfect example of Iranian artwork. Garden mansion builder, Mirza Ali Mohammad Khan Ghavamolmolk II, in 1867. Built it. This garden is located in one of the Shiraz residential areas and was built in 1863. This collection includes a royal palace, a museum of old weapons and an Iranian garden, all of which are available for public visitation. AfifAbad Garden with an area of 127,000 m² is one of the most beautiful historical gardens in Shiraz.

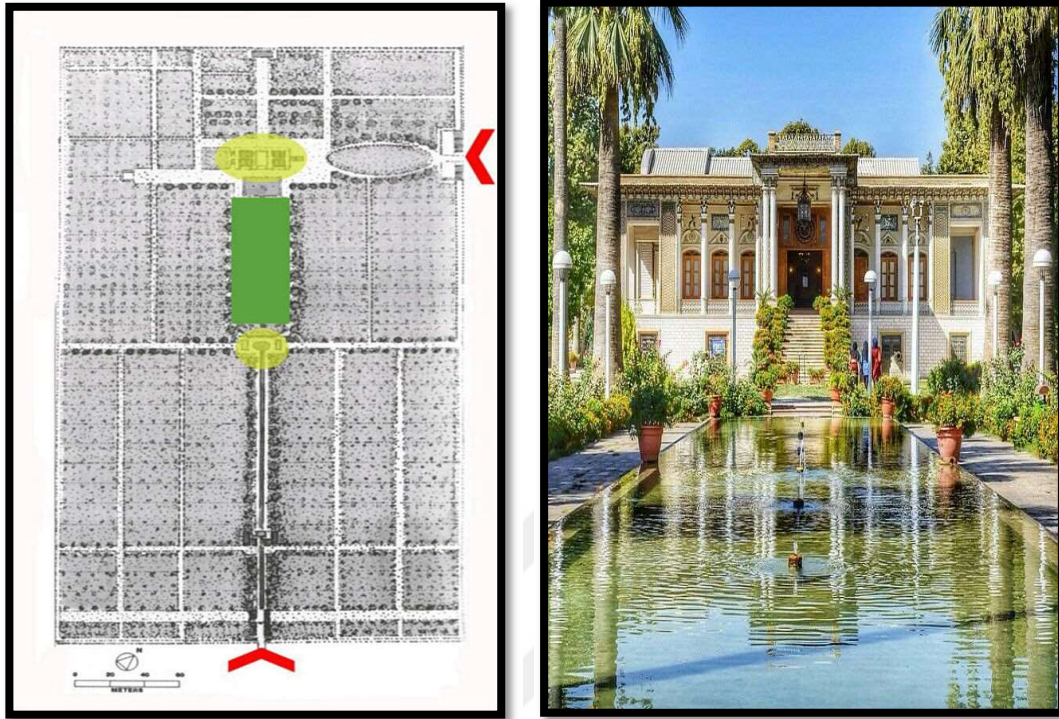


Figure 20: Afjabad Garden (Aftabnews)

The garden has four pillars of simple gypsum, and their heads are designed with a pattern from Persepolis. In the forehead of the portrait, two lions are seen, as if they were taken in between their claws. After passing through, the hall that links it to the main garden space.

In total, this mansion has 30 rooms. The beautiful and luxurious building is located in the middle of the garden, which is related to Qajar and Zandieh era. The front of the pavilion is large, and this is the starting point of the main street of the garden. The cedar, pine, plantain, spruce and orange trees are green and beautiful. From the north porch, or the entrance porch with four tall columns with stucco molding, and a wooden ceiling with paint and oil.

4.10. Shazde Mahan Garden (Prince Garden)

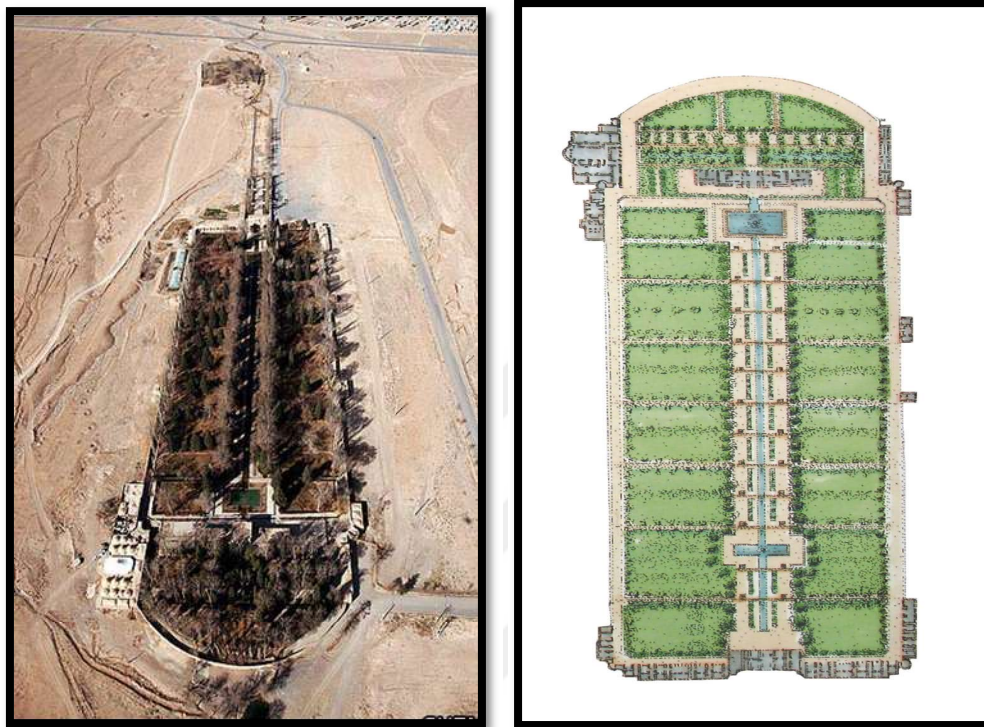


Figure 21: Shazde Mahan garden, (Mehrnews.com)

“Bagh _ e_ Shazde” or “Baghe Shahzadeh ” is one of the most beautiful gardens of Iran. It is located about 4 Km to the “Mahan” city in Kerman province. This building belongs to the ending of the “Ghajarie” era. Mahan is located 35 km far from the south east of Kerman city in Kerman province.

Baghe Shazde was built according to the order of Abdol Hamid Mirza Naser_o_ doleh, the ruler of Kerman during eleven years of his ruling, and it was left uncompleted as soon as he died. It was said that when people of Mahan were informed about the ruler's death, one of the workers who was completing the portal of the garden, punched his hand strongly against the wall and left the work immediately and escaped. And this is why the places of tiles on the portal of entrance gate are empty.

The construction of the garden dates back to 1897AC, (Iranian calendar) 120 years ago. This division of surface that is originated from the natural slope defines the nature of that garden. It is built in a rectangular ground about 5.5 hectares and has a very beautiful portal. The specific portal site of the gate inside the garden in the form of a linear construction occupied the entrance of the garden and is built in two classes. The upper class contains the rooms for staying or receiving guests. Other service buildings provide different serving affairs in suitable places using the main walls, formed as combined walls. This garden contains royal building and baths as well as the portals. Recently, the royal building operates as a restaurant and is managed by a private business.

Bagh_e_Shazde was established in the heart of desert and among the hills of Japer. Being located on the Foot Mountains of Japer helps to provide water from the subterranean canal of Tigarán for watering the garden.



Figure 22: Shazde Mahan garden, (H, Sadighi 2011)

4.11. Fin garden (1574 AC)

This building was built in a new location after an earthquake in 1574. The entrance and entrance vestibule, the middle pillar, the Safavi Bath and the garden tower and garden were formed during this dynasty. Afterwards, during the Zandieh era, the Karimkhani Residential Mansion was being constructed adjacent to the gardens, and the Qajar kings also added to the garden some of the areas such as the FathAli Shahi subterranean siphon, the Qajar Bath, the King's Hall, Khalat Nizamad-Doleh and the Windhoek Mansion (current library). Extensions to the garden of Fin are added in the contemporary era.



Figure 23: Old picture of Fin garden, (Alamy Stock Photo)

4.11.1 Water

Water is one of the key elements in the design of the Garden of Fin. The water is located in fawn garden in stagnant forms (in the pool in front of the coffin and the Safavid basin), in

the stream (in the river), in the gushy (fountains), and in the buckling (the appearance of water from the regular holes in the pond of the pool at the weld pond and the Safavid basin and FathAli Shahi subterranean siphon).

Flowing water in the streams, pools and ponds of the garden are provided by Suleymanieh Springs. The water of this spring first be collected in the pool behind the garden. The difference in height between the pool and the surface of the stream creates fountains that throw water in a grate method.

Building and operation of the fountains have One meter depth under all streams and around all the basins, there are tons of tubes called Tombashells and pottery that are connected to the main basins on one side and the other side is blocked by the end of the stream. Since the end of the pipe is blocked, water enters from one side and flows out of the fountains. Since the ground is tilted, the pipe diameter creates a difference in the pressure that is divided. The bottom of the tube is thicker from the other end, in this way the pressure is divided and the water is released with a degree against the fountain. The main duct water comes from twelve springs, called the boiling ponds. From then on, water flows in streams over turquoise tiles. The color that complements the color of the dirt of the desert.

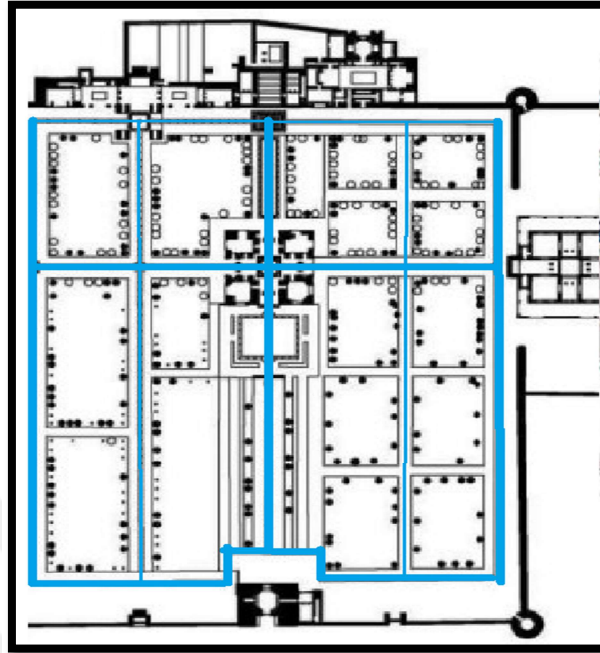


Figure 24: fin Garden. Canals Plan (Beizaeijouybari, 2017)

4.11.2 Water division (women fountains)

The water of springs after passing the distance about 2 km and passing through 17Km entered to the manifestation of the subterranean canal (Soleymaniyeh springs) behind the garden. For the original design of the Garden of Fine, Shah Abbas considers the site of the garden as the centerpiece of the subterranean canal, so that garden is the first place to enter the spring water. About one-hundred fountains of water have entered into this place before entering the garden area and then they are lead through the underground canals to the Safavie subterranean siphon (Shotor Galu), the Fath Ali Shahi subterranean siphon and the Welding Pool. In the old days, this place used to be famous for its fountains, but its structure has been transformed nowadays.

Actually, it is just for woman because Islamic laws told about Mahram (separate women and men).

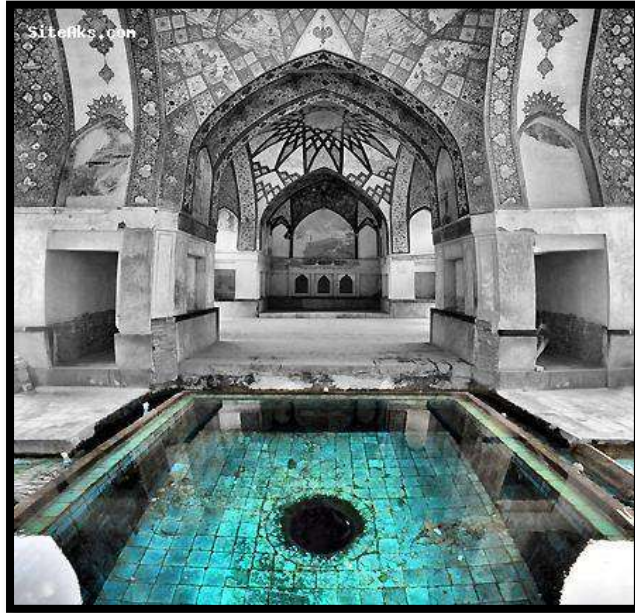


Figure 25: woman spring in fin Garden. (R,Rezaie, 2017)

4.12. Akbarieh garden (1940-2000)



Figure 26: Akbarieh garden (map.google)

This collection was built at the beginning of the 14th century along the Akbarieh village, 3 km to the south-east of Birjand, but due to the development of the city, it is at the end of the Moallem street of Birjand now.

In terms of political function, it was the most important collection in the city of Birjand. It was the headquarters of some leaders, including "Amir Alam Khan Heshmat al-Molk," "Mohammad Ibrahim Khan Shaukat al-Molk," and "Asadollah Alam".

Water flows through the canal and underground pipes to the southern pool of the mansion, and then through the streams of the head and into the garden under the mansion. The watering system of the garden is underground water. The water transmissions in the plots are carried out through two main flows and open joints located on either side of the central street. Two rows of pine trees are planted in the direction of these streams, hence that shading prevents water is from evaporating.

In the past (the Qajar dynasty), the transfer of water from the southern pool to the garden was done through a water stream that passed through the center of the mansion. The stream, after passing through the central mansion, also provided the water, was needed for the northern harbor. This stream has been lost in the course of the Pahlavi Garden changes, and the indoor canals have been replaced on both sides of the Central Manor.

The designed and constructed Akbariyah garden is according to the design of four gardens. According to the geometric system in the plotting, the adaptation of the central street based on the symmetry and the entrance hall structure, has a purely systematic geometry. It is one of the prominent examples of Iranian gardens.

There are a lot of massive trees such as pine trees over 100 years old, also many fruit trees such as pistachio and pomegranate trees, as well as shrubs such as rose, damask rose (Muhammadi), and bushes and seasonal flowers, have created a good variety of plant species.

There is an Irrigation system, enjoying free air, light and soil in the design of this complex, as well as other Iranian gardens.

The most important point in the architecture of the Akribeh Garden as well as other gardens such as those designed and built in the deserts of Birjand is the architectural genius, its contradiction with the desert and the region's disadvantageous nature. Furthermore, the optimal use of water for the prosperity and maintenance of greenery of the garden is one of the unique aspects of the gardens built in deserts. Observable characteristics of Iranian gardens built in desert are their interaction with the environment and the perspective, respect for the principles of Iranian Gardening style, diversity and pluralism were unifying and preserving light and innovation, understanding the climate, and adapting the facilities to the natural needs of creating a small paradise in the deserts idea.

The area of the collection is about 35 thousand m² and its land is 5408 m². Akbarieh pavilion is located on the southern side of the gardens and it has three separate sections, two floors and different periods of time. The eastern section of the mansion, which is the oldest part of the mansion, was built at the time of Amir Al-Nam Khan Heshmat al-Molk, which includes the access staircase, the vast courtyard and the surrounding rooms. The ground floor has a dock space consisted of a central courtyard and its pavilions (mistakenly known as stables) and the storeroom or pantry spaces.



Figure 27: bagh akbarieh, (s, Kermani.2015)

4.13. Eram Garden (1940-2000)

This mansion was in possession of houses or Qashqai tribal leaders for at least 75 years. The same building is the central core of the garden. At this time, they built a wall in the middle of the garden, thus dividing the garden into two parts. The Eram Garden is very popular with citrus trees in Long Street, on both sides of which there are magnificent cedars, and an interesting building that has witnessed the unparalleled hospitality of the Qashqai. However, some years later, some citrus trees disappear from the cold, while cedars remain attractive in the last fifty years.



Figure 28: Eram garden, (<https://www.tripadvisor.com.tr>)

In that time, the Takht garden and several other gardens were built by Fars governor Atabak Qarajeh. He was appointed by the Sinjar Shah Seljuk to the Iranian government, and people guess that this garden was created according to his request at that time. At the time of Nasir al-Din Shah Qajar, Mirza Hassan Ali Khan Nasir al-Mulk, bought the garden and built the existing mansion in the garden instead of the mansion. After Hasan Ali Khan died in 1311 the unfinished garden decoration has ended by Abolqasem Khan Nassir al-Malik. This garden is using as The Botanical Garden by the University of Shiraz. In the past three decades, parts of the western side of the garden, including the so-called mansion or "Kooshk", have been added to the garden area. At this time, the total area of the Eram Garden is near 110380 m².



Figure 29: Eram Garden, (Beizaeijouybari, 2010)

The garden is a very large rectangular square that is oriented towards the east from the west, and the main mansion is located on the west and at an impressive height. Due to the steep slope of the land, steps have been made in parts of the main streets and other garden streets, and this terrain has added to the beauty of the garden.

In front of the main building, which overlooks the garden, is a large pool in which the image of the mansion appears. The area of this swimming pool is three hundred and thirty-five m², and its environment makes up eighteen pieces of large stone. The vegetation of the garden can be divided into two categories of non-productive trees and fruit trees:

1. Non-fruit trees of the garden are: Celery Circus (the tallest cupressus sempervirens of this garden, which is about 35m in length, is the tallest “Sarvenaz” of Shiraz), pine, maple, purple, willow, black mustard, ash berry, mustard, poplar, And Eucalyptus.
2. The fruit trees in the garden like: pomegranate, grapefruit, orange, persimmon, walnut, apricot, almond, apple, and pear. The main product of the garden fruit trees is pomegranate, and secondarily citrus can be counted. Citrus trees Eram Gardens are in the row of other nurtures and citrus gardens in Shiraz.

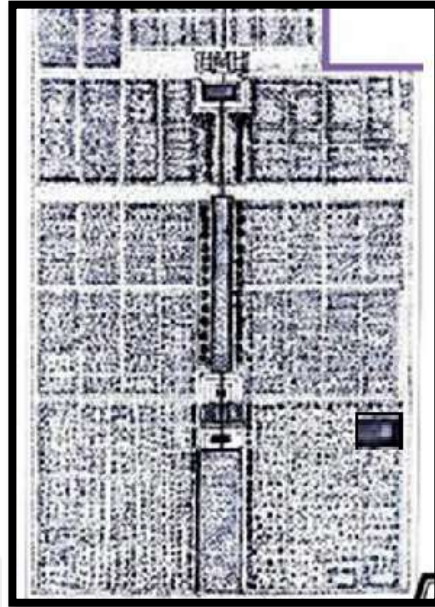


Figure 30: first plan, (Shiraz book)

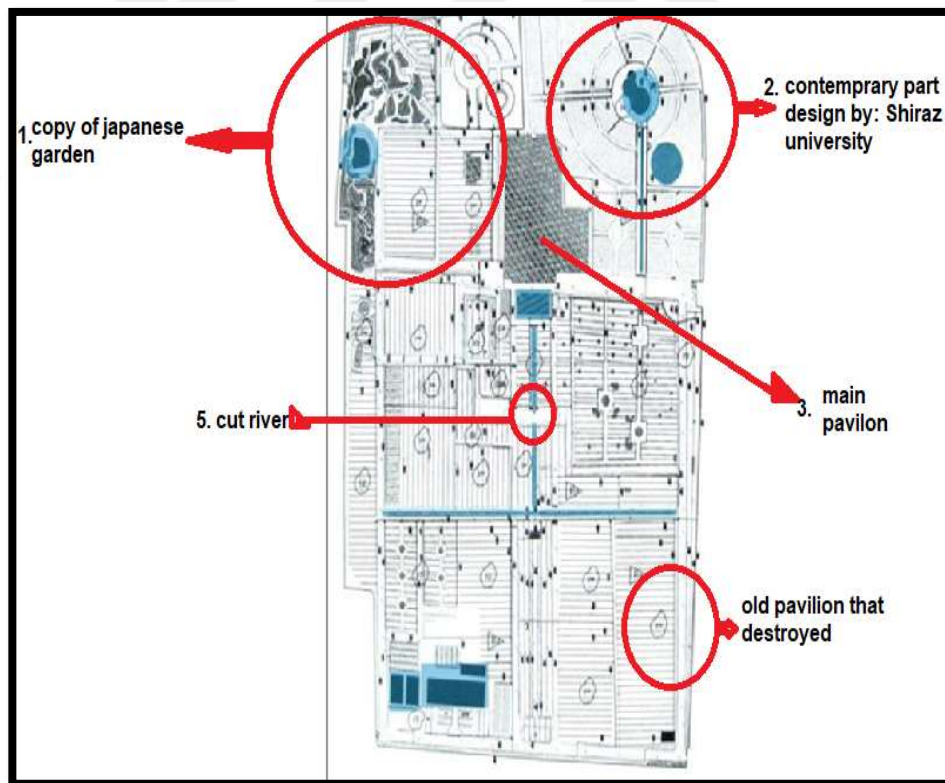


Figure31: historical process in Eram garden, (Beizaeijouybari,2017,map by <https://nl.pinterest.com/blmla/islamic-gardens/>)

Chanel model change in present. Its removal in the middle of the street and its guidance to the sides have been realized. (In part 5)

4.14. Niavaran Garden



Figure 32: Niavaran, Sahebgharaniyeh pavilion, (Beizaeijouybari, 2016)

Niavaran Historical Cultural Complex is about 11 hectares. The monuments in this beautiful collection have been built in Qajar and Pahlavi dynasties and they have exhibited beauty today.

The Qajar kings chose this place because of good weather in Tehran. Fath Ali Shah chose to spend the summer and enjoy summer holidays in Niavaran.

After Fathali Shah, Mohammad Shah made a small and simple building in the garden, but Nasser al-Din Shah built the magnificent palace of Saheb-Qaraniyeh. Following the reign of the Qajar, Ahmad Shahi mansion was the last building in this garden.

After this period, Mohammad Reza Pahlavi ordered the destruction of small gardens and the construction of a modern palace for his and his family's residence. He stayed in the building until leaving Iran. After Islamic Revolution of Iran, this palace was conquered by the revolutionary forces in 1979 and was handed over to the Ministry of Culture and Islamic Guidance in 1981.

The Niavaran Palace was reopened for the first time with the museum in 1986 for cultural heritage research and raising the level of knowledge of the country in this area. There is a school located in Niavaran Palace. It serves as the Cultural Heritage Higher Education Center since 1992. (Hamshahri, 2013)

4.14.1. Old pavilion versus contemporary one

Fatali shah Ghajar built several pavilions in Niavaran garden. Sahebgharanie Pavilion was the famous one. It is a museum now.





Figure 33: Sahebqaranieh, (Kojaro.com)

There is some small pavilion in Qajar dynasty that Mohammadreza Shah, second king of Pahlavi demolished it. He built Niavaran pavilion as a new modern building. (1958-1967)



Figure 34: Niavaran Places, (Beizaejjouybari, 2016)

Niavaran Palace is about 9,000 m in two floors and one half floor. The quadrangle of the palace and the interior design of this palace are inspired by Iranian architecture and used

modern technology. Its decorations are combine of pre-Islamic art and Islam. For example shape of building is square and modern but Stucco is Islamic.

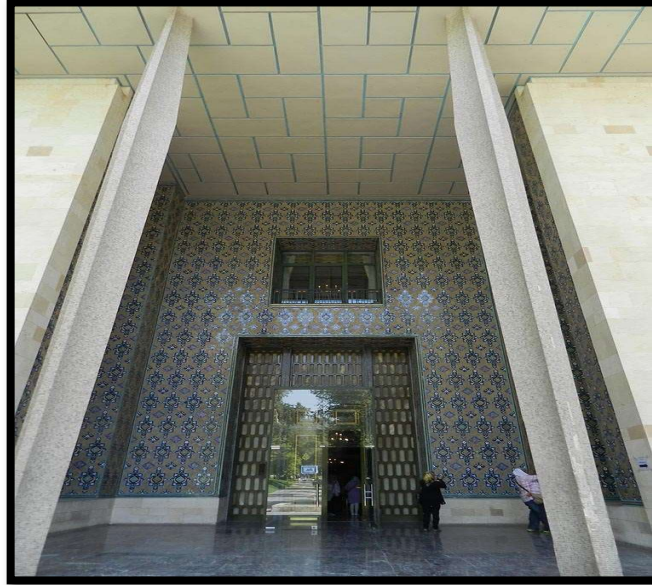


Figure 35 : Niavaran, (Majidi 2015)

We can see changes of last building versus contemporary building in pictures.

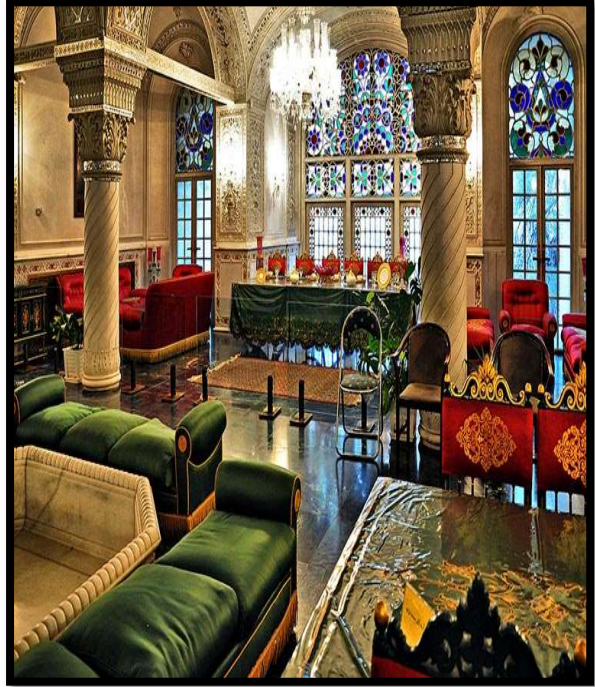
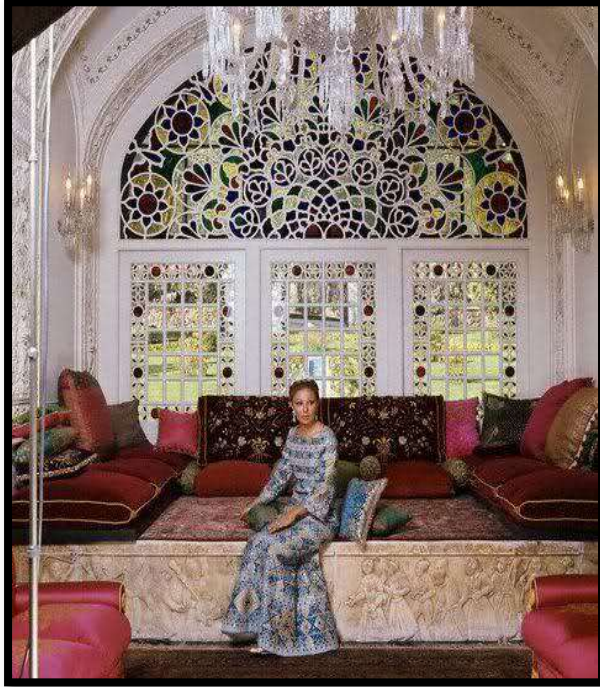


Figure 36: Niavaran Pavilion. (Khaqani, 2016)

CHAPTER II

5. RESULT AND DISCUSSION

5.1. Principles of Iranian gardens

In these difficult conditions, gardens have an important role with softening the unfavorable weather conditions. People go to those gardens to take a breath and to have peace. So this came up as a tradition between Iranians.

5.1.1. Rectangular geometry:

Pay attention to simple geometric shapes and square shapes showing parts of the garden, determine the exact location of planting trees and rows of trees which seen every side are important in Iranian gardens. Iranian garden, wherever it was possible, allocated a rectangle of land to itself. It is count of elements between four gardens in Iran.(A: ShahGulu, B: 8Behesht, C, Eram garden, D: Prince garden) table 2.

Table 3: count elements in 4 gardens (A,Haghighi 2010)

Elements		A	B	C	D	Total
Pool	Count	38	17	40	17	112
	Row%	38%	11.2%	35.7%	17%	24.1%
Tree's shadow	Count	51	84	47	22	202
	Row%	51%	55.3%	42.0%	22%	43.5%
Trees	Count	37	56	42	33	168
	Row%	37%	36.8%	37.5%	33%	36.2%
Shrubs	Count	12	12	14	0.0	38
	Row%	12%	7.9%	12.5%	0%	8.2%
Flowers	Count	20	32	53	12	117
	Row%	20%	21.1%	47.3%	12%	25.2%
Lake	Count	40	4	25	4	73
	Row%	40%	2.6%	22.3%	4%	15.7%
Streaming water	Count	32	40	32	83	187
	Row%	32%	26.3%	28.6%	83%	40.3%
Open view	Count	25	19	18	4	66
	Row%	25%	12.5%	16.1%	4%	14.2%
Traditional buildings that exist in this garden.	Count	16	51	45	65	177
	Row%	16%	33.6%	40.2%	65%	38.1%

5.1.2. Four gardens (Chahar Bagh)

4 (Four) is a most effective number in Iranian art and architecture heritage. For example, there are four main elements and holy elements for the ancient Iran, Fire, water, soil, air. Because of it the best form for historical gardens' plan was foursquare. This is reason of rectangular plan for historical gardens before and after Islam. Therefore it is not just Islamic number. They used Four rivers, canal, paved Four places in gardens and they called Chahar Bagh (Fourgardens). We have two design style for Chaharbagh.

5.1.3. Symmetry:

Symmetry principle is the best kind of balance. This principle is frequently used in Iranian garden. Pavilions built were symmetrical and located on axis or center of symmetry. Most of the symmetry can be seen in the main axis. At the main axis, even trees,

shrubs and flowers have also been planted in a symmetric way. Rectangular gardens depending on the location of the Pavilion have two symmetry axis, a square designs often have four axis.

5.1.4. Canal:

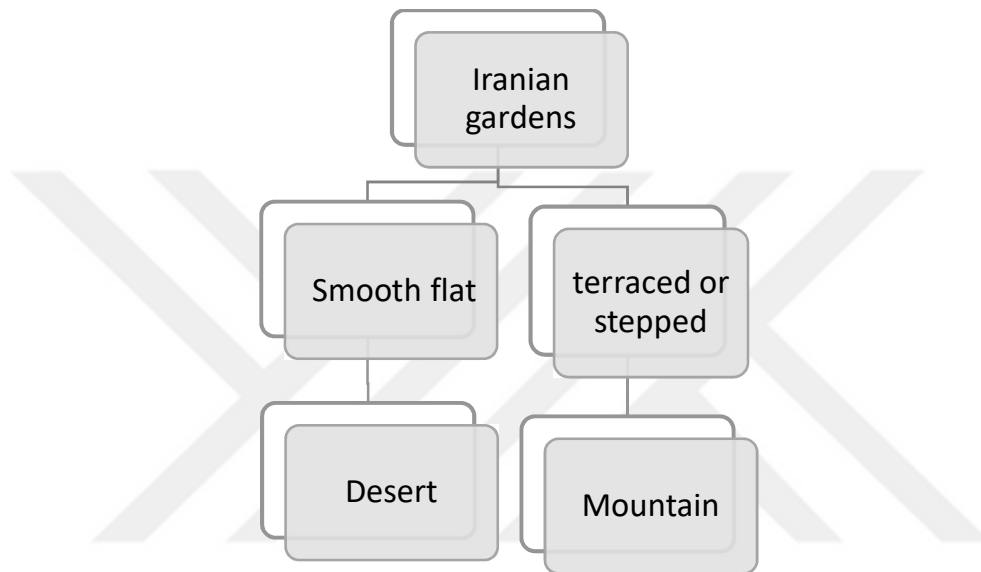
One of the characteristics of Iranian garden is the water canal inside the garden. Usually there is a pavilion in the middle of the garden. Some gardens are designed "Chaharbagh", four gardens styles, therefore to represent the garden in four parts, they need water in four canals as rivers, in addition the exterior edge of the garden, the water flow paths, the location of the waterways or canal, the design of trees and plants, the location of the pavilion and the designs of the garden, are determined by the water canal geometric structure. The water flow originates from inside the garden, but occurs to people that it originates from pavilion. The water creates sound in the garden and sings through fountains, small waterfalls and streams.



Figure 37: Fin garden,(Tripadviser)

5.2 Iranian Garden style:

We can summarize Iranian garden style in two ways; one is smooth flat garden style and the other is terraced or stepped garden style.



5.2.1 Flat garden

Iranian flat garden established in desert parts of Iran on the flat ground. Flat Gardens have two main axes which are plural to each other streets and alleys cut off those axes at a 90° angle. Like: Dolatabad Garden of Yazd and Eram garden in Shiraz.



Figure 38: Eram garden, Shiraz. (Karnaval.com)

5.2.2. Terraced or stepped garden

In some cases, when a hill or a steep slope existed, Garden was organized in such a way that the maximum utilization of areas of high and ramps was done. The garden designed in such a situation, at the top of the hill or in relatively flat part of the mountain range. Some of the buildings and spaces needed rebuilt. And another at the bottom of the hill Elements and spaces that provides the proper perspective were built. Ramps were often used as green space. Qajar palace in Tehran, takht-e Shiraz garden, Prince Mahan garden are some examples of those kind of gardens.

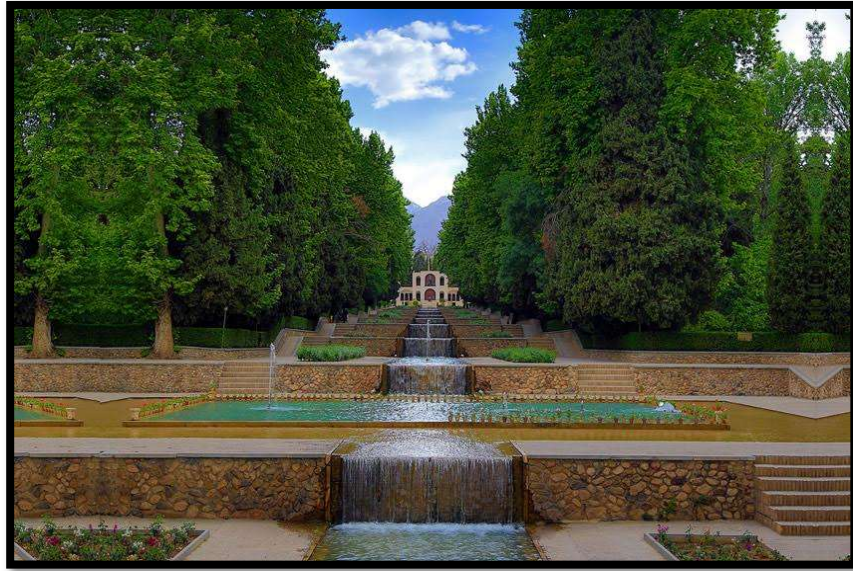


Figure 39: Shazde garden, Mahan. (Mehr news)

5.3. Elements of Iranian Gardens

Trees such as willow, plantain and elm were used to create shades. They designed narrow width passages, so the shadow could cover all the path commonly in Iranian gardens. Cypress and plantain were used in the main axes of the garden. Sometimes they planted them one among. They also planted trees around the pool like elm, red mint and orchid. In Iranian gardens the distance between the parallel axes called Crete. For the planting of Crete; flat land used and also four season plants were used as spices and peaches. The planting of spontaneous among the Crete also prevented water loss. The flowers also played a special role in Iranian gardens. Some flowers were planted more because of their profits such as roses used for rose water extracting.

5.3.1. Water:

Iranian artist in his interpretation of the garden as a holy place, First of all tries to collect holly symbols, among which water has a more important role. The most important thing was enliven the garden and water was bringing from distant areas to the garden. Subterranean water was lead to the streams and regular table, by passing the main vessel flows into the side streams. This method of irrigation (watering) influenced the garden design, in other words, garden design was made by division of the passing water and the creation of major and minor axes.

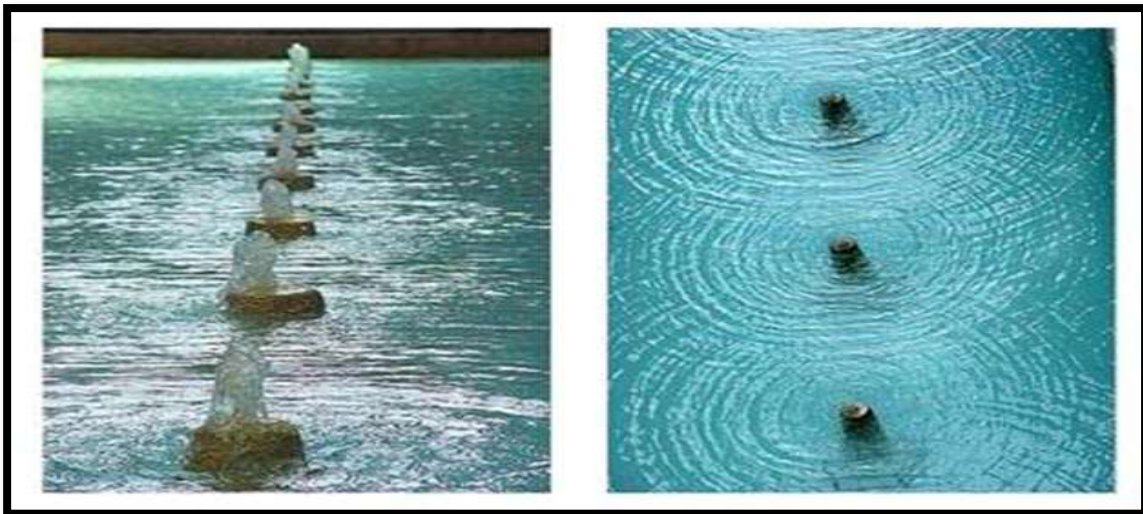


Figure 40: Fin garden (Saeedian 2011)

5.3.2. Pavilion:

The principle of orienting to the center is mostly seen in pavilions. This principle in a square design with a Pavilion at the intersection of the axes is at its peak. Pavilion is the most important element in Iranian garden. It can be designed in the main part of the garden or summit part of the garden like mountain. Pavilion in the main like Eram garden in Shiraz, pavilion in tap of the garden like Fin garden in Kashan and pavilion in summit part without four rivers like Niavaran garden in Tehran. (figure 36)

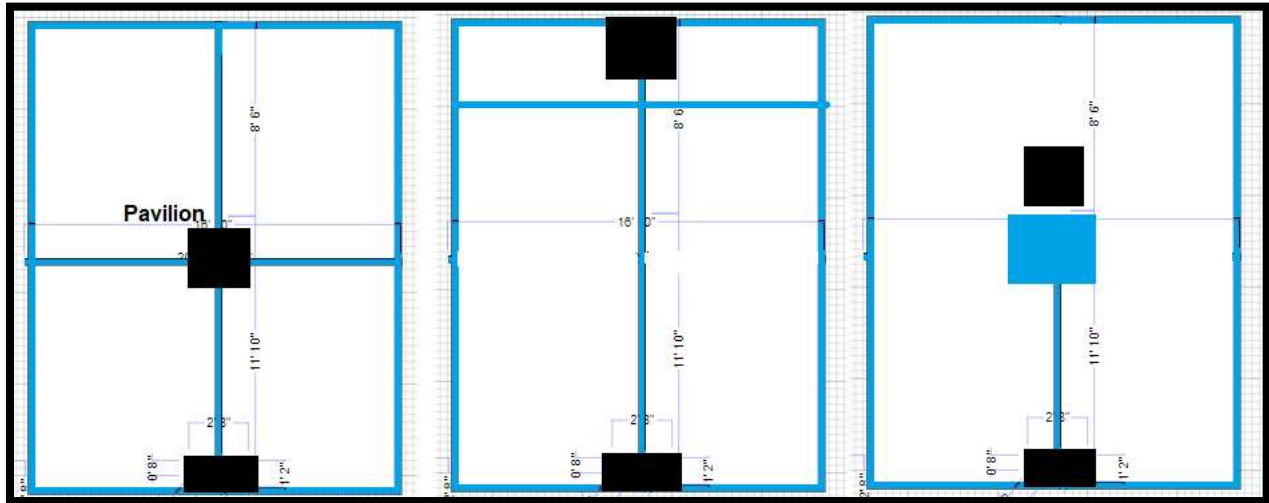


Figure 41: location of pavilion, (Beizaeijouybari)

5.3.3. Canal:

One of the characteristics of Iranian garden is the water canal inside the garden. Usually there is a pavilion in the middle of the garden. Some gardens are designed "Chaharbagh", four gardens styles, therefore to represent the garden in four parts, they need water in four canals as rivers.







5.3.4. Plants species







There are Plants in Iranian gardens with the aim of creating shadows, harvesting and ornamental. Flowers and ornamental plants are less used in the gardens. Plants can be divided into three groups: trees, shrubs and ornamental flowers. They used shady trees such as willow, plantain, elm, and to further help create shadows, narrow paths to create shadows in Iranian gardens.

The Cyprus and plantain trees are used in the main axes of the garden. There was a change in the shape of plane trees in the four seasons due to the color of leaves which are always colorful, make a huge difference in the color and design of the garden of Iran. These trees have so beautiful color in spring and autumn. Cyprus is always green. In plantain mostly

asparagus and ash trees used since they are resistant to clayey soils. Plan species that are commonly used in Iranian gardens, their represents and mapping explain at table 3.

Table 4: Plants symbol in Iranian gardens (Beizaeijouybari, 2017)

Scientific name Common name	symbol	Reason of use	Image
<i>Plantanus sp.</i> - Chenar	complaint ,greatness	make shadow	
<i>Pinus sp.</i> - Kaj	Fertility	guarding of garden for winter	
<i>Cupressus sempervirens</i> - Sarv	Reminder death and death body	make shadow, always green	
<i>Populous sp.</i> - Tabrizi	according to Iranian historical fable	fast growth	
<i>Tulip sp.</i> - Laleh	Hurt broking lover	Around garden for red	
<i>Lilium sp.</i> - Soosan	Virginity, freedom	color	

<i>Rosa sp.</i> - Rose	love	Romantic	
<i>Narcissus sp.</i> - Narges	Pride and prejudice	smell	
<i>Anthirrhinum sp.</i> - Meymoon	Happy, blessed	color	
<i>Syzygium aromaticum</i> - Mikhak	Positive energy	Positive energy	
<i>Nymphaea sp.</i> - Niloofar	truth	Growth on water	
<i>Rosmarinus officinalis</i> - Rosmary	Remembering the past	medicine	

CHAPTER III

CONCLUSION

In the conclusion section, we aim to answer several key questions:

What is the situation of constructing gardens in Iranian culture? How did the Iranian gardens change during different periods of time?

What changes were made by Islam on the Iranian Garden Structure? We studied registered papers and relevant books, we also conducted an empirical study on Iranian gardens with their changes from past to present. Besides, we examined trees and herbal plant species that are used by considering climatic conditions of the area. By conducting research in historical documents and evidences, we demonstrate influence of the perception of paradise in design of Iranian gardens from past to present. We studied every era's belief and its reflection to the gardens.

Pasargad garden is the oldest garden in Iran and the first Iranian garden in 560 BC. It was first Idea of four gardens (Chahar Bagh) in world. In the course of the evolution, the history of garden design of the Safavid dynasty (1501-1736 AD) has been related to the previous period and has been exclusively found to be minor changes like a chain. It is possible to say that the formed style is known as the Safavid style. These gardens are mostly built in Esfahan and have a special feature. In the Safavid style there are connections between garden and the palace. One of the most interesting examples of the building is the water fountains inside the building with flower vests. In these gardens, large ponds and fountains are used to see the water in a stationary and animated way. The streets have a regular arrangement. In these communicative paths, the trees are planted in four to eight rows, such as the "Four gardens of Isfahan" , which in these streets (Boulevard) there are usually streams with different widths, cut and shaped rocks on the floor of rivers and sometimes small water streams are being used with a number of regular fountains. Inside the streets, ornamental shrubs,

different kinds of roses, jaspers, and other plants were planted. In addition to the rows of pedestrians walking traffic and pavements, solid stumps of Shannar, Poplar and Elm are used for shading. Other gardens of the Safavid period include "Chehel sotoon, Hasht behest and others" in Isfahan. Some other historical gardens were built during the the era of Karim Khan Zand (1784-1830 AD) in Shiraz and Tehran and some other cities of Iran. Like the "Janat Garden" in Tehran, "Delgosha Garden " in Shiraz, " Haft tan " and " Chehel tan " gardens . The design of these gardens, which identifies the Old Iranian style, is a rather wide central street, a margin pavement and planting of mixed trees between the streets. The water streams are seen in the form of polygon with a very beautiful design.

Since the evolution of human beings is related to cultures, and because of the greater relation between Iranians and European during the Qajar era, some mixed styles of both east and west are established.

Most of the Qajar dynasty (1785 to 1925) gardens were built in northern Tehran and Shiraz, and most of them were built at the time of Nasir al-Din Shah because of the effect of his repeatedly trips to Europe. The feature of gardening in this period was building gardens at high altitudes, the palace or mansion was at the top of the plan, in which a variety of vegetation was used and there was a large pool in front of the large reservoir as the source of water. In general, during the Pahlavi dynasty (1921-1979), garden and park construction has been noted in most provincial centers, most of them inspired by European, Japanese and traditional styles.

Since Iranian gardening especially belonged to the royal family in order to show their authority, it was stopped after revolution and changing the past regime into republicanism. But I hope and expect to continue it.

We can change the efficiency of personal gardening to building parks and public cultural center. For example, we can build libraries, museums or restaurants instead of royal palace, or modern gardens keeping Iranian traditional gardening principles. For instance, using the "chahar bagh" pattern, but in the circle form or unsymmetrical, allocating cycling paths or

picnic sites for families. This recommendation represented as a proposition next page for future Iranian gardens construction.

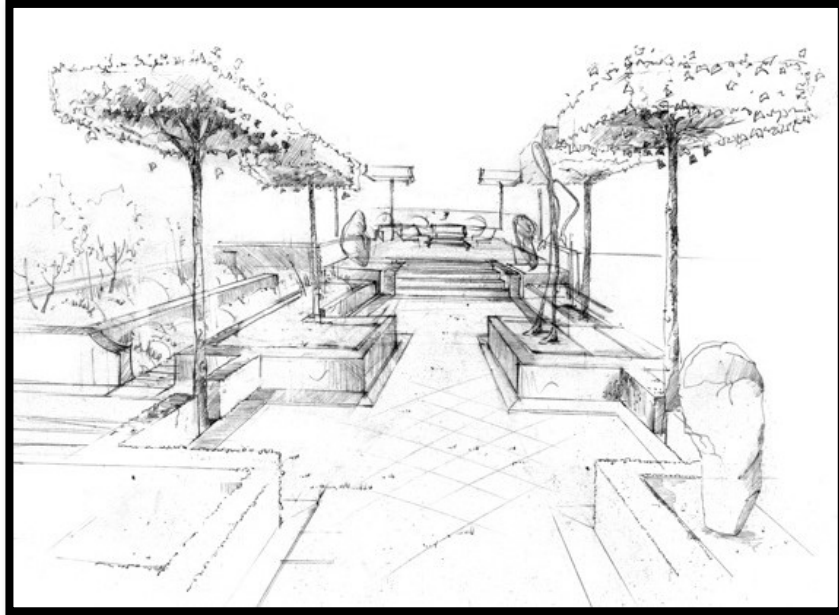


Figure 42: Proposed Iranian modern garden/ Beizaeijouybari, 2012

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